
BIDDING DOCUMENTS

Issued on: October 6, 2011

for

Procurement of

**Construction of Highway E 75
Section: Grdelica (Gornje Polje) –
Caricina Dolina**

**LOT 1: Road and bridges
from Grdelica to Tunnel Predejane**

**LOT 2: Road and bridges
from Tunnel Predejane to Caricina Dolina**

ICB No: CORRX.E75.EIB.PACK1.ICB

Project: Corridor X Highway Project

**Employer:
Koridori Srbije d.o.o. Beograd, Serbia**

Table of Contents

Volume 1

Part 1 Bidding Procedures

Part 2 Work Requirements

Part 3 Drawings

Volume 2

Conditions of Contract and Contract Forms

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<p>VOLUME 1 Part 1 Bidding Procedures</p>
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Table of Contents

Volume 1

Part 1 Bidding Procedures

Section I.	Instructions to Bidders
Section II.	Bid Data Sheet
Section III.	Evaluation and Qualification Criteria
Section IV.	Bidding Forms
Section V.	Eligible Countries

PART 1 - Bidding Procedures

Section I. Instructions to Bidders

Table of Contents

A. General	1-5
1. Scope of Bid	1-5
2. Source of Funds	1-5
3. Fraud and Corruption	1-5
4. Eligible Bidders	1-7
5. Eligible Materials, Equipment, and Services	1-9
B. Contents of Bidding Documents	1-9
6. Sections of Bidding Documents	1-9
7. Clarification of Bidding Documents, Site Visit, Pre-Bid Meeting	1-10
8. Amendment of Bidding Documents	1-11
C. Preparation of Bids	1-11
9. Cost of Bidding	1-11
10. Language of Bid	1-11
11. Documents Comprising the Bid	1-12
12. Letter of Bid and Schedules	1-12
13. Alternative Bids	1-12
14. Bid Prices and Discounts	1-13
15. Currencies of Bid and Payment	1-14
16. Documents Comprising the Technical Proposal	1-14
17. Documents Establishing the Qualifications of the Bidder	1-14
18. Period of Validity of Bids	1-15
19. Bid Security	1-15
20. Format and Signing of Bid	1-17
D. Submission and Opening of Bids	1-17
21. Sealing and Marking of Bids	1-17
22. Deadline for Submission of Bids	1-18
23. Late Bids	1-18
24. Withdrawal, Substitution, and Modification of Bids	1-18
25. Bid Opening	1-19
E. Evaluation and Comparison of Bids	1-20
26. Confidentiality	1-20
27. Clarification of Bids	1-20
28. Deviations, Reservations, and Omissions	1-20
29. Determination of Responsiveness	1-21
30. Nonmaterial Nonconformities	1-21
31. Correction of Arithmetical Errors	1-22
32. Conversion to Single Currency	1-22
33. Margin of Preference	1-22
34. Evaluation of Bids	1-22
35. Comparison of Bids	1-24

36.	Qualification of the Bidder.....	1-24
37.	Employer’s Right to Accept Any Bid, and to Reject Any or All Bids	1-24
F. Award of Contract		1-24
38.	Award Criteria.....	1-24
39.	Notification of Award	1-24
40.	Signing of Contract	1-25
41.	Performance Security	1-25

A. General

1. Scope of Bid

- 1.1 In connection with the Invitation for Bids indicated in the Bid Data Sheet (BDS), the Employer, as indicated in the BDS, issues these Bidding Documents for the procurement of Works as specified in Section VI, Works Requirements. The name, identification, and number of lots (contracts) of the International Competitive Bidding (ICB) are provided in the BDS.
- 1.2 Throughout these Bidding Documents:
- (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”) **indicated in the BDS** has applied for or received financing (hereinafter called “funds”) from the European Investment Bank (hereinafter called “the Bank”) toward the cost of 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 Payments by the Bank will be made only at the request of the Borrower and upon approval by the Bank in accordance with the terms and conditions of the financing agreement between the Borrower and the Bank (hereinafter called the Financial Agreement), and will be subject in all respects to the terms and conditions of that Financial Agreement. No party other than the Borrower shall derive any rights from the Financial Agreement or have any claim to the funds. The Financial Agreement prohibits a withdrawal from the loan account for the purpose of any payment to persons or entities, or for any import of equipment, plant, or materials, if such payment or import is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations.

3. Fraud and Corruption

- 3.1 It is the Bank’s policy to require that Borrowers (including beneficiaries of Bank loans), as well as bidders, suppliers, and contractors and their subcontractors under Bank-financed contracts, observe the highest standard of ethics

during the procurement and execution of such contracts.¹
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”² is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - (ii) “fraudulent practice”³ 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;
 - (iii) “collusive practice”⁴ is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
 - (iv) “coercive practice”⁵ 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;
 - (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

¹ In this context, any action taken by a bidder, supplier, contractor, or a sub-contractor to influence the procurement process or contract execution for undue advantage is improper.

² “another party” refers to a public official acting in relation to the procurement process or contract execution]. In this context, “public official” includes European Investment Bank staff and employees of other organizations taking or reviewing procurement decisions.

³ a “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.

⁴ “parties” refers to participants in the procurement process (including public officials) attempting to establish bid prices at artificial, non competitive levels.

⁵ a “party” refers to a participant in the procurement process or contract execution.

exercise of the Bank's inspection and audit rights provided for under sub-clause 3.1(e) below.

- (b) will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for the contract in question;
- (c) will cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a beneficiary of the loan engaged in corrupt, fraudulent, collusive, or coercive practices during the procurement or the execution of that contract, without the Borrower having taken timely and appropriate action satisfactory to the Bank to remedy the situation.

3.2 In further pursuance of this policy, Bidders shall permit the Bank to inspect any accounts and records and other documents relating to the Bid submission and contract performance, and to have them audited by auditors appointed by the Bank.

3.3 Furthermore, Bidders shall be aware of the provision stated in Sub-Clause 15.6 of the General Conditions.

4. Eligible Bidders

4.1 A Bidder may be a natural person, private entity, government-owned entity—subject to ITB 4.5—or any combination of such entities in the form of a joint venture or association (JVA) 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 or association:

- (a) **unless otherwise specified in the BDS**, all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms, and
- (b) the JVA shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the partners of the JVA during the bidding process and, in the event the JVA is awarded the Contract, during contract execution.

4.2 A Bidder, and all partners constituting the Bidder, may have the nationality of any country as defined under the EIB's Guide to Procurement Version February 2004, subject to the restrictions specified in Section V, Eligible Countries. A Bidder shall be deemed to have the nationality of a country

if the Bidder is a citizen or is constituted, incorporated, or registered and operates in conformity with the provisions of the laws of that country. This criterion shall also apply to the determination of the nationality of proposed subcontractors or suppliers for any part of the Contract including related Services.

- 4.3 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 with one or more parties in this bidding process, if :
- (a) they have at least one controlling partner in common; or
 - (b) they receive or have received any direct or indirect subsidy from any of them; or
 - (c) they have the same legal representative for purposes of this bid; or
 - (d) they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or
 - (e) a Bidder 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) a Bidder participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the bid;
 - (g) a Bidder or any of its affiliates has been hired (or is proposed to be hired) by the Employer or Borrower as Engineer for the Contract implementation.
- 4.4 A Bidder that has been determined to be ineligible by the Bank in relation to the EIB's Guide to Procurement Version February 2004, regarding corrupt and fraudulent practice, shall not be eligible to be awarded a contract.
- 4.5 Government-owned entities in the Employer's country shall be eligible only if they can establish that they are legally and financially autonomous and operate under commercial law. Also, they shall not be dependent

agencies of the Employer.

4.6 Bidders shall provide such evidence of their continued eligibility satisfactory to the Employer, as the Employer shall reasonably request.

4.7 Bidders shall be excluded if:

- (a) as a matter of law or official regulation, 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 Works 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 persons or entities in that country.

4.8 This bidding is open only to prequalified Bidders unless an exception has been granted by the Bank, **as indicated in the BDS**.

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 Documents

6. Sections of Bidding Documents

6.1 The Bidding Documents consist of Parts 1, 2, and 3, which include all the Sections indicated below, and 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 Criteria and Qualification Criteria
- Section IV. Bidding Forms
- Section V. Eligible Countries

PART 2 Works Requirements

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- Section VI. Works Requirements

PART 3 Conditions of Contract and Contract Forms

- Section VII. General Conditions (GC)
- Section VIII. Particular Conditions (PC)
- Section IX. Annex to the Particular Conditions - Contract Forms

- 6.2 The Invitation for Bids issued by the Employer is not part of the Bidding Documents.
- 6.3 The Employer is not responsible for the completeness of the Bidding Documents and their addenda, if they were not obtained directly from the source stated by the Employer in the Invitation for Bids.
- 6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents. Failure to furnish all information or documentation required by the Bidding Documents may result in the rejection of the bid.

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

- 7.1 A prospective Bidder requiring any clarification of the Bidding Documents shall contact the Employer in writing at the Employer's address **indicated in the BDS** or raise his enquiries 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 no later than twenty-one (21) days prior to the deadline for submission of bids. The Employer shall forward copies of its response to all Bidders who have acquired the Bidding Document in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. 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 The Bidder's designated representative is invited to attend a pre-bid meeting, **if provided for in the BDS**. 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, as far as possible, 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, including the text of the questions raised, 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.
- 7.7 Nonattendance at the pre-bid meeting will not be a cause for disqualification of a Bidder.

8. Amendment of Bidding Documents

- 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.
- 8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer should 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 not 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 and Appendix to Bid
- (b) completed schedules as required, including priced Bill of Quantities, in accordance with ITB 12 and 14;
- (c) Bid Security, in accordance with ITB 19;
- (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 continued qualified status or, if post-qualification applies, as indicated in accordance with ITB 4.8, 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 JVA shall include a copy of the Joint Venture Agreement entered into by all partners. Alternatively, a Letter of Intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all partners and submitted with the bid, together with a copy of the proposed agreement.

12. Letter of Bid and Schedules

12.1 The Letter of Bid and Schedules, including the Bill of Quantities, 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 indicated 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 Documents must first price the Employer's design as described in the Bidding Documents 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, and such parts **will be identified in the BDS**, as will the method for their evaluating, and described in Section VI, Work's Requirements.

14. Bid Prices and Discounts

- 14.1 The prices and discounts quoted by the Bidder in the Letter of Bid and in the Bill of Quantities shall conform to the requirements specified below.
- 14.2 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 unconditional 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 Contract, the rates and 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. In such a case, the Bidder shall furnish the indices and weightings for the price adjustment formulae in the Schedule of Adjustment Data and the Employer may require the Bidder to justify its proposed indices and weightings.

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- 14.6 If so indicated in ITB 1.1, bids are being invited for individual lots (contracts) or for any combination of lots (packages). Bidders wishing to offer any price reduction 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. Price reductions or discounts shall be submitted in accordance with ITB 14.4, provided the bids for all lots (contracts) are submitted and 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(ies) of the bid and the currency(ies) of payments shall be **as specified in the BDS**.
- 15.2 Bidders may be required by the Employer to justify, to the Employer's satisfaction, their local and foreign currency requirements, and to substantiate that the amounts included in the unit rates and prices and shown in the the Schedule of Adjustment Data in the Appendix to Bid are reasonable, in which case a detailed breakdown of the foreign currency requirements shall be provided by Bidders.
- 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, 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 that the Bidder continues to meet the criteria used at the time of prequalification, the Bidder shall provide in the corresponding information sheets included in Section IV, Bidding Forms, updated information on any assessed aspect that changed from that time, or if post-qualification applies as indicated in accordance with ITB 4.8, the Bidder shall provide the information requested in the corresponding information sheets included in Section IV, Bidding Forms.
- 17.2 If a margin of preference applies as indicated in accordance with ITB 33.1, domestic Bidders, individually or in joint ventures, applying for eligibility for domestic preference shall supply all information required to satisfy the criteria for eligibility indicated in accordance with ITB 33.1.
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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 non responsive.
- 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 for twenty-eight (28) 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, to determine the Contract price, the fixed portion of the bid price shall be adjusted by the factor **specified in the BDS**.
 - (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 bank guarantee issued by a bank or surety;
 - (b) an irrevocable letter of credit;
 - (c) a cashier's or certified check; or
 - (d) another security **indicated in the BDS**,

from a reputable source from an eligible country. If the unconditional guarantee is issued by an insurance company or a bonding company located outside the Employer's Country, the issuer 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. In either case, the form must include the complete name of the Bidder. 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 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 furnishing of the performance security pursuant to ITB 41.
- 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
 - (b) if the successful Bidder fails to:
 - (i) sign the Contract in accordance with ITB 40; or
 - (ii) furnish a performance security in accordance with ITB 41.
- 19.8 The bid security or the Bid-Securing Declaration of a JVA shall be in the name of the JVA that submits the bid. If the JVA has not been legally constituted into a legally enforceable JVA at the time of bidding, the bid security or the Bid-Securing Declaration shall be in the names of all future partners as named in the letter of intent referred to in ITB 4.1.
- 19.9 If a bid security is **not required in the BDS** pursuant to

ITB 19.1, and

- (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid Form, except as provided in ITB 18.2, or
- (b) if the successful Bidder fails to sign the Contract in accordance with ITB 40; or furnish a performance security in accordance with ITB 41;

the Borrower may, **if provided for in the BDS**, declare the Bidder disqualified 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 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 A bid submitted by a JVA shall comply with the following requirements:
 - (a) Unless not required in accordance with ITB 4.1 (a), be signed so as to be legally binding on all partners and
 - (b) Include the Representatives's authorization referred to in ITB 14.1 (b), consisting of a power or attorney signed by those legally authorized to sign on behalf of the JVA.
- 20.4 Any inter-lineation, 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 in accordance with ITB 22.1;
- (c) bear the specific identification of this bidding process indicated in the 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 **indicated 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 Documents 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 withdrawals 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 The Employer shall open the bids in public, in the presence of Bidders' designated representatives and anyone who choose to attend, and at the address, date and time **specified in the BDS**. 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 bids 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 Bid Price(s), including any discounts and alternative offers; the presence or absence of a bid security, if required; and any other details as the Employer may consider appropriate. Only discounts and alternative offers read out at bid opening shall be considered for evaluation. **If so requested by the Employer in the BDS**, the Letter of Bid and the Bill of Quantities are to be initialed by

representatives of the Employer attending bid opening in the manner indicated in the BDS. No bid shall be rejected at bid opening 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 if applicable, including any discounts and alternative offers; 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 such process until information on Contract award is communicated to all Bidders.
- 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 any Bidder wishes to contact the Employer on any matter related to the bidding process, it may 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. 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 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

- 28.1 During the evaluation of bids, the following definitions

Omissions

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 VI, 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. Nonmaterial Nonconformities

30.1 Provided that a bid is substantially responsive, the Employer may waive any nonconformities in the bid that do not constitute a material deviation, reservation or omission.

	<p>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.</p> <p>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 shall 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 method indicated in Section III, Evaluation and Qualification Criteria.</p>
31. Correction of Arithmetical Errors	<p>31.1 Provided that the bid is substantially responsive, the Employer shall correct arithmetical errors on the following basis:</p> <ul style="list-style-type: none"> (a) 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. <p>31.2 If the Bidder that submitted the lowest evaluated bid does not accept the correction of errors, its bid shall be rejected.</p>
32. Conversion to Single Currency	<p>32.1 For evaluation and comparison purposes, the currency(ies) of the bid shall be converted into a single currency as specified in the BDS.</p>
33. Margin of Preference	<p>33.1 Unless otherwise specified in the BDS, a margin of preference shall not apply.</p>
34. Evaluation of Bids	<p>34.1 The Employer shall use the criteria and methodologies</p>

listed in this Clause. No other evaluation criteria or methodologies shall be permitted.

34.2 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, but including Daywork 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) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITB 32;
- (e) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 30.3;
- (f) the evaluation factors indicated in Section III, Evaluation and Qualification Criteria;

34.3 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.

34.4 If these Bidding Documents allows Bidders to quote separate prices for different lots (contracts), and the award to a single Bidder of multiple lots (contracts), the methodology to determine the lowest evaluated price of the lot (contract) combinations, including any discounts offered in the Letter of Bid Form, is specified in Section III, Evaluation and Qualification Criteria.

34.5 If the bid, 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.

- 35. Comparison of Bids** 35.1 The Employer shall compare all substantially responsive bids in accordance with ITB 34.2 to determine the lowest evaluated bid.
- 36. Qualification of the Bidder** 36.1 The Employer shall determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated and substantially responsive bid either continues to meet (if prequalification applies) or meets (if postqualification applies) the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.
- 36.2 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.
- 36.3 An affirmative determination 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.
- 37. Employer's Right to Accept Any Bid, and to Reject Any or All Bids** 37.1 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

- 38. Award Criteria** 38.1 Subject to ITB 37.1, the Employer shall award the Contract to the Bidder whose offer 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.
- 39. Notification of Award** 39.1 Prior to the expiration of the period of bid validity, the Employer shall notify the successful Bidder, in writing, that its bid has been accepted. The notification letter (hereinafter and in the Conditions of Contract and Contract Forms called the "Letter of Acceptance") shall specify the sum that the Employer will pay the Contractor in consideration of the execution and completion of the Works (hereinafter and in the Conditions of Contract and Contract Forms called "the Contract Price") and the requirement for the Contractor to remedy any defects therein as prescribed by the Contract. At the same time,

the Employer shall also notify all other Bidders of the results of the bidding and shall publish in OJEU the results identifying the bid and lot 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 successful Bidder, and the Price it offered, as well as the duration and summary scope of the contract awarded.

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

39.3 The Employer shall promptly respond in writing to any unsuccessful Bidder who, after notification of award in accordance with ITB 39.1, requests in writing the grounds on which its bid was not selected.

40. Signing of Contract

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

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

41. Performance Security

41.1 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 General Conditions of Contract, subject to ITB 34.5, using for that purpose the Performance Security Form included in Section IX, Annex to the Particular Conditions - Contract Forms, or another form acceptable to the Employer. If the performance security furnished by the successful Bidder is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Bidder to be acceptable to the Employer. A foreign institution providing a bond shall have a correspondent financial institution located in the Employer's Country.

41.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or sign the Contract 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.

Section II. Bid Data Sheet

A. Introduction	
ITB 1.1	The number of the Invitation for Bids is: CORRX.E75.EIB.PACK1.ICB
ITB 1.1	The Employer is: Koridori Srbije d.o.o. Beograd (KSDOO)
ITB 1.1	<p>The name of the ICB is: Construction of Highway E 75, section Grdelica (Gornje Polje) – Caricina Dolina</p> <p>The identification number of the ICB is: CORRX.E75.EIB.PACK1.ICB</p> <p>The number and identification of LOTs comprising this ICB is: 2 (two)</p> <p>LOT 1: Construction of Highway E75, Road and bridges at sub-section Grdelica-Tunnel Predejane; ICB No.: CORRX.E75.EIB.PACK1-LOT1.ICB</p> <p>LOT 2: Construction of Highway E75, Road and bridges at sub-section Tunnel Predejane-Caricina Dolina, ICB No.: CORRX.E75.EIB.PACK1-LOT2.ICB</p>
ITB 2.1	The Borrower is: The Republic of Serbia.
ITB 2.1	The name of the Project is: Corridor X Highway Project
ITB 4.8	Not applicable
B. Bidding Documents	
ITB 7.1	<p>For <u>clarification purposes</u> only, the Employer's address is:</p> <p>Koridori Srbije d.o.o. Beograd Attention: Mr. Mihajlo Mišić Street Address: 21 Kralja Petra Street City: Belgrade ZIP Code: 11000 Country: Serbia Telephone: +381-11-33-44-174 Facsimile number: +381-11-32-48-682 Electronic mail address: procurement@koridorisrbije.rs</p> <p>All requests for clarification shall be submitted in English language.</p>
ITB 7.4	<p>A Pre-Bid meeting will take place at the following date, time and place:</p> <p>Date: November 10, 2011 Time: 12:00 hours, local time (GMT+1) Place: Vladicin Han, Address: 2, Nikole Tesle Street (Center for cultural activities, tourism and Library – Centar za kulturne delatnosti, turizam i bibliotekarstvo)</p> <p>A site visit conducted by the Employer will be organized on the same date. Starting location will be announced at the Pre-Bid meeting.</p>

C. Preparation of Bids

ITB 10.1	<p>The language of the bid is: English</p> <p>Copies of original documents which confirm the legal status and qualification of the applicant must be certified or notarized. If the original documents are not in English language, these should be accompanied by an accurate translation into English. Only those documents which confirm the legal status and qualification of the bidder must be confirmed by an authorized translator. Authorized translation does not necessarily mean certified translation by a translator and/or a notary authorized by the competent organs of the Republic of Serbia.</p>
ITB 11.1 (a)	<p>Replace the line (a) with the following:</p> <p>(a1) Letter of Technical Bid</p> <p>(a2) Letter of Financial Bid and Appendix to Bid</p>
ITB 11.1 (f)	<p>Copies of required original supporting documents do not have to be certified. Those documents may be in another language provided they are accompanied by an accurate translation into English.</p>
ITB 11.1 (h)	<p>The Applicant shall submit with its application, the following additional documents:</p> <ul style="list-style-type: none"> - Statement that Applicant possess or will apply, following the award of the contract, for the relevant license for performance of construction works at the relevant ministry and under the Laws of the Republic of Serbia in particular for highways, arterial and regional roads, traffic connections to highways, arterial and regional roads; for LOT 1 and LOT 2 licenses for construction works on roads (I131G2) and for construction of structures-bridges (I132G1). The Employer will provide required assistance to the Contractor in obtaining such licenses and any undue delays caused in the issuance of the licenses which is beyond the control of the Contractor will be taken into account for suitable extension of the time for completion of the contract without any penalties or damages to the Contractor. - Statement that if the Applicant wins the Contract he will have among his personnel suitable qualified engineers who have or will apply for the licenses for performance of relevant construction works at the Engineering Chamber of Serbia before the start of works, in particular personal licenses 410 and 412 or 415. <p>The Bidder shall also submit the following supplementary information accompanying, but not forming part of, his bid:</p> <ul style="list-style-type: none"> - name and address of the Bank which will provide the Performance Security and Advance Payment Guarantee, - name and address of insurers.
ITB 13.2	<p>Alternative times for completion will not be permitted.</p>
ITB 13.4	<p>Alternative technical solutions shall be permitted for the following parts of the Works: not applicable</p>
ITB 14.4	<p>Bids are invited for one or both LOTs. Each LOT must be priced separately. Bidders have the option to bid for one or both LOTs. Bids will</p>

	<p>be evaluated taking into account discounts offered for combined LOTs. The award will be made to the lowest evaluated substantially responsive bid provided the bidder meets the post-qualification criteria. If a bidder is successful for both LOTs, but does not meet the combined post qualification criteria for both LOTs, the Employer will decide which LOT(s) will be awarded to the successful bidder based on lowest evaluated total cost to the Employer of both LOTs and up to the capacity limitation of the bidder.</p> <p>The Bidders are allowed to propose one joint team of personnel if they are bidding for both LOTs.</p>
ITB 14.7	<p>The prices in Bill of Quantities include all duties, taxes and other levies excluding VAT (Value Added Taxes). Companies are not exempted from taxation. The project is VAT excluded. The procedures concerning VAT are explained in the law of Value Added Taxes ("Official Gazette of Republic of Serbia", No. 84/2004, 86/2004 and corrections 61/2005 and 61/2007).</p>
ITB 15.1	<p>The currency(ies) of the bid and the payment currency(ies) shall be in accordance with Alternative A as described below:</p> <p>Alternative A (Bidders to quote entirely in local currency):</p> <p>(a) The unit rates and the prices shall be quoted by the Bidder in the Bill of Quantities, entirely in Serbian Dinars (RSD), and further referred to as "the local currency". A Bidder expecting to incur expenditures in other currencies for inputs to the Works supplied from outside the Employer's country (referred to as "the foreign currency requirements") shall indicate in the Appendix to Bid - Table C, the percentage(s) of the Bid Price (excluding Provisional Sums), needed by him for the payment of such foreign currency requirements, limited to no more than three foreign currencies of any country.</p> <p>(b) The rates of exchange to be used by the Bidder in arriving at the local currency equivalent and the percentage(s) mentioned in (a) above shall be specified by the Bidder in the Appendix to Bid - Table C, and should be equal to the selling rates of the National Bank of Serbia on the Base Date, and shall apply for all payments under the Contract so that no exchange risk will be borne by the successful Bidder.</p>
ITB 18.1	<p>The bid validity period shall be 150 (hundredandfifty) days.</p>
ITB 18.3 (a)	<p>The bid price shall be adjusted by the following factor: not applicable</p>
ITB 18.3 (b)	<p>The fixed portion of the bid price shall be adjusted by the following factor: not applicable</p>
ITB 19.1	<p>A bid security shall be required. A Bid-Securing Declaration shall not be required.</p> <p>The amount and currency of the bid security shall be:</p> <p>LOT1 1.250.000 EUR</p> <p>LOT2 1.250.000 EUR</p> <p>(Equivalent in a freely convertible currency) or aggregate sum if bidding</p>

	<p>for more than one LOT.</p> <p>The bid security shall be issued by reputable bank from an eligible country or by a bank registered and operating under the laws of the Republic of Serbia, acceptable to the Employer.</p>
ITB 19.3 (d)	<p>Other types of acceptable securities:</p> <p>none</p>
ITB 20.1	In addition to the original of the bid, the number of copies is: 2 (two)
ITB 20.2	<p>The written confirmation of authorization to sign on behalf of the Bidder shall consist of: Power of Attorney authorising the Bidder's empowered representative to submit the Bid and to commit the Bidder to a contract. The Power of Attorney must give the name, address and capacity of the person so empowered and must be signed and dated by a person duly authorised by the Bidder. Minutes of board meetings or other documents authorising the signatory of the Power of Attorney must be attached. The person who grants the Power of Attorney must be duly authorised to do so and the Bidder must provide written evidence of this. If the Original Power of Attorney is drafted in other language than English, Bidders are required to attach also the authorized English translation.</p>
D. Submission and Opening of Bids	
ITB 21.1	In case that size of the original and copies is too large to be enclosed in one single envelope it is acceptable to seal the original and copies in separate envelopes.
ITB 21.4	<p>The original and the copies of the bid shall each be delivered in a sealed outer envelope containing two separately sealed envelopes, as follows:</p> <p>Technical Bid (Envelope No. 1) shall be clearly marked "ENVELOPE No. 1-TECHNICAL BID", and shall contain only technical documents, needed to establish qualification of the Bidder, including Bid Security and Letter of Technical Bid without any indication of the bid price and any discounts offered (i.e. should include documents listed under 11.1 (a1), 11.1 (c), 11.1 (d), 11.1 (e), 11.1 (f), 11.1 (g) and 11.1 (h) and Covenant of Integrity, and must not include 11.1 (a2), 11.1 (b) priced Bill of Quantities and any other document containing the bid prices);</p> <p>Financial Bid (Envelope No. 2) shall be clearly marked "ENVELOPE No. 2-FINANCIAL BID", and shall contain only the Letter of Financial Bid and Appenix to Bid (11.1 (a2)) and priced Bill of Quantities (11.1 (b) and any other document or schedule (e.g. Cash Flow) containing the bid prices and any discounts offered, and should not contain any other schedules or document included in Envelope No. 1).</p>
ITB 22.1	<p>For <u>bid submission purposes</u> only, the Employer's address is :</p> <p>Attention: Koridori Srbije d.o.o. Beograd</p> <p>Street Address: 21 Kralja Petra Street, floor II, room 228</p> <p>City: Belgrade</p> <p>ZIP Code: 11000</p> <p>Country: Serbia</p>

	<p>The deadline for bid submission is:</p> <p>Date: December 15, 2011</p> <p>Time: 12:00 hours, local time (GMT+1)</p> <p>Bidders shall not have the option of submitting their bids electronically.</p>
ITB 24.4	<p>Substitution or Modification of Bids shall be delivered in a sealed outer envelope containing separate sealed envelopes clearly marked “TECHNICAL SUBSTITUTION” or “TECHNICAL MODIFICATION” and “FINANCIAL SUBSTITUTION” or “FINANCIAL MODIFICATION”.</p>
ITB 25.1	<p>The <u>bid opening (only the technical bid-Envelope No. 1)</u> shall take place at:</p> <p>Street Address: 11, Nemanjina Street, floor IV, room 141</p> <p>City : Belgrade</p> <p>Country: Serbia</p> <p>Date: December 15, 2011</p> <p>Time: 13:00 hours, local time (GMT+1)</p> <p>During the bid opening, the Employer will only open technical bids-envelopes No 1. and check whether they contain (a1) Letter of Technical Bid, (a2) Power of Attorney, (a3) Bid Security (presence, amount and validity dates) and record in the minutes any apparent deviation.</p> <p>The Evaluation Committee will check the bidders qualifications and the technical aspects of the bid submitted in accordance with ITB 16. Any clarification of bids will be in line with ITB 27. Financial bids will be opened only for substantially responsive technical bids.</p> <p>The public <u>bid opening of the financial bid-Envelope No. 2, of the substantially responsive technical bids,</u> shall take place at:</p> <p>Street Address: 11, Nemanjina Street, floor IV, room 141</p> <p>City : Belgrade</p> <p>Country: Serbia</p> <p>Date and time of financial bid opening shall be announced and the bidders notified after the technical evaluation of bids, at least 7 days prior the financial bid opening.</p> <p>The financial bids of the technical bids which were founded not-substantially responsive will be returned unopened.</p> <p>If bidders have the option of submitting their bids electronically, the electronic bid opening procedures shall be: not applicable</p>
ITB 25.3	<p>Replace ITB 25.3 with:</p> <p>All other envelopes marked “ENVELOPE No. 1-TECHNICAL BID”, shall be opened one at a time, reading out: the name of the Bidder and whether there is a modification; the presence or absence of a bid security, if required; and any other details as the Employer may consider appropriate. The Letter of Technical Bid is to be initialed by representatives of the Employer attending bid opening in the bottom right corner of each page for the Letter of Technical Bid. No bid shall be rejected at bid opening except for late bids, in accordance with ITB 23.1.</p>

	<p>At the time of opening the financial bids all other envelopes marked “ENVELOPE No. 2-FINANCIAL BID” of the technically qualified bidders shall be opened one at a time, reading out: the name of the Bidder and whether there is a modification; the Bid Price(s), including any discounts and alternative offers; and any other details as the Employer may consider appropriate. Only discounts and alternative offers read out at financial bid opening shall be considered for evaluation. The Letter of Financial Bid and the Bill of Quantities are to be initialed by representatives of the Employer attending financial bid opening as follows: signatures of the Employer’s representatives in the bottom right corner of each page for the Letter of Financial Bid and the page with Grand Summary of the Bill of Quantity. No bid shall be rejected at bid opening.</p>
ITB 25.4	<p>Replace ITB 25.4 with:</p> <p>The Employer shall prepare a record of the technical bid opening that shall include, as a minimum: the name of the Bidder and whether there is a withdrawal, substitution, or modification; and the presence or absence of a bid security, if one was required. The record of the technical bid opening shall not include the Bid Price, per lot if applicable, including any discounts and alternative offers. 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.</p> <p>The Employer shall prepare a record of the financial bid opening that shall include, as a minimum: the name of the Bidder and whether there is a substitution, or modification; the Bid Price, per lot if applicable, including any discounts and alternative offers. 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.</p>
E. Evaluation, and Comparison of Bids	
ITB 26.4	<p>All bidders shall be notified on the results of the technical evaluation, at the time of invitation to opening of the financial bids.</p>
ITB 32.1	<p>The currency that shall be used for bid evaluation and comparison purposes to convert all bid prices expressed in various currencies into a single currency is: RSD</p> <p>The source of exchange rate shall be: National Bank of Serbia</p> <p>The date for the exchange rate shall be: 28 days prior to the deadline for submission of bids, i.e. November 17, 2011.</p> <p>The currency(ies) of the Bid shall be converted into a single currency in accordance with the procedure under Alternative A that follows:</p> <p>Alternative A: Bidders quote entirely in local currency</p> <p>For comparison of bids, the Bid Price, corrected pursuant to Clause 31, shall first be broken down into the respective amounts payable in various currencies by using the exchange rates specified by the bidder in</p>

	<p>accordance with Sub-Clause 15.1.</p> <p>In the second step, the Employer will convert the amounts in various currencies in which the Bid Price is payable (excluding Provisional Sums but including Daywork where priced competitively) to the single currency identified above at the selling rates established for similar transactions by the authority specified and on the date stipulated above.</p>
ITB 36.1	<p>The Employer shall determine which bidders meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria prior to opening of the financial bids (Envelope No. 2).</p>

Section III. Evaluation and Qualification Criteria

1. Evaluation

In addition to the criteria listed in ITB 34.2 (a) – (e) the following criteria shall apply:

1.1 Assessment of adequacy of Technical Proposal with Requirements

Evaluation of the Bidder's Technical Proposal will include an assessment of the Bidder's technical 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 VI (Works Requirements).

1.2 Multiple Contracts, if permitted under ITB 34.4, will be evaluated as follows:

Bids are invited for one or both LOTs. Each LOT must be priced separately. Bidders have the option to bid for one or both LOTs. Bids will be evaluated taking into account discounts offered for combined LOTs. The award will be made to the lowest evaluated substantially responsive bid provided the bidder meets the post-qualification criteria. If a bidder is successful for both LOTs, but does not meet the combined post qualification criteria for both LOTs, the Employer will decide which LOT(s) will be awarded to the successful bidder based on lowest evaluated total cost to the Employer of both LOTs and up to the capacity limitation of the bidder.

The Bidders are allowed to propose one joint team of personnel if they are bidding for both LOTs.

1.3 Alternative Completion Times, if permitted under ITB 13.2, will be evaluated as follows: not applicable

1.4 Technical alternatives, if permitted under ITB 13.4, will be evaluated as follows: not applicable

2. Qualification

Factor	2.1 ELIGIBILITY					
Sub-Factor	Criteria					Documentation Required
	Requirement	Single Entity	Bidder			
			Joint Venture or Association			
			All partners combined	Each partner	At least one partner	
2.1.1 Nationality	Nationality in accordance with ITB 4.2.	Must meet requirement	Existing or intended JVA must meet requirement	Must meet requirement	N / A	Form ELI–1 and 2, with attachments
2.1.2 Conflict of Interest	No- conflicts of interests as described in ITB 4.3.	Must meet requirement	Existing or intended JVA must meet requirement	Must meet requirement	N / A	Letter of Bid
2.1.3 Bank Ineligibility	Not having been declared ineligible by the Bank as described in ITB 4.4.	Must meet requirement	Existing JVA must meet requirement	Must meet requirement	N / A	Letter of Bid
2.1.4 Government Owned Entity	Compliance with conditions of ITB 4.5	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Form ELI–1 and 2, with attachments
2.1.5 Ineligibility based on a United Nations resolution or Borrower’s country law	Not having been excluded as a result of the Borrower’s country laws or official regulations, or by an act of compliance with UN Security Council resolution, in accordance with ITB 4.7	Must meet requirement	Existing JVA must meet requirement	Must meet requirement	N / A	Letter of Bid

Factor		2.2 HISTORICAL CONTRACT NON-PERFORMANCE				
Sub-Factor	Requirement	Criteria				Documentation Required
		Single Entity	Bidder			
			Joint Venture or Association			
			All partners combined	Each partner	At least one partner	
2.2.1 History of non-performing contracts	Non-performance of a contract did not occur within the last five (5) years prior to the deadline for bid 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 JVA	N / A	Must meet requirement by itself or as partner to past or existing JVA	N / A	Form CON - 2
2.2.2 Pending Litigation	a) All pending litigation shall in total not represent more than twenty percent (20 %) 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 JVA	N / A	Must meet requirement by itself or as partner to past or existing JVA	N / A	Form CON – 2

Factor	2.3 FINANCIAL SITUATION					
Sub-Factor	Criteria					Documentation Required
	Requirement	Bidder				
		Single Entity	Joint Venture or Association			
			All partners combined	Each partner	At least one partner	
2.3.1 Historical Financial Performance	Submission of audited balance sheets or if not required by the law of the bidder’s country, other financial statements acceptable to the Employer, for the last three [3] years to demonstrate the current soundness of the bidders financial position and its prospective long term profitability. (c) A Bidder’s networth calculated as the difference between total assets and total liabilities should be positive.	Must meet requirement	N / A	Must meet requirement	N / A	Form FIN –1 with attachments
2.3.2. Average Annual Turnover	Minimum average annual turnover of: LOT 1: 35 mil. EUR LOT 2: 35 mil. EUR calculated as total certified payments received for contracts in progress or completed, within the last three (3) years. Remark: If bidding for both LOTs, the Bidder must meet cumulative requirements.	Must meet requirement	Must meet requirement	Must meet twenty percent (20 %) of the requirement	Must meet forty percent (40 %) of the requirement	Form FIN –2

Factor	2.3 FINANCIAL SITUATION					
Sub-Factor	Criteria					Documentation Required
	Requirement	Bidder				
		Single Entity	Joint Venture or Association			
			All partners combined	Each partner	At least one partner	
2.3.3. Financial Resources	The Bidder must demonstrate access to, or availability of, financial resources such as liquid assets, unencumbered real assets, lines of credit, and other financial means, other than any contractual advance payments to meet: (i) the following cash-flow requirement: LOT 1: 15 mil. EUR LOT 2: 15 mil. EUR and (ii) the overall cash flow requirements for this contract and its current commitments. Remark: If bidding for both LOTs, the Bidder must meet cumulative requirements.	Must meet requirement	Must meet requirement			Form FIN –3

Factor	2.4 EXPERIENCE					
Sub-Factor	Criteria					Documentation Required
	Requirement	Bidder				
		Single Entity	Joint Venture or Association			
			All partners combined	Each partner	At least one partner	
2.4.1General Experience	Construction experience under contracts in the role of contractor, subcontractor, or management contractor for at least the last five (5) years prior to the bid submission deadline, and with activity in at least nine (9) months in each year.	Must meet requirement	N / A	Must meet requirement	N / A	Form EXP-1
2.4.2Specific Experience	(a) Participation as contractor, management contractor, or subcontractor, in at least one (1) contract within the last five (5) years, with a value of his participation in the contract of at least: LOT 1: 30 mil.EUR LOT 2: 30 mil.EUR that have been successfully and substantially completed and that are similar to the proposed Works. The similarity shall be based on physical size and complexity (should include substantial completion of at least one bridge of not less than 500 meters, no matter of contract value), or other characteristics as	Must meet requirement	Must meet requirements for all characteristics	N / A	Must meet at least 80% of requirement for the contract value	Form EXP 2(a)

Factor	2.4 EXPERIENCE					
Sub-Factor	Criteria					Documentation Required
	Requirement	Bidder				
		Single Entity	Joint Venture or Association			
			All partners combined	Each partner	At least one partner	
	described in Section VI, Works’ Requirements. Above mentioned requirement means completed contracts and also those in progress but which are at least 80% completed. Remark: If bidding for both LOTs, the Bidder must meet cumulative requirements.					

Factor	2.4 EXPERIENCE					
Sub-Factor	Criteria					Documentation Required
	Requirement	Bidder				
		Single Entity	Joint Venture or Association			
	All partners combined		Each partner	At least one partner		
2.4.2 Specific Experience	b) For the above or other contracts executed during the period stipulated in 2.4.2(a) above, a minimum experience in the following key activities in any one of last five (5) years: LOT 1 1. earthworks and rock excavation 450.000 m³/year 2. embankment construction 200.000 m³/year 3. asphalt production and placement 50.000 t/year 4. structural concrete production and placement 20.000 m³/year LOT 2 1. earthworks and rock excavation 450.000 m³/year 2. embankment construction 200.000 m³/year 3. asphalt production and placement 50.000 t/year 4. structural concrete production and placement 20.000 m³/year Remark: If bidding for both LOTs, the Bidder must meet	Must meet requirements	Must meet requirements	N / A	Each requirement for the key activities listed bellow must be meet by at least one partner. Partners can individually meet the requirements: LOT 1 1. earthworks and rock excavation 180.000 m³/year 2. embankment construction 80.000 m³/year 3. asphalt production and placement 20.000 t/year 4. structural concrete production and placement 8.000 m³/year LOT 2 1. earthworks and rock excavation 180.000 m³/year 2. embankment	Form EXP-2(b) Form EXP-2(b-1)

Factor	2.4 EXPERIENCE					
Sub-Factor	Criteria					Documentation Required
	Requirement	Bidder				
		Single Entity	Joint Venture or Association			
			All partners combined	Each partner		
	cumulative requirements.				construction 80.000 m³/year 3. asphalt production and placement 20.000 t/year 4. structural concrete production and placement 8.000 m³/year Remark: If bidding for both LOTs, the Bidder must meet cumulative requirements.	

2.5 PERSONNEL

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

LOT 1

No.	Position	Total Work Experience (years)	In Similar Works Experience (years)
1	Project Manager	15	7
2	Site Manager (Roads)	10	5
3	Site Manager (Bridges)	10	5
4	Quality Assurance Manager	10	5
5	Earthworks Manager	10	5
6	Pavement Works Manager	15	5
7	Environmental Manager	10	5

LOT 2

No.	Position	Total Work Experience (years)	In Similar Works Experience (years)
1	Project Manager	15	7
2	Site Manager (Roads)	10	5
3	Site Manager (Bridges)	10	5
4	Quality Assurance Manager	10	5
5	Earthworks Manager	10	5
6	Pavement Works Manager	15	5
7	Environmental Manager	10	5

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

2.6 EQUIPMENT

The Bidder must demonstrate that it owns, or has assured access to (through hire, lease, purchase agreement, availability of manufacturing equipment, or other means), the key items of equipment listed hereafter in full working order, and must demonstrate that, based on known commitments, they will be available for use in the contract. The Bidder may also list alternative equipment which he would propose to use for the contract.

LOT 1

No.	Equipment Type and Characteristics	Minimum Number required
1	Hot asphalt mixing plant, min capacity 200 t/h	1 piece
2	Wheeled asphalt paver, width min 7 m, laying capacity 50 t/hour	4 pieces
3	Concrete batching plant, min capacity 30 m3/h	2 pieces
4	Concrete pump, min capacity 25 m3/h	2 pieces
5	Equipment for bored piles (Ø1200mm, not older than 5 years)	2 pieces
6	Auto crane (35-75t)	4 pieces
7	Grader	3 pieces
8	Excavator	8 pieces
9	Bulldozer	6 pieces
10	Compactor	2 pieces
11	Loader	11 pieces
12	Transport mixer	4 pieces
13	Tipper truck, min capacity 20 t	40 pieces
14	Combined roller	3 pieces
15	Tandem roller, min capacity 10 t	8 pieces

LOT 2

No.	Equipment Type and Characteristics	Minimum Number required
1	Hot asphalt mixing plant, min capacity 200 t/h	1 piece
2	Wheeled asphalt paver, width min 7 m, laying capacity 50 t/hour	4 pieces
3	Concrete batching plant, min capacity 30 m3/h	2 pieces
4	Concrete pump, min capacity 25 m3/h	2 pieces
5	Equipment for bored piles (Ø1200mm, not older than 5 years)	2 pieces
6	Auto crane (35-75t)	4 pieces
7	Grader	3 pieces
8	Excavator	8 pieces
9	Bulldozer	6 pieces
10	Compactor	2 pieces
11	Loader	11 pieces
12	Transport mixer	4 pieces
13	Tipper truck, min capacity 20 t	40 pieces
14	Combined roller	3 pieces
15	Tandem roller, min capacity 10 t	8 pieces

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

Note: If the equipment is owned by the bidder, the proof of ownership (copy of working license, contract of purchase or similar) should be delivered with the Form EQU. If the equipment is rented, leased or being purchased, copy of the relevant contract for rent, leasing or purchase should be submitted with the Form EQU.

Section IV. Bidding Forms

Table of Forms

Bid Submission Sheet

Letter of Technical Bid

Letter of Financial Bid

Appendix to Bid

Covenant of Integrity

Bill of Quantities

LOT 1

LOT 2

Technical Proposal

Personnel

Bidders Qualification

Form of Bid Security

Letter of Technical Bid (Technical Bid Submission Sheet)

Date: _____

ICB No.: _____

Invitation for Bid No.: CORR.X.E75.EIB.PACK1.ICB

To: Koridori Srbije d.o.o. Beograd, 21 Kralja Petra Street, 11000 Belgrade, Republic of Serbia

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Document, including Addenda issued in accordance with Instructions to Bidders (ITB 8) _____;
- (b) We offer to execute in conformity with the Bidding Document the following Works: _____;
- (c) Our bid shall be valid for a period of one hundred fifty (150) days from the date fixed for the bid submission deadline in accordance with the Bidding Document, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (d) If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Document;
- (e) We, including any subcontractors or suppliers for any part of the contract, have or will have nationalities from eligible countries, in accordance with ITB 4.2;
- (f) We, including any subcontractors or suppliers for any part of the contract, do not have any conflict of interest in accordance with ITB 4.3;
- (g) We are not participating, as a Bidder or as a subcontractor, in more than one bid in this bidding process in accordance with ITB 4.3, other than alternative offers 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;¹
- (l) We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract:

¹ Bidder to use as appropriate

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 bribery.

Name _____ In the capacity of _____

Signed _____

Duly authorized to sign the bid for and on behalf of _____

Dated on _____ day of _____, _____

Letter of Financial Bid (Financial Bid Submission Sheet)

Date: _____

ICB No.: _____

Invitation for Bid No.: CORR.X.E75.EIB.PACK1.ICB

To: Koridori Srbije d.o.o. Beograd, 21 Kralja Petra Street, 11000 Belgrade, Republic of Serbia

We, the undersigned, declare that:

- (h) We have examined and have no reservations to the Bidding Document, including Addenda issued in accordance with Instructions to Bidders (ITB 8) _____;
- (i) We offer to execute in conformity with the Bidding Document the following Works: _____;
- (j) The total price of our Bid, excluding any discounts offered in item (d) below is: _____;
- (k) The discounts offered and the methodology for their application are: _____

_____;
- (l) Our bid shall be valid for a period of onehundredfifty (150) days from the date fixed for the bid submission deadline in accordance with the Bidding Document, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (m) If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Document;
- (n) We, including any subcontractors or suppliers for any part of the contract, have or will have nationalities from eligible countries, in accordance with ITB 4.2;
- (o) We, including any subcontractors or suppliers for any part of the contract, do not have any conflict of interest in accordance with ITB 4.3;
- (p) We are not participating, as a Bidder or as a subcontractor, in more than one bid in this bidding process in accordance with ITB 4.3, other than alternative offers 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;²

(l) We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract:

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 bribery.

Name _____ In the capacity of _____

Signed _____

Duly authorized to sign the bid for and on behalf of _____

Dated on _____ day of _____, _____

² Bidder to use as appropriate

Appendix to Bid

Schedule of Adjustment Data

[In Tables A, B, and C, below, the Bidder shall (a) indicate its amount of local currency payment, (b) indicate its proposed source and base values of indices for the different foreign currency elements of cost, (c) derive its proposed weightings for local and foreign currency payment, and (d) list the exchange rates used in the currency conversion. In the case of very large and/or complex works contracts, it may be necessary to specify several families of price adjustment formulae corresponding to the different works involved.]

Table A. Local Currency

Index code	Index description	Source of index	Base value and date	Bidder's related currency amount	Bidder's proposed weighting
	Nonadjustable	—	—	—	A: 0,1
	Labour	*	28 days prior to bid submission date		B: _____
	Quarried aggregates	*			C: _____
	Cement	*			D: _____
	Reinforcing steel	*			E: _____
	Bitumen	*			F: _____
	Diesel fuel	*			G: _____
Total					1.00

Note: Bidder's proposed weighting should be consistent with the works.

*** Source of index**

Index description	Source of index
Labour	Statistical Office of the Republic Serbia, Communication ZP11 (Statistics of Earnings) – Table 1: Average gross salaries and wages per employee – Construction
Quarried aggregates	Statistical Office of the Republic Serbia, Communication CN 20 – Indices of producers prices of manufactured products in Republic of Serbia: Other mining and quarrying
Cement	Statistical Office of the Republic Serbia, Communication CN 20 – Indices of producers prices of manufactured products in Republic of Serbia: Materials for incorporating in construction
Reinforcing steel	Statistical Office of the Republic Serbia, Communication CN 20 – Indices of producers prices of manufactured products in Republic of Serbia: Manufacture of basic metals
Bitumen	Statistical Office of the Republic Serbia, Communication CN 20 – Indices of producers prices of manufactured products in Republic of Serbia: Manufacture of coke and refined petroleum products
Diesel fuel	Statistical Office of the Republic Serbia, Communication CN 20 – Indices of producers prices of manufactured products in Republic of Serbia: Liquid fuels and lubricants

Table B. Foreign Currency (FC)

State type: [If the Bidder is allowed to quote in local and foreign currencies and the Bidder wishes to quote in more than one foreign currency, this table should be repeated for each foreign currency.]

Index code	Index description	Source of index	Base value and date	Bidder's related source currency in type/amount	Equivalent in FC1	Bidder's proposed weighting
	Nonadjustable	—	—	—		A: 0,1
	Labour		28 days prior to bid submission date			B: _____
	Quarried aggregates					C: _____
	Cement					D: _____
	Reinforcing steel					E: _____
	Bitumen					F: _____
	Diesel fuel					G: _____
Total						1.00

Note: For foreign currency the Bidder will indicate the sources of indices. European Union Statistical Office indices for the Euro area are acceptable if the foreign currency is EUR.

Table C. Summary of Payment Currencies

For Construction of Highway E 75

Section: Grdelica (Gornje Polje) – Caricina Dolina, LOT 1 and LOT 2

Name of payment currency	A Amount of currency	B* Rate of exchange (local currency per unit of foreign)	C Local currency equivalent $C = A \times B$	D Percentage of Net Bid Price (NBP) $\frac{100 \times C}{NBP}$
Local currency _____		1.00		
Foreign currency #1 _____				
Foreign currency #2 _____				
Foreign currency # _____				
Net Bid Price				100.00
Provisional sums expressed in local currency	-	-	-	-
BID PRICE				

* Selling exchange rates on the Base Date (the date 28 days prior to the latest date for submission of the Bid) in power by the National Bank of Serbia shall be used.

Covenant of Integrity

Date: _____

ICB No.: _____

Invitation for Bid No.: CORRX.E75.EIB.PACK1.ICB

To: Koridori Srbije d.o.o. Beograd, 21 Kralja Petra Street, 11000 Belgrade, Republic of Serbia

“We declare and covenant that neither we nor anyone, including any of our directors, employees or agents, acting on our behalf with due authority or with our knowledge or consent, or facilitated by us, has engaged, or will engage, in any Prohibited Practice (as defined below) in connection with the tendering process or in the execution or supply of any works, goods or services for *[specify the contract or tender invitation]* (the “Contract”) and covenant to so inform you if any instance of any such Prohibited Practice shall come to the attention of any person in our organisation having responsibility for ensuring compliance with this Covenant.

We shall, for the duration of the bidding process and, if we are successful in our bid, for the duration of the Contract, appoint and maintain in office an officer, who shall be a person reasonably satisfactory to you and to whom you shall have full and immediate access, having the duty, and the necessary powers, to ensure compliance with this Covenant.

If (i) we have been, or any such director, employee or agent acting as aforesaid has been, convicted in any court of any offence involving a Prohibited Practice in connection with any bidding process or provision of works, goods or services during the five years immediately preceding the date of this Covenant, or (ii) any such director, employee or agent has been dismissed or has resigned from any employment on the grounds of being implicated in any Prohibited Practice, we give details of that conviction, dismissal or resignation below, together with details of the measures that we have taken, or shall take, to ensure that neither this company nor any of our directors, employees or agents commits any Prohibited Practice in connection with the Contract *[give details if necessary]*.

In the event that we are awarded the Contract, we grant the Project Owner, the European Investment Bank (EIB) and auditors appointed by either of them, as well as any authority having competence under European Union law, the right of inspection of our records.

We accept to preserve these records generally in accordance with applicable law but in any case for at least six years from the date of substantial performance of the Contract.”

For the purpose of this Covenant,

- “Corrupt Practice” means the offering, giving or promising of any improper advantage to influence the action of a Public Official, or the threatening of injury to his person, employment, property, rights or reputation, in connection with any procurement process or in the execution of any contract in order that any person may obtain or retain business improperly or obtain any other improper advantage in the conduct of business.
- “Fraudulent Practice” means a dishonest statement or act of concealment which is intended to, or tends to, influence improperly the procurement process or the execution of a contract to the detriment of the Project Owner, or is designed to establish bid prices at non-competitive levels and to deprive the Project Owner of the benefits of fair and open competition, and includes collusive practices (whether before or after bid submission) among bidders or between a bidder and a consultant or a representative of the Project Owner.

- “Project Owner“ means the person designated as such in the bidding documents or the Contract.

- “Public Official” means any person holding a legislative, administrative, managerial, political or judicial post in any country, or exercising any public function in any country; or a director or employee of a public authority or of a legal person controlled by a public authority of any country; or a director or official of a public international organisation.

- “Prohibited Practice“ means an act that is a Corrupt Practice or a Fraudulent Practice.

Name _____ In the capacity of _____

Signed _____

Duly authorized to sign the bid for and on behalf of _____

Dated on _____ day of _____, _____

Preamble

1. The Bill of Quantities shall be read in conjunction with the Instructions to Bidders, General and Special 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 insofar as it is otherwise provided under the Contract, include all Constructional Plant, labour, supervision, materials, erection, maintenance, insurance, profit, taxes, and duties, together with all general risks, liabilities, and obligations set out or implied in the Contract.

The unit prices in this programme shall cover inter alia:

- costs of labour, used materials and equipment of the Contractor,
- costs of location for Contractor's facilities, plants, storage place, parking, offices etc.,
- costs of workers' camp, local transport to site and back, travel allowances to workers for trips home,
- costs of transport of materials and equipment of the Contractor to site,
- costs of possible rent of machinery, equipment and vehicles,
- costs of unloading, transshipment, storage, keeping, local deliveries of materials to places of use, equipment and plant of the Contractor,
- taxes, custom duties and levies related to the works pursuant to the contract provisions,
- cost of performance guarantee,
- insurance costs: for workers (health insurance included), for plants, structures and third parties pursuant to the relevant contract provisions,
- costs of electricity, water, heating, gas, telephone, fax during works,
- costs of waste disposal in city dump area,
- costs of construction and maintenance of temporary structures (stocks, workshops, worker's camp, offices for the Contractor, the Engineer, Employer, Consultant Supervision of the EMP and other) that are needed for smooth execution of the works under this contract,
- costs of laying and maintaining any temporary installations on the site, needed for the execution of works,
- costs of starting the operation,
- costs of "hard fence" for the site, if necessary,
- cost of supply and fixing of 3 official site boards in accordance with the laws of the Republic of Serbia,
- costs of working conditions for the Engineer and his team,
- costs of temporary dumping of key material,
- cost of any diversion roads and traffic control and maintenance of diversion roads,
- cost of cleaning up the site on completion,
- cost of the Environmental Management Plan implementation,

-
- cost of the traffic management plan preparation and implementation (the Contractor has to prepare and present the Plan to relevant authorities for approval; the Works shall be executed under road traffic, as well as along the railway line),
 - other costs ensuing from the contract documents,
 - other direct and indirect costs for full completion, maintenance in the construction period and start of operation,
 - itemized unit rates shall include geodetic works if they are not specified as a separate item in the Bill of Quantities.
4. A rate or price shall be entered against each item in the priced Bill of Quantities. 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 Contractor shall not have the right to unit price adjustment on the basis of eventual difference between quantities of works stated in the Bill of Quantities and actually completed quantities, except in the case defined under the Particular Conditions of Contract.
 6. 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.
 7. General conditions 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.
 8. A Daywork Schedule should be included if the probability of unforeseen work, outside the items included in the Bill of Quantities, is relatively high. To facilitate checking by the Employer of the realism of rates quoted by the bidders, the Daywork Schedule should normally comprise:
 - (a) a list of the various classes of labour, materials, and Contractor's Equipment for which basic Daywork rates or prices are to be inserted by the bidder, together with a statement of the conditions under which the Contractor will be paid for work executed on a Daywork basis; and
 - (b) a percentage to be entered by the bidder against each basic Daywork Subtotal amount for labour, materials, and Plant representing the Contractor's profit, overheads, supervision, and other charges.
 9. 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 and previously approved by the Employer in accordance with the Conditions of Contract.
 10. The method of measurement of completed work for payment shall be in accordance with Technical Specifications. All items of work indicated in the Bill of Quantities shall be valued by measuring net, in the units of the Bill of Quantities such actual quantities of the Permanent Works as have been executed strictly in accordance with the Bidding Documents or further instructions issued in writing by the Engineer. No works shall be valued which have been executed in excess of the dimensions shown on the Drawings or ordered by the Engineer. In particular, no allowances shall be made in the measurement or any excavation for working space, temporary works or the, temporary works or the operation of construction plant and such allowance shall be deemed to be included in the Bid Price.
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11. In general, excavation shall be measured net. The Contractor is to allow for bulking, intermediate storage, double handling and backfill with compaction to lines and levels given on the drawings, and disposal of excess material. The rates for timbering or other measures to maintain the stability of the excavations and for keeping excavations free of water.
 12. Proper drainage on the site must be maintained during construction and the Contractor shall be held responsible for any flood damage to life and properties due to his work in this Contract. The Contractor shall allow in his rate, inter alia, for all costs to maintain or divert flow in ditches, open channels and water sources during construction and other drainage work. No claims for additional payment will be considered in this regards.
 13. The contractor shall be deemed to have allowed in his rates, inter alia for the following:
 - Maintaining the road signs in areas of works for times other than designated working periods,
 - Construction and maintenance of any diversion or access roads and all costs incurred in the passing or traffic through the site.
 - All charges and/or transport costs relating to extraction, preparation and haulage of Materials,
 - The eventual removal of the Contractor's site and reinstatement of such areas on completion of the contract,
 - Protection of the work from water from any source,
 - Provision and preservation of survey beacons,
 - Provision of all samples and test certificates,
 - Provision of all water supply, sanitation and services including electricity,
 - Providing and mixing water to earthworks and pavement operations in dry weather to achieve the optimum moisture content,
 - Scarification of surfaces and drying the earthworks and pavements to reduce the moisture content to the optimum and compaction or re-compaction subsequently, and repeating any such operation whenever necessary. All earthworks, for culverts, bridges and other structures, whereas not explicitly itemized, are deemed to be included in the costs for the structures as entered by the contractor in the Bill of Quantities,
 - Costs of acquiring and transport of materials from borrow pits or other sources as well as costs of transport and depositing material in deposit areas,
 - Costs of material sampling and testing and re-testing where required, and test certificates
 - Marking, signaling as appropriate of all equipment and facilities on site to provide safety in accordance with rules and regulations,
 - Scaffolding and shuttering to substructure and superstructures,
 - Protective coating, waterproofing and insulation of structures and culverts, as shown on the drawings, if not explicitly itemized,
 - Elaboration and provision of detailed execution drawings for structure works, subject to approval of the Engineer,
 - The costs of acquiring and transport of materials from borrow pits or other sources as well as costs of transport and depositing material in deposit areas.
 14. The Contractor shall be responsible for acquiring required qualities of bituminous Binder for asphalt concrete and bituminous Emulsion for prime and tack coat for the project from within Serbia or if necessary from other countries and shall meet the required specifications as outlined in the Contract Documents. Contractor's unit prices for bituminous works shall include all costs for acquiring bitumen and paraffin from abroad if necessary.
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15. Any arithmetic errors in computation or summation will be corrected by the Employer as follows:
- (a) where there is a discrepancy between amounts in figures and in words, the amount in words will govern; and
 - (b) where there is a discrepancy between the unit rate and the total amount derived from the multiplication of the unit price and the quantity, the unit rate as quoted will govern, unless in the opinion of the Employer, there is an obviously gross misplacement of the decimal point in the unit price, in which event the total amount as quoted will govern and the unit rate will be corrected.
16. Rock is defined as all materials that, in the opinion of the Engineer, require blasting, or the use of metal wedges and sledgehammers, or the use of compressed air drilling for their removal, and that cannot be extracted by ripping with a tractor of at least 150 brake hp with a single, rear-mounted, heavy-duty ripper.
17. Mark CXX in the BoQ refers to the quality of concrete and corresponding label MB XX which is, in accordance with the standards of the Republic of Serbia, used in Detailed Design.
18. Contractor is responsible for providing all resources required for the works in accordance with his organization and the technology of works, including site plants, site offices and all access roads he needs. In the event that the same type of works is performed by different Contractors (transport and disposal of materials, etc), the Contractor will cover his costs (for construction and maintenance of a dumping area and access roads to it in proportion of material dumped, etc).
19. If any item in the BoQ refers to particular brand name, patent, type or manufacturer it shall be deemed that those brand name, patent, type or manufacturer are followed with wording "or equivalent" even if it is not written.

CD with the BoQ is enclosed to bidding documents.
In case of discrepancy, printed version will prevail.

FACILITIES FOR THE ENGINEER AND EMPLOYER'S REPRESENTATIVE

Remark:

The following Facilities for the Engineer and Employer's Representative should be treated as a Special Specifications and should be read in conjunction with General Specifications and shall extend and modify them as appropriate.

The Contractors shall provide principal offices, site offices and laboratory at the construction sites for the use of the Engineer, Employer's representative and EMP supervisor, ready in all aspects for use and occupation as and when needed (before commencement of the permanent works).

The Contractor will be responsible for all utility costs for all facilities until completion of the Contract.

All facilities, vehicles and equipment are subject of the Employer's prior approval.

Upon completion of the Contract, all facilities, vehicles and equipment shall be retained by the Employer, free of charge.

Principal offices and laboratory will be constructed on land acquired by the Employer in the vicinity of Predejane or Dzep, at an area of approximately 3.000 m². The Contractor of LOT 1 shall provide the principal offices (1 and 2), site offices and laboratory. The Contractor of LOT 2 shall provide the site offices.

(i) Principal offices 1

A separate building for Principal offices 1 in buildings of permanent and/or temporary construction (approximate net total floor area 400 m²), for the use of Engineer, Employer's representative and EMP supervisor, shall include 2 Chief Resident Engineer rooms (Office room No. 1 approximately 20 m²), 4 offices for senior engineering staff (Office room No. 1), 6 offices for engineering staff (Office room No. 2 approximately 15 m²) and one secretary office (Office room No. 3 approximately 15 m²), small kitchen, 2 toilets, conference room (approximately 30 m²), store room and server room (minimum 9m²). Office rooms shall be furnished as described below.

(ii) Principal offices 2

A separate building for Principal offices 2 in buildings of permanent and/or temporary construction (approximate net total floor area 350 m²), for the use of Engineer for tunnels Predejane and Manajle, Employer's representative and EMP supervisor, shall include 2 Chief Resident Engineer rooms (Office room No. 1 approximately 20 m²), 3 offices for senior engineering staff (Office room No. 1 approximately 20 m²), 4 offices for engineering staff (Office room No. 2 approximately 15 m²) and one secretary office (Office room No. 3 approximately 15 m²), small kitchen, 2 toilets, conference room (approximately 30 m²), store room and server room (minimum 9m²). The Employer will furnish these office rooms as described below.

(iii) Laboratory

A separate building shall be provided for laboratory, as well as storage place (approximate net total floor area 300 m² and 30 m² of external covered area). This building should have: 4 offices for engineering staff (Office room No. 2), one main laboratory room (approximately 70 m²), 4 subsidiary laboratory rooms (each room approximately 20 m²), 2 store rooms (each room approximately 10 m²) and toilet facilities. Office rooms shall be furnished as described below.

(iv) Site offices

Each Contractor shall provide site offices on one separate location beside the alignment, provided by the Employer, as approved by the Engineer. Site office shall consist of 4 office rooms (1 office rooms No.1, 2 office rooms No.2 and 1 office room No.3) store room and 2 toilets, each. Each room shall be of minimum 15 m² and furnished as described below.

General requirements for offices

All offices shall have electric installation, heating and air conditioning, adequate natural lighting and ventilation, mosquito nets, fire prevention equipment, potable water and telephone lines.

Buildings for Principal offices 1 and 2 and Laboratory shall be within fenced compound with outside lighting. Paving shall be required over approximately 1.500 m² of the allocated area, which has at least 40 parking spaces for principal's needs and the remainder shall be landscaped and planted. Contractors shall provide their main offices within compound on the remaining area. The Contractor shall provide draft layout of compound for Employer's approval.

Server room within Principal offices 1 and 2 shall fulfill following room specifications: room walls, ceiling, and doors should be sound isolated from other occupied areas; doors should be 42" to 48" wide, and 8' tall; antistatic floor finishing (no wax) is recommended for raised floor tiles or sheet vinyl; no windows (for security, sound, and environmental management reasons); separate cooling system, an under floor air distribution system is preferred, although ducted systems are acceptable.

Site offices shall be within fenced compound with outside lighting. The site offices shall include store room. The supervisory staff shall have access to toilet facilities, etc, of the Contractors and such facilities must be maintained in a suitable condition for senior staff use. 3 (three) car parking spaces shall be designated, per each site office as being for the use of the Engineer and the Employer's representative and the Contractors will make provision for washing down the vehicles of the Engineer and the Employer's representative.

If any item in the following text refers to particular brand name, patent, type or manufacturer it shall be deemed that those brand name, patent, type or manufacturer are followed with wording "or equivalent" even if it is not written.

Offices (Principal, Laboratory and Site) shall be furnished with a minimum of:

(a) Office room No. 1

- one work station, comprising of a 1,6 m x 0,80 m x 0,75 m executive desk with a 1,2 m x 0,6 m x 0,68 m computer table, a three-drawer lockable cabinet 0,45 m x 0,47 m x 0,57 m and an upholstered executive office chair with arm rests;
- one four-drawer lockable steel filing cabinet fitted for hanging files;
- one lockable double door cupboard 0,90 m x 0,45 m x 1,40 m with shelves (matching the desks);
- one lockable double door office closet 2,0 m x 0,80 m x 0,50 m with shelves on 40 cm distance;
- table 1,6 m x 0,80 m x 0,75 and four standard matching chairs for visitors;
- one computer with minimum characteristics: Graphics station (CAD) - HP Z210 (KK783EA) configuration: CPU Intel Xeon E31230 (3.2 GHz, 8MB L2), HDD 1TB

SATA3 6Gbit/sec, RAM 8GB DDR3, DVDRW Super Multi, HP NVIDIA Quadro 600 1GB , Win7 Pro 64-bit, HP keyboard USB, HP optical mouse USB, Monitor HP ZR22w LCD, warranty 3 years (3-3-3);

- one UPS APC BE 700GI Back-UPS RS 700VA 230V;
- one telephone set with contact saving, re-dial and call-back functions;
- stationary (office supplies, one wall clock, one heavy duty document hole punch SAX 608 or equivalent, one stapler SAX 620 or equivalent, name plate on door, one paper tray-three tier, one waste basket, one pin board 2,4m x 1,2m, one set of coat hooks);
- one 50 m linen measuring tape and one 5 m steel pocket measuring tape.

(b) Office room No. 2

- three work stations, each comprising of a 1,6m x 0,80m x 0,75m executive desk with a 1,2m x 0,6m x 0,68m computer table, a three-drawer lockable cabinet 0,45m x 0,47m x 0,57m and an upholstered office chair with arm rests;
- three four-drawer lockable steel filing cabinet fitted for hanging files;
- two lockable double door office closets 2,0 m x 0,80 m x 0,50 m with shelves on 40 cm distance;
- one double door, lockable steel wardrobe cabinet 0,90 m x 0,45 m x 2,00 m;
- table 1,6 m x 0,80 m x 0,75 and four standard matching chairs for visitors;
- three computers with minimum characteristics: Office computer - HP 6200P (XY102EA) SFF configuration: CPU Intel i3 2100, HDD 500 GB SATA3 3Gbit/sec, RAM 2GB DDR3, DVDRW Super Multi, Win7 Pro 32-bit, HP keyboard PS2, HP optical mouse PS2, Monitor HP S2231a 21.5" WIDE, warranty 3 years (3-3-3);
- three UPS APC BE 700GI Back-UPS RS 700VA 230V;
- three computers with minimum characteristics: Laptop - HP ProBook 4530S (XY022EA) - configuration: - CPU i5-2410M, - HDD 640GB SATA 2, - RAM 4GB DDR3, DWDRW LS, Win 7 Pro 64-bit, display 15,6" HD LED, WebCam, warranty 1 year;
- one telephone set with contact saving, re-dial and call-back functions;
- stationary (office supplies, one wall clock, one heavy duty document hole punch SAX 608 or equivalent, one stapler SAX 620 or equivalent, name plate on door, three paper trays-three tier, three waste baskets, one pin board 2,4 m x 1,2 m, one set of coat hooks);
- three 50 m linen measuring tape and three 5 m steel pocket measuring tape.

(c) Office room No. 3

- two work stations, each comprising of a 1,6 m x 0,80 m x 0,75 m executive desk with a 1,2 m x 0,6 m x 0,68 m computer table, a three-drawer lockable cabinet 0,45 m x 0,47 m x 0,57 m and an upholstered office chair with arm rests;
- two four-drawer lockable steel filing cabinet fitted for hanging files;
- one double door, lockable steel cabinet with shelves 0,90 m x 0,45 m x 2,00 m;
- two lockable double door office closets 2,0 m x 0,80 m x 0,50 m with shelves on 40 cm distance;
- two standard, matching chairs for visitors;
- one computer with minimum characteristics: Office computer - HP 6200P (XY102EA) SFF configuration: CPU Intel i3 2100, HDD 500 GB SATA3 3Gbit/sec, RAM 2GB DDR3, DVDRW Super Multi, Win7 Pro 32-bit, HP keyboard PS2, HP optical mouse PS2, Monitor HP S2231a 21.5" WIDE, warranty 3 years (3-3-3);
- one UPS APC BE 700GI Back-UPS RS 700VA 230V;
- one laser printer HP LaserJet P2055dn or equivalent with USB cable;
- one multifunctional device HP LaserJet M1536dnf or equivalent;

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- one photocopier Canon IR2520 Duplex + ADF + Finisher + cassette Feeding Module + Ethernet or equivalent;
 - stationary (office supplies, one document shredder bis Rabbit or equivalent, one document binding machine Letz CB600 DL or equivalent, one heavy duty document hole punch SAX 608 or equivalent, one stapler SAX 620 or equivalent, name plate on door, two paper trays-three tier, one waste basket, one pin board 2,4 m x 1,2 m, one set of coat hooks);
 - thermometer;
 - two first aid sets;
 - secretary office shall be arranged to provide the reception and control of visitors into the foyer and their admittance into the offices.
- (d) Entrance of building for Principal offices
- Entrance of building for Principal offices shall be furnished with six chairs for visitors.
- (e) Conference room
- one executive quality conference table;
 - twelve chairs of a compatible quality;
 - two double door cupboards with shelves (matching the table) 0,90 m x 0,45 m x 0,85 m;
 - one set of telephone conferencing equipment;
 - white board 2,4 m x 1,2 m.
- (f) Server room
- HP Designjet 510 (24 inch) A1 large format printer;
 - Server - HP DL380G7 - configuration: HP DL380G7 X5650 Perf EU Svr, Proliant SvrDL38x with ICSupp, HP 8GB 2Rx4 PC3-10600R-9 Kit, HP 900GB 6G SAS 10K 2.5in DP ENT HDD x 4, HP 146GB 6G SAS 10K 2.5in DP ENT HDD x 2, HP P212/YM Smart Array Controller, warranty 3 years (3-3-3);
 - Server Cabinet - HP - configuration: HP TFT7600 Rekmnt keyboard, HP 16A High Voltage Modular PDU, HP R5500 3U Intl UPS, HP ERM R5500 battery, HP V142 600mm Pallet Rack, HP V142 Rack grounding kit, HP V142 Rack sidepanel kit, HP V142 Racd baying kit, HP V142 Rack stabilizer kit, HP 10pk Carbt 1U univerzal filter panel;
 - HP ML110G6 (470065-341) Quad-Core Intel Xeon processor X3430 (2.4GHz, 1 x 8MB cache), 4GB (2 x 2GB) PC3-10600E (UDIMM), Embedded B110i SATA Software RAID Controler (RAID 0/1/10) (4 ports available), 2x500GB SATA NonHot Plug (LFF), DVD with Windows Server 2008 Standard R2 OS;
 - RACK TOTEN TE6631 300X600X1600mm 31U/19" complete;
 - 2 x Switch Allied Telesyn AT-GS900/24;
 - CISCO ADA 5505 Appliance with SW 50 users / 80 PORT;
 - one telephone/fax machine Canon FAX-L140 or equivalent;
 - PBX KX-TES824 with KX-TE82483CE modul for aditional 16 locals;
 - 2 System phone Panasonic KX-T7730;
 - 14 Phone Panasonic KX-T2373.

All computers must be installed with the following licensed software: OS Win7 pro, MS Office XP Professional 2007 and AutoCAD dwg True View. Six computers must additionally have licensed Adobe Acrobat, Adobe Photoshop, AutoCAD and Microsoft Project (latest versions). The computers must be networked with connection to a broadband.

The general requirements include, as follows:

- preparing a plan of the layout of the offices, work stations and furnishing to the satisfaction of the Engineer;
- supply and fitting of split air conditioners for all rooms (1.5T), with heating as well as cooling capability;
- supply and fitting of triple electric sockets, convenient to work stations;
- supply of two telephone lines and connections to the site offices (either as ground lines or GSM lines with GPRS, and Internet Domain with e-mails for all users at the local provider);
- fire extinguishers, smoke alarms and fire exit signs according to the Fire Authority regulations or, otherwise, as directed by the Engineer;
- doormats in the entrances, a boot scraper and 6 lever security locks on the entrance doors.

The Contractors will be responsible for maintaining, cleaning and security all of the offices of the Engineer, Employer's representative and EMP supervisor. This includes cleaning of rooms, and inter alia provision of all necessary cleaning equipment, rubbish bins and materials as well as provision of liquid soap for hand washing, dish washing, etc, lavatory cleaner and brushes, toilet paper, daily provision of clean hand towels, fly spray, extermination of any rodents and any other such incidentals as the Engineer, Employer's representative and EMP supervisor may reasonably require for maintaining decent conditions for the operations of the offices. Eventual repair works for the facilities are also included.

The Contractor shall also provide to the Engineer, Employer's representative and EMP supervisor 20 mobile phones in order to have permanent contact with the staff present on the site. The billing shall be for Serbia only.

The mobile phone, telephone, e-mail and facsimile calls made by the Engineer, Employer's representative and EMP supervisor and their staff are included in the Contractor's Lump Sum (to be included in BoQ, General Items, Provisions and consumables for the Engineer, Employer's representative and EMP supervisor) as well as reasonable office consumables. Maintenance for the running of the below to be included in BoQ, General Items, Maintain facilities in compound for the Engineer and Employer's representative during works and up to the issue of the Taking over Certificate.

Vehicles for the Engineer

The Contractor for each LOT will provide the Employer's representative, Engineer and EMP Supervisor with:

- 3 new off-road cars (4WD) acceptable to the Engineer, 5-door, with 5 seats, digital air-conditioning, 4 air-bags, ABS, ESP, central locking, radio CD with speakers, with diesel engine capacity minimum 1900 cm³ (Skoda Yeti or similar),
- 2 new pick-ups acceptable to the Engineer, having the following characteristics: diesel engine with approximate 2.500 cm³, 5 seats, double cab, 4WD, ABS, ESP, air-conditioning, 4 air-bags radio CD with speakers (Toyota Hilux or similar),
- 1 new car acceptable to the Engineer, having the following characteristics: C class, diesel engine with at least 1.900 cm³, 5-door, 5 seats, ABS, ESP, digital air-conditioning, tempomat, 4air-bags radio, CD with speakers (Skoda Superb or similar).

The cars shall be delivered (with registration plates, vehicle licence, and be fully and comprehensively (full kasko) insured) prior to the commencement of Works on site or later if instructed by the Employer. The Contractors will be responsible for provision of fuel, lubricants, servicing, repair, maintenance, cleaning fluid, summer and winter tires, triangle,

first aid package, pulling cable, fire fighting apparatus, and others. The Contractors will also make provision for washing down the vehicles. In the case of accidental damage, the Contractors shall be responsible for reinstatement of the damaged vehicle to its original condition. The Contractors shall supply temporary replacement vehicles during periods when the cars are immobilised.

When no longer required by the Engineer for the Services, but no later than the end of the Defect Notification Period, the ownership of the above vehicles shall be transferred to the Employer who will then become responsible for fuel servicing, repair, maintenance, insurance and miscellaneous costs.

Precise Survey Equipment

Two complete sets of equipment are to be provided, according to the following list. One set shall be provided for the initial survey works and the second set shall be provided in accordance with instructions issued by the Engineer:

- (a) 1 x Leica TC2002 precision Total Station or similar type including Tribrach and Internal Battery and Battery Charger
- (b) 1 x additional Internal Battery
- (c) 4 x Tripods
- (d) 2 x additional Tribrachs
- (e) 3 x Target Carriers
- (f) 3 x Precision Reflectors
- (g) 1 x Container for precision reflectors, tribrachs and carriers
- (h) 1 x NA3000 Precise Digital Level or similar type
- (i) 1 x Invar Stave
- (j) 1 x Ground Plate
- (k) 2 x 3m Levelling Staff
- (l) 3 x Moveable Bench Marks (levelling staff bases)
- (m) 2 x Levelling Staff Stands
- (n) 2 x each of Measuring Tapes made of Fibron 50m and 25m
- (o) 1 x Notebook Satellite Pro S300M or similar type

Protective Equipment for the Employer's representative, Engineer and EMP Supervisor

General

The Contractor shall initially provide the Employer's representative, Engineer and EMP Supervisor with protective clothing and equipment, as follows, and, as the Engineer considers necessary, provide replacement items under the provisions for maintenance of the Engineer's facilities. Prior to making this provision, the Contractor shall obtain a list of appropriate sizes from the Employer's representative, Engineer and EMP Supervisor. As and where the Contractor's methodology, activities or planned testing programme may require additional protective equipment (such as gloves, ear plugs, goggles, torches etc), the Contractor shall make these available to the Employer's representative, Engineer and EMP Supervisor as and when the need arises.

List of Protective Equipment

- a) 10 Weatherproof jacket and trouser sets with reflective panels or strips
- b) 10 Safety helmets, white
- c) 10 Pairs of protective leather boots

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- d) 10 Pairs of rubber or PVC boots with steel toe caps, slip resistant soles and steel mid soles (Wellington or equivalent)
 - e) 20 Pairs of heavy socks for boots
 - f) 10 Lightweight fluorescent waistcoats with reflective strips / panels
 - g) 10 Winter weight fluorescent anoraks with removable thermal lining and reflective strips / panels
 - h) 5 First Aid pack :

Item :	No. in First Aid Pack
Bandages : 3cm width	3
Bandages : 5cm width	3
Elastoplast (assorted)	2 boxes
Adhesive plaster (rolls) 3 cm width	5m
Absorbent cotton wool (packs)	2
Sterilised eye pads in separate packets	3
Safety pins	12
Rubber bandage or pressure bandage	2m
Eye wash (bottles)	2
Iodine	1
Disinfectant (Dettol)	50ml
Antiseptic cream	1
Aspirin (pack of 50)	1

The First Aid pack will be replenished, as necessary, together with the office supplies.

Labor and equipment on site

The Contractors will provide the Engineer and the EMP Supervisor on a day to day basis with all necessary labor to assist in the survey of works, sampling and testing of materials and of the works and the measurement of the works.

From the commencement date until the taking over of works, the Contractors shall be obliged to provide to the Engineer, in any moment, at his request, all necessary equipment and conditions for inspecting the quality of materials and performed works. After taking over of works, the Contractor will retain all the equipment.

Laboratory

The Contractor shall provide, as minimum, following laboratory equipment:

List of minimum Geomechanics Laboratory Equipment		
No.	Item	Quantity
1	Drying oven of 100 litres capacity	1 piece
2	Electronic Scale of high precision of up to 12 kg	1 piece
3	Inclination scale	1 piece
4	Casagrande shaker	1 piece
5	Granulation shaker	1 piece
6	Proctor apparatus (automatic)	1 piece
7	Apparatus for dynamic tests with weights	1 piece
8	Hydraulic press 200,0 KN	1 piece
9	Hydraulic press 50,0 KN	1 piece
10	Moulds for Standard Proctor Experiment	1 piece
11	Moulds for Modified Proctor Experiment	1 piece
12	Standard hammer	1 piece
13	Modified hammer	1 piece
14	Set for volume weight measurements	1 piece
15	Accessories	2 sets
16	Microwave oven	1 piece
17	Volume mass determination by calibrated sand method	1 set
18	Volume mass determination by balloon apparatus method	1 set
19	Hot plate, electrical, double ring	1 piece
20	Drying pans, various dimensions	1 piece
21	Miscellaneous equipment (brushes, knives, etc.)	15 pieces
22	Set of sieves	1 piece
23	Utensils for quartering	1 piece
24	Computer + monitor + modem + printer	1 piece

List of minimum Concrete Laboratory Equipment		
No.	Item	Quantity
1	Concrete press	1 piece
2	Abrahams conus with triangle and oblique iron bar of 16 mm diameter, length 60cm	1 piece
3	Sieve 30x30 (63, 45, 31.5, 22.4, 16, 11.2, 8, 4, bottom and cover)	1 piece
4	Sieve Ø250 (1, 0.25, 0.125, 0.09, 0.063, bottom and cover)	1 piece
5	Sieve Ø 250 (8, 0.25 bottom and cover)	1 piece
6	Sieve Ø 250 (4, 2, 1, 0.55, 0.25, 0.125 bottom and cover)	1 piece
7	Vicat apparatus	1 piece
8	Le Chatellier ring	5 piece
9	Scale up to 20 kg	1 piece
10	Scale up to 10 kg	1 piece
11	Set of small counterweights (5g, 2x10g, 2x20g, 50g, 2x100g, 200g)	1 piece
12	Utensils made out of brass for cement examination	1 piece
13	Sclerometer	1 piece
14	Transformer (incl. Vibrating needle)	1 piece
15	Moulds 15x15x15 cm	20 pieces
16	Mould accessories	1 piece
17	Cylinders (VDP examination)	6 pieces
18	Cylinders accessories	1 piece
19	Thermometer, wall climbed	1 piece

List of minimum Concrete Laboratory Equipment		
No.	Item	Quantity
20	Thermometer, insertion set	1 piece
21	Set of utensils: 2000 ml, 1000 ml, 500 ml, 250 ml, 100 ml, 50 ml	1 set for each
22	Pans, big size	2 pieces
23	Pans, 30x30	5 pieces
24	Pans, 20x20	10 pieces
25	Small accessories	1 piece
26	Compressed air apparatus	1 piece
27	Miscellaneous equipment (brushes, knives, etc.)	1 set
28	Computer	1 piece
29	Set of sieves	1 piece

List of minimum Asphalt Laboratory Equipment		
No.	Item	Quantity
1	Funnel	1 piece
2	Marshall compactor	1 piece
3	Accessory	1 piece
4	Mould accessories	1 piece
5	Moulds for Marshall equipment	12 pieces
6	Funnel for mass	1 piece
7	Specimen penetrating apparatus	1 piece
8	Sieve, smaller size	1 piece
9	Water bath	1 piece
10	Marshall press	1 piece
11	Sieve diameter 200x50 (0.063 and 0.09)	2 pieces for each
12	Sieve diameter 200x50 (0.25, 0.71, 2, 4, 8, 11.2, 16, 22.4, 31.5, 45)	1 piece for each
13	Bottom	2 pieces
44	Shaker	2 pieces
15	Sieves, sieving under wet regime, diameter 200m	1 piece
16	Electronic scales, 6200g/0.1	1 piece
17	Drying set, 250 litres	2 pieces
18	Thermometer, 0+50°C	2 pieces
19	Thermometer, 0+250°C	5 pieces
20	Pycnometers, 50mlx2	2 pieces
21	Plastic pycnometers, 1000ml	3 pieces
22	Stopwatch, 30 min/60 sec	1 piece
23	Stopwatch, 60 min	1 piece
24	Ceramic plate	1 piece
25	Asbestos plate	1 piece
26	Computer + monitor + modem + printer	1 set
27	Infrared thermometer, -50 to +200°C	1 piece

Bills of Quantities

Bills of Quantities LOT 1

Grand summary	Amount
GENERAL ITEMS (A)	
Civil engineering design (1)	
Stormwater sewage system (2)	
Regulation of water streams (3)	
Engineering structures (4)	
Bridges (5)	
Retaining walls (6)	
Traffic-technical and service equipment for roads (7)	
Technical infrastructure (8)	
Landscaping (9)	
SUBTOTAL OF BILLS $\Sigma[(1)-(9)]=(B)$	
UNFORSEEN WORKS 5% $0.05x(B)=(C)$	
TOTAL FOR DAYWORK (D)	
TOTAL OF BILLS $(A+B+C+D)=(E)$	
CONTINGENCY ALLOWANCE 10% $0.1x(E)=(F)$	
BID PRICE $(E)+(F)=(G)$	
VAT (Nil-Since the Project is financed by the EIB, the payment of VAT is exempted) $0=(H)$	
FINAL BID PRICE $(G)+(H)=(I)$	

No.	Description	Unit	Quantity	Unit price	Amount
1	Principal offices building 1	ls	1		
2	Principal offices 1 furniture and equipment	ls	1		
3	Supply of computers and software for Principal offices 1	ls	1		
4	Principal offices building 2	ls	1		
5	Site offices building	ls	1		
6	Site offices furniture and equipment	ls	1		
7	Supply of computers and software for Site offices	ls	1		
8	Compound, paving, fencing, lighting and provision of utilities	ls	1		
9	Laboratory building	ls	1		
10	Laboratory - offices furniture and equipment	ls	1		
11	Supply of computers and software for Laboratory offices	ls	1		
12	Laboratory equipment	ls	1		
13	Vehicles (offroad)	pcs	3		
14	Vehicles (C class)	pcs	1		
15	Vehicles (pick up)	pcs	2		
16	Provisions and consumables for the Engineer	ls	1		
17	Supply of additional equipment for the Engineer and Employer's representative	ls	1		
18	Maintain facilities in compound for the Engineer and Employer's representative during works and up to the issue of the Taking over Certificate	month	24		
19	Maintenance, fueling and insurance of vehicles of the Engineer and Employer's representative	month	24		
Total General Items					

CIVIL ENGINEERING DESIGN
01.01. HIGHWAY ALIGNMENT

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.01.01.		PRELIMINARY WORKS				
01.01.01.01	2.1.	Geotechnical investigations				
01.01.01.02.	2.4.	Removal of bushes and trees a) cutting bushes up to Ø10 cm: 13346 m ² b) cutting bushes Ø10 - Ø25 cm: 16312 m ² c) cutting trees Ø10 - Ø20 cm: 3017 pcs. d) cutting trees Ø20 - Ø40 cm: 1379 pcs. e) uprooting stumps Ø10 - Ø20 cm: 3017 pcs. f) uprooting stumps Ø20 - Ø40 cm: 1379 pcs.	km'	6.10		
01.01.01.03.	2.5.	Demolition of buildings	m ²	224.00		
01.01.01.04.	2.7.	Demolition of the existing pavement	m ²	2,730.00		
TOTAL PRELIMINARY WORKS						
01.01.02.		EARTH WORKS				
01.01.02.01.	3.1.	Topsoil stripping		<i>(price included in the price of excavation and embankment)</i>		
01.01.02.02.	3.2.	Bulk excavation and transport (including topsoil stripping and stockpiling, excavation of soil of low bearing capacity, topsoiling and grassing) Excavation in II and III category earth, transport of material to stockpiling area and spreading without compaction - 3000 - 5000 m (excavation for subsoil substitution: 21940 m ³) (excavation for temporary channels during construction works: 475 m ³) - Excavation in III and IV category soil with loading, transport and unloading of material from the excavation or borrow pit - up to 60 m - up to 500 m - 500 m - 1000 m - 1000 m - 3000 m - Excavation in V and VI category soil with loading, transport and unloading of material from the excavation or borrow pit - up to 60 m - up to 500 m - 500 m - 1000 m - 1000 m - 3000 m	m ³	22,415.00		
			m ³	12,023.00		
			m ³	51,633.00		
			m ³	117,507.00		
			m ³	64,776.00		
			m ³	19,450.00		
			m ³	67,040.00		
			m ³	193,173.00		
			m ³	102,729.00		
01.01.02.03.	3.3.	Subsoil finishing	m ²	133,106.00		
01.01.02.04.	3.4.	Construction of embankment (including topsoil stripping, construction of stepped side cuts, shoulder central part, leveling, topsoiling and grassing of embankment slopes) a) topsoil stripping: 41160 m ³ b) surplus topsoil: 21360 m ³ c) stepped side cuts: 1849 m ³ d) shoulder central part: 3186 m ³ e) topsoiling of slopes: 75172 m ² f) topsoiling and grassing of shoulders: 23826 m ² g) lining with stone the embankment slopes: 2952 m ³ h) Filling of temporary channels with stones of specific grading during construction works: 475 m ³ i) Embankment top layer of 0/63 mm stable material in the cutting section where material will be substituted: 21940 m ³	m ³	373,576.00		
01.01.02.05	3.6.1.	Substitution of soil of low bearing capacity with sandy gravel layer	m ³	3,578.00		
TOTAL EARTH WORKS						
01.01.03.		DRAINAGE AND DEWATERING				
01.01.03.01.	4.3.	Drainage channels - Excavation	m ³	3,465.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.01.03.02	4.3	- Lining of channels with prefabricated elements of MB 30 concrete onto 5 cm thick sandy gravel bed.	m²	2,481.00		
		- Placing 20 cm thick drainage channel lining of MB 25 concrete	m²	2,496.00		
		- Procurement and installation of drain channels for controlled drainage of run-off from highway central reserve. Drain channel dimensions: 100x100x20 cm. It shall be installed onto sandy gravel bed, fully in accordance with designed details.	m'	3,022.00		
		- Procurement and installation of drain channels for controlled water drainage down the embankment slope.	m'	289.00		
		- Casting of 25 cm thick layer of MB 25 concrete over shoulder at lower highway side toward central reserve and placing of protective waterproof, procurement and delivery of materials.	m²	1,452.00		
TOTAL DRAINAGE AND DEWATERING						
01.01.04.		SUB-BASES				
01.01.04.01	AS-3.4 additional specifications AS-6.2.2 additional specifications	Sandy gravel materials - placing subgrade layer	m²	137,524.00		
01.01.04.02		Placing and rolling the sub-base of 0/31.5 mm crushed stone onto rolled subgrade accepted by the Engineer. Rolling shall be performed until even surface is achieved according to designed gradients and crossfalls with tolerance of ± 1 cm. Thickness: d=10 cm	m²	73,653.00		
		Thickness: d=30 cm	m²	67,350.00		
		Thickness: d=38 cm	m²	24,772.00		
TOTAL SUB-BASES						
01.01.05.		SUPERSTRUCTURE				
01.01.05.01	7.1.	Procurement and placing of 18/24 cm curbs	m'	700.00		
01.01.05.02	7.2.	Procurement and installation of 90 cm concrete gutters	m'	1,933.00		
TOTAL SUPERSTRUCTURE						
01.01.06.		ASPHALT PAVEMENT				
01.01.06.01.	9.3.	Placing of bituminous base course BNS 22sA (Bit 60) consisting of stone aggregate d= 8 cm	m²	25,430.00		
		d= 8+8= 16 cm	m²	76,796.00		
01.01.06.03.	9.5.	Placing of 4 cm thick wearing course made of skeleton mastic asphalt SMA 11s	m²	102,221.00		
01.01.06.04.	9.6.	Placing of 4 cm thick wearing course made of asphalt concrete AB 11. Shoulder shall be stabilized at lower pavement side d=6 cm	m²	2,973.00		
TOTAL ASPHALT PAVEMENT						
01.01.07.		ROAD EQUIPMENT				
01.01.07.01.	12.6.7.	Procurement and installation of 1.5 m high road fence made of galvanized mesh on poles of 40x40 mm steel boxes	m'	10,451.00		
TOTAL ROAD EQUIPMENT						

01.01. SUMMARY - HIGHWAY ALIGNMENT						
01.01.01. PRELIMINARY WORKS						
01.01.02. EARTH WORKS						
01.01.03. DRAINAGE AND DEWATERING						
01.01.04. SUB-BASES						
01.01.05. SUPERSTRUCTURE						
01.01.06. ASPHALT PAVEMENT						
01.01.07. ROAD EQUIPMENT						
SUB-TOTAL						
Unforeseen work (5% of sub-total)						
TOTAL HIGHWAY ALIGNMENT (01.01.):						

01.03. LOCAL ROADS

01.03.01. Connection between the parallel road and M1 road

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.03.01.01.		PRELIMINARY WORKS				
01.03.01.01.01.	2.1.	Geotechnical investigations				
01.03.01.01.02.	2.4.	Removal of bushes and trees a) cutting bushes up to Ø10 cm: 1100 m ² b) cutting bushes, Ø10 - Ø25 cm: 1300 m ² c) cutting trees, Ø10 - Ø20 cm: 260 pcs. d) cutting trees, Ø20 - Ø40 cm: 130 pcs. e) uprooting stumps, Ø10 - Ø20 cm: 260 pcs. f) uprooting stumps, Ø20 - Ø40 cm: 130 pcs.	km'	0.56		
01.03.01.01.03.	2.7	Demolition of the existing pavement	m ²	712.00		
TOTAL PRELIMINARY WORKS						
01.03.01.02.		EARTH WORKS				
01.03.01.02.01.	3.2.	Bulk excavation and transport (including topsoil stripping and stockpiling, excavation of soil of low bearing capacity, topsoiling and grassing) - Excavation in III and IV category soil with loading, transport and unloading of material from the excavation or borrow pit - up to 60 m a) topsoil stripping: 1155 m ³	m ³	1,182.00		
		- 500 m - 1000 m a) surplus topsoil: 722 m ³	m ³	2,241.00		
01.03.01.02.02.	3.3.	Subsoil finishing	m ²	2,762.00		
01.03.01.02.03.	3.4.	Construction of embankment (including topsoil stripping, construction of stepped side cuts, shoulder central part, leveling, topsoiling and grassing of embankment slopes) b) shoulder central part: 132 m ³ c) topsoiling of slopes: 1266 m ² d) topsoiling and grassing of shoulders: 899 m ²	m ³	3,262.00		
01.03.01.02.04.	3.5.	Wedges next to structures	m ³	57.00		
TOTAL EARTH WORKS						
01.03.01.03.		DRAINAGE AND DEWATERING				
01.03.01.03.01	4.3.	Drainage channels - Excavation	m ³	103.00		
		- Procurement and installation of drain channels for controlled water drainage down the embankment slope.	m'	39.00		
TOTAL DRAINAGE AND DEWATERING						
01.03.01.04.		SUB-BASES				
01.03.01.04.01.	6.1	Sandy gravel materials - placing subgrade layer	m ²	4,443.00		
01.03.01.04.02	6.2	Procurement and placing of 0/63 mm crushed stone as rolled sub-base of pavement structure. Broken stone layer shall be placed onto finished subgrade accepted by the Engineer. Stone of this size shall meet requirements of SRPS U.E9.020. • d=30 cm	m ²	4,123.00		
01.03.01.04.03.	6.2	Placing and rolling the sub-base of 0/31.5 mm crushed stone onto rolled subgrade accepted by the Engineer. Rolling shall be performed until even surface is achieved according to designed gradients and crossfalls with tolerance of ± 1 cm. • d=20 cm	m ²	3,430.00		
TOTAL SUB-BASES						
01.03.01.05.		SUPERSTRUCTURE				
01.03.01.05.01	7.1.	Verges, curbs and prefabricated elements • curbs 18/24	m'	123.00		
TOTAL SUPERSTRUCTURE						
01.03.01.06		ASPHALT PAVEMENT				
01.03.01.06.01	9.3.	Placing of bituminous base course BNS 22A (Bit 60) consisting of stone aggregate • d=8 cm	m ²	3,384.00		
01.03.01.06.02	9.6.	Placing of wearing course made of asphalt concrete AB 11s (Bit 60) • d=4 cm	m ²	3,384.00		
TOTAL ASPHALT PAVEMENT						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.03.01.07.		STRUCTURES, CULVERTS				
		Small slab-top and pipe culverts				
01.03.01.07.01	11.3.	- Excavation in III and IV category soil for culverts	m³	55.00		
01.03.01.07.02	11.3	- Bed of sandy gravel materials, 20 cm thick - price includes procurement and placing of sandy gravel material under the pipes.	m³	5.00		
01.03.01.07.03	11.3	- Concrete work, MB 30	m³	14.00		
01.03.01.07.04	11.3	Prefabricated concrete pipe culverts: - Ø400 mm	m'	12.00		
		- Ø1000 mm	m'	11.00		
01.03.01.07.05	11.3	- Waterproofing of top surfaces of pipe culverts with two paper layers and three coats of bitumen solution over bituminized paper. Payment per 1 m² of unfolded area.	m²	42.00		
01.03.01.07.06	11.3	Procurement and placing of reinforcing bars	kg	490.00		
TOTAL STRUCTURES, CULVERTS:						

01.03.01. SUMMARY - Connection between the parallel road and M1 road						
01.03.01.01.	Preliminary works					
01.03.01.02.	Earth works					
01.03.01.03.	Drainage and dewatering					
01.03.01.04.	Sub-bases					
01.03.01.05.	Superstructure					
01.03.01.06.	Asphalt pavement					
01.03.01.07.	Structures, culverts					
<i>TOTAL Connection between the parallel road and M1 road (01.03.01.):</i>						

01.03.02. Detour of local road No. 1

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.03.02.01.		PRELIMINARY WORKS				
01.03.02.01.01.	2.1.	Geotechnical investigations				
01.03.02.01.02.	2.4.	Removal of bushes and trees a) cutting bushes up to Ø10 cm: 495 m² b) cutting bushes Ø10 - Ø25 cm: 605 m² c) cutting trees Ø10 - Ø20 cm: 121 pcs. d) cutting trees Ø20 - Ø40 cm: 60 pcs. e) uprooting stumps Ø10 - Ø20 cm: 121 pcs. f) uprooting stumps Ø20 - Ø40 cm: 60 pcs.	km'	0.20		
TOTAL PRELIMINARY WORKS:						
01.03.02.02.		EARTH WORKS				
01.03.02.02.01.	3.2.	Bulk excavation and transport (including topsoil stripping and stockpiling, excavation of soil of low bearing capacity, topsoiling and grassing) - Excavation in III and IV category soil with loading, transport and unloading of material from the excavation or borrow pit - up to 60 m a) topsoil stripping: 339 m³	m³	20.00		
		- 500 m - 1000 m a) surplus topsoil: 198 m³	m³	913.00		
01.03.02.02.02.	3.3.	Subsoil finishing	m²	1,071.00		
01.03.02.02.03.	3.4.	Construction of embankment (including topsoil stripping, excavation of stepped side cuts, shoulder central part, leveling, topsoiling and grassing of embankment slopes) b) shoulder central part: 21 m³ c) topsoiling of slopes: 390 m² d) topsoiling and grassing of shoulders: 306 m²	m³	932.00		
01.03.02.02.04.	3.5.	Wedges next to structures	m³	62.00		
TOTAL EARTH WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.03.02.03.		DRAINAGE AND DEWATERING				
01.03.02.03.01.	4.3.	Drainage channels - Excavation	m ³	7.00		
TOTAL DRAINAGE AND DEWATERING:						
01.03.02.04.		SUB-BASES				
01.03.02.04.01.	6.1	Sandy gravel materials - placing subgrade layer	m ²	885.00		
01.03.02.04.02.	6.2	Procurement and placing of 0/63 mm crushed stone as rolled sub-base of pavement structure. Broken stone layer shall be placed onto finished subgrade accepted by the Engineer. Stone of this size shall meet requirements of SRPS U.E9.020.				
		• d=20 cm	m ²	715.00		
01.03.02.04.03.	6.2	Placing and rolling the sub-base of 0/31.5 mm crushed stone onto rolled subgrade accepted by the Engineer. Rolling shall be performed until even surface is achieved according to designed gradients and crossfalls with tolerance of ± 1 cm.				
		• d=15 cm	m ²	613.00		
TOTAL SUB-BASES:						
01.03.02.05.		STRUCTURES, CULVERTS				
	11.3.	Small slab-top and pipe culverts				
01.03.02.05.01.	11.3	- Excavation	m ³	90.00		
01.03.02.05.02.	11.3	- Bed of sandy gravel materials, 20 cm thick - price includes procurement and placing of sandy gravel material under the pipes.	m ³	6.00		
01.03.02.05.03.	11.3	- Concrete work, MB 30	m ³	24.00		
01.03.02.05.04.	11.3	Prefabricated concrete pipe culverts: - Ø1600 mm	m'	6.00		
01.03.02.05.05.	11.3	- Construction of 20 cm thick paving made of broken stone onto 10 cm thick sand layer with infill of 1:3 cement mortar mix near culverts. Payment per 1 m ² of finished paving.	m ²	4.00		
TOTAL STRUCTURES, CULVERTS:						
01.03.02.SUMMARY - Detour of local road No.1						
01.03.02.01. PRELIMINARY WORKS						
01.03.02.02. EARTH WORKS						
01.03.02.03. DRAINAGE AND DEWATERING						
01.03.02.04. SUB-BASES						
01.03.02.05. STRUCTURES, CULVERTS						
TOTAL Detour of local road No.1 (01.03.02.):						
01.03.03. Detour of local road No.2						
Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.03.03.01.		PRELIMINARY WORKS				
01.03.03.01.01.	2.1.	Geotechnical investigations		lump sum		
01.03.03.01.02.	2.4.	Removal of bushes and trees a) cutting bushes up to Ø10 cm: 1620 m ² b) cutting bushes Ø10 - Ø25 cm: 1980 m ² c) cutting trees Ø10 - Ø20 cm: 396 pcs. d) cutting trees Ø20 - Ø40 cm: 198 pcs. e) uprooting stumps Ø10 - Ø20 cm: 396 pcs. f) uprooting stumps Ø20 - Ø40 cm: 198 pcs.	km'	0.40		
TOTAL PRELIMINARY WORKS:						
01.03.03.02.		EARTH WORKS				
01.03.03.02.01.	3.2.	Bulk excavation and transport (including topsoil stripping and stockpiling, excavation of soil of low bearing capacity, topsoiling and grassing) - Excavation in III and IV category soil with loading, transport and unloading of material from the excavation or borrow pit				
		- up to 60 m a) topsoil stripping: 975 m ³	m ³	2,553.00		
		- 500 m - 1000 m a) surplus topsoil: 596 m ³	m ³	1,695.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.03.03.02.02.	3.3.	Subsoil finishing	m ²	124.00		
01.03.03.02.03.	3.4.	Construction of embankment (including topsoil stripping, excavation of stepped side cuts, shoulder central part, leveling, topsoiling and grassing of embankment slopes) b) shoulder central part: 40 m ³ c) topsoiling of slopes: 1252 m ² d) topsoiling and grassing of shoulders: 637 m ²	m ³	4,198.00		
01.03.03.02.04.	3.5.	Wedges next to structures	m ³	144.00		
TOTAL EARTH WORKS:						
01.03.03.03.		DRAINAGE AND DEWATERING				
01.03.03.03.01.	4.3.	Drainage channels - Excavation	m ³	34.00		
TOTAL DRAINAGE AND DEWATERING:						
01.03.03.04.		SUB-BASES				
01.03.03.04.01.	6.1	Sandy gravel materials - placing subgrade layer	m ²	2,003.00		
01.03.03.04.02.	6.2	Procurement and placing of 0/63 mm crushed stone as rolled sub-base of pavement structure. Broken stone layer shall be placed onto finished subgrade accepted by the Engineer. Stone of this size shall meet requirements of SRPS U.E9.020.				
01.03.03.04.03.	6.2	• d=20 cm Placing and rolling the sub-base of 0/31.5 mm crushed stone onto rolled subgrade accepted by the Engineer. Rolling shall be performed until even surface is achieved according to designed gradients and crossfalls with tolerance of ± 1 cm. • d=15 cm	m ²	3,150.00 1,414.00		
TOTAL SUB-BASES:						
01.03.03.05.		STRUCTURES, CULVERTS				
01.03.03.05.01.	11.3.	Small slab-top and pipe culverts				
01.03.03.05.02.	11.3	- Excavation	m ³	40.00		
01.03.03.05.03.	11.3	- Bed of sandy gravel materials, 20 cm thick - price includes procurement and placing of sandy gravel material under the pipes.	m ³	10.00		
01.03.03.05.04.	11.3	Concrete work, MB 30	m ³	31.00		
01.03.03.05.05.	11.3	Prefabricated concrete pipe culverts: - Ø400 mm - Ø1000 mm - Waterproofing of top surfaces of pipe culverts	m' m' m ²	31.00 28.00 107.00		
TOTAL STRUCTURES, CULVERTS:						
01.03.03. SUMMARY - Detour of local road No.2						
01.03.03.01. PRELIMINARY WORKS						
01.03.03.02. EARTH WORKS						
01.03.03.03. DRAINAGE AND DEWATERING						
01.03.03.04. SUB-BASES						
01.03.03.05. STRUCTURES, CULVERTS						
TOTAL Detour of local road No.2 (01.03.03.):						
01.03.04. Detour of local road No.3						
Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.03.04.01.		PRELIMINARY WORKS				
01.03.04.01.01.	2.1.	Geotechnical investigations		lump sum		
01.03.04.01.02.	2.4.	Removal of bushes and trees a) cutting bushes up to Ø10 cm: 58 m ² b) cutting bushes Ø10 - Ø25 cm: 72 m ² c) cutting trees Ø10 - Ø20 cm: 14 pcs. d) cutting trees Ø20 - Ø40 cm: 7 pcs. e) uprooting stumps Ø10 - Ø20 cm: 14 pcs. f) uprooting stumps Ø20 - Ø40 cm: 7 pcs.	km'	0.15		
TOTAL PRELIMINARY WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.03.04.02.		EARTH WORKS				
01.03.04.02.01.	3.2.	Bulk excavation and transport (including topsoil stripping and stockpiling, excavation of soil of low bearing capacity, topsoiling and grassing) - Excavation in III and IV category soil with loading, transport and unloading of material from the excavation or borrow pit - up to 60 m	m ³	31.00		
01.03.04.02.03.	3.4.	- 500 m - 1000 m Construction of embankment (including topsoil stripping, excavation of stepped side cuts, shoulder central part, leveling, topsoiling and grassing of embankment slopes) b) shoulder central part: 38m ³ c) topsoiling of slopes: 112 m ² d) topsoiling and grassing of shoulders: 180 m ²	m ³	4.00		
01.03.04.02.04.	3.5.	Wedges next to structures	m ³	26.00		
TOTAL EARTH WORKS:						
01.03.04.03.		SUB-BASES				
01.03.04.03.01.	6.1	Leveling and rolling of subgrade to designed level with tolerance of ± 2 cm.	m ²	707.26		
01.03.04.03.02.	6.2	Procurement and placing of 0/63 mm crushed stone as rolled sub-base of pavement structure. Broken stone layer shall be placed onto finished subgrade accepted by the Engineer. Stone of this size shall meet requirements of SRPS U.E9.020. • d=20 cm	m ²	613.00		
01.03.04.03.03.	6.2	Placing and rolling the sub-base of 0/31.5 mm crushed stone onto rolled subgrade accepted by the Engineer. Rolling shall be performed until even surface is achieved according to designed gradients and crossfalls with tolerance of ± 1 cm. • d=15 cm	m ²	469.00		
TOTAL SUB-BASES:						
01.03.04.04.		SUPERSTRUCTURE				
01.03.04.04.01.	7.2.	Procurement and placing of 70 cm concrete gutters 70 cm	m'	150.00		
TOTAL SUPERSTRUCTURE:						
01.03.04.05.		STRUCTURES, CULVERTS				
01.03.04.05.01.	11.3.	Small slab-top and pipe culverts				
	11.3	- Excavation	m ³	107.00		
01.03.04.05.02.	11.3	- Bed of sandy gravel materials, 20 cm thick - price includes procurement and placing of sandy gravel material under the pipes.	m ³	4.00		
01.03.04.05.03.	11.3	Concrete work, MB 30	m ³	7.00		
01.03.04.05.04.	11.3	Prefabricated concrete pipe culverts: - Ø1000 mm	m'	5.00		
01.03.04.05.05.	11.3	- Waterproofing of top surfaces of pipe culverts	m ²	19.00		
TOTAL STRUCTURES, CULVERTS:						

01.03.04. SUMMARY - Detour of local road No.3					
01.03.04.01. PRELIMINARY WORKS					
01.03.04.02. EARTH WORKS					
01.03.04.03. SUB-BASES					
01.03.04.04. SUPERSTRUCTURE					
01.03.04.05. STRUCTURES, CULVERTS					
<i>TOTAL Detour of local road No.3 (01.03.04.):</i>					

01.03. SUMMARY - LOCAL ROADS		
01.03.01. CONNECTION BETWEEN THE PARALLEL ROAD AND M-1 ROAD		
01.03.02. DETOUR OF LOCAL ROAD NO. 1		
01.03.03. DETOUR OF LOCAL ROAD NO. 2		
01.03.04. DETOUR OF LOCAL ROAD NO. 3		
SUB-TOTAL		
Unforeseen work (5% of sub-total)		
<i>TOTAL LOCAL ROADS (01.03.):</i>		

01.04. PIPE CULVERTS

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.04.01.		EARTH WORKS				
01.04.01.01.	3.5.	Wedges next to structures	m ³	3,332.00		
TOTAL EARTH WORKS:						
01.04.02.		STRUCTURES, CULVERTS				
01.04.02.01.	11.3.	Small slab-top and pipe culverts				
01.04.02.02.	11.3	- Excavation in III and IV category soil for culverts				
		a) 30% hand excavation	m ³	1,059.00		
		b) 70% mechanical excavation	m ³	2,470.00		
01.04.02.03.	11.3	a) demolition of the existing pipes/structure:	m ³	45.00		
		- Bed of sandy gravel materials, 20 cm thick - price includes procurement and placing of sandy gravel material under the pipes.	m ³	253.00		
01.04.02.04.	11.3	- Concrete work, MB 30	m ³	954.00		
01.04.02.05.	11.3	Prefabricated concrete pipe culverts:				
		- Ø1000 mm	m'	52.00		
		- Ø1200 mm	m'	86.00		
		- Ø1600 mm	m'	189.00		
		- Ø2000 mm	m'	158.00		
01.04.02.06.	11.3	- Waterproofing of top surfaces of pipe culverts with two paper layers and three coats of bitumen solution over bituminized paper. Payment per 1 m ² of unfolded area.	m ²	2,733.00		
01.04.02.07.	11.3	- Construction of 20 cm thick paving made of broken stone onto 10 cm thick sand layer with infill of 1:3 cement mortar mix near culverts. Payment per 1 m ² of finished paving.	m ²	68.00		
01.04.02.08.	11.3	- Procurement and fitting of metallic gratings on manholes	pcs.	2.00		
TOTAL STRUCTURES, CULVERTS:						

01.04. SUMMARY - PIPE CULVERTS		
01.04.01. EARTH WORKS		
01.04.02. STRUCTURES, CULVERTS		
SUB-TOTAL		
Unforeseen work (5% of sub-total)		
<i>TOTAL PIPE CULVERTS (01.04.):</i>		

01. SUMMARY - CIVIL ENGINEERING DESIGN		
01.01. HIGHWAY ALIGNMENT		
01.03. LOCAL ROADS		
01.04. PIPE CULVERTS		
<i>TOTAL CIVIL ENGINEERING DESIGN (01.):</i>		1-79

02.01. Stormwater sewage system

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
8.5.1/2.01.	4.4.1.	Mechanical and hand trench excavation in II and III category soil for placing of sewers in the road structure. 0-2 m				
		mechanical excavation (90%)	m ³	3,433.06		
		hand excavation (10%)	m ³	381.45		
8.5.1/2.01.01	4.4.1.	-Procurement and laying of plastic half-perforated drain pipes for subgrade and median drainage -Ø110 mm	m ¹	3,226.00		
8.5.1/2.01.02	4.1.2.	Filling of drainage channels with filter material	m ³	1,613.00		
8.5.1/2.01.03	8.5.1/ 2.01.03	Procurement and laying of rubber mat below the pave road	m ²	15,485.00		
8.5.1/2.02.	4.4.6.	Procurement, transport, distribution along the trench and assembly of sewer pipes in the trench. Ø160 mm PVC SN8 (gully connections)	m ¹	6.00		
8.5.1/2.03.	4.4.7.	Procurement, transport, distribution along the trench and assembly of sewer pipes in the trench. Ø 300 mm PEHD SN8 class	m ¹	2,776.13		
		Ø 400 mm PEHD SN8 class	m ¹	475.72		
		Ø 500 mm PEHD SN8 class	m ¹	112.03		
8.5.1/2.04.	4.4.4.	Construction of Ø 100cm round manholes by using prefabricated elements of impervious reinforced concrete MB 40.	m ¹	122.42		
8.5.1/2.05.	8.5.1/2.05.	Cast iron covers	pcs.	8.00		
8.5.1/2.06.	8.5.1/2.06.	Cast iron rungs	pcs.	490.00		
8.5.1/2.07.	8.5.1/2.07.	Street gutters with grating	pcs.	2.00		
8.5.1/2.08.	8.5.1/2.08.	Ø600 mm gutter grating	pcs.	96.00		
8.5.1/2.09.	8.5.1/2.09.	Geodetic survey of stormwater sewage system including report preparation.	m ¹	3,363.88		
<u>SUB-TOTAL</u>						
Unforeseen work (5% of sub-total)						
<u>TOTAL STORMWATER SEWAGE SYSTEM (02.01.):</u>						

Regulation of water streams
06.01. Regulation of Vasiljkovac brook at km 874+115.48

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
PRELIMINARY WORKS						
06.01.01.	2.4.	For river bed regulation: clear ground from brushwood, cut trees up to 10 cm thick and uproot stumps and transport them to dump area specified by the Investor and/or the Engineer. The price includes loading into vehicles, transport to distance of 5 km, unloading and leveling of dump area. Prior to commencement of works, the Contractor in cooperation with the Engineer shall measure quantities and make record into the book. Payment per m ² of cleared area.	m ²	1,395.00		
06.01.01.02.	2.4.	Cutting trees by mechanical saw, trimming and cutting branches, loading into vehicles, transport to dump area to distance up to 5 km specified by the Engineer and stacking up. Payment per one piece for completed work depending on tree diameter.				
		a) Ø 10 - 20 cm	pc.	15.00		
		b) Ø 20 - 30 cm	pc.	5.00		
06.01.01.03.	2.4.	Pulling out stumps and roots after trees cutting. The price includes loading and transport to distance of 5 km specified by the Engineer. Measurement per one piece depending on tree diameter.				
		a) Ø 10 - 20 cm	pc.	15.00		
		b) Ø 20 - 30 cm	pc.	5.00		
06.01.01.04.	2.2.	Geodetic surveying. Recovery of apex and traverse in length of river regulation prior to starting of works.	m'	155.00		
TOTAL PRELIMINARY WORKS:						
EARTH WORKS						
06.01.02.	11.7.1.	For new river bed regulation: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).				
		a) Work in naturally moist earth (70 %)	m ³	469.51		
		b) Work in wet earth (30%)	m ³	201.22		
06.01.02.03.	11.7.1.	For construction of supporting structure: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).				
		a) Work in naturally moist earth (70 %)	m ³	49.07		
		b) Work in wet earth (30%)	m ³	21.03		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
06.01.02.04.	11.7.1.4.	Hand excavation in earth of II and III category for supporting structures. Material shall be transported to stockpiling area specified by the Engineer. Measurement includes any dewatering operation during works. Payment per m ³ of excavated earth.	m ³	17.53		
06.01.02.05.	11.7.1.4.	Additional excavation by hand including fine and rough leveling of bed. After mechanical excavation bed bottom and slopes shall be additionally excavated by hand. Excavated material shall be transported to the stockpiling area or used for embankment construction. Leveling shall be performed to accuracy of 2 cm in relation to designed levels. Price includes any dewatering operation during works. Measurement per m ³ .				
		a) Work in naturally moist earth (70 %)	m ³	117.38		
		b) Work in wet earth (30%)	m ³	50.30		
06.01.02.06.	11.7.3.2.	Procurement and spreading of 15 cm thick sandy gravel layer under the regulated bed. Payment per m ³ of spread gravel.	m ³	39.86		
06.01.02.07.	11.7.2.2.	Filling of bank slopes prior to making stone revetment according to cross sections from the design. Slopes shall be filled with excavated material along with spreading and leveling in 30 cm thick layers and mechanical compaction to the required compactness. Payment per m ³ of filled material.	m ³	114.85		
		NOTE: Use excavated earth to fill ground and backfill the old river bed.				
06.01.02.08.	3.4.1.5.4.	Protection of slope section from the end point of stone revetment to the existing ground by topsoiling and grassing. Measurement per m ² of topsoiled and grassed area.	m ²	221.52		
06.01.02.09.	11.7.1.7.	All material remained from excavation not used for filling shall be transported to the stockpiling area specified by the Engineer. Price includes loading, transport, unloading and rough spreading of material. Payment per m ³ of transported material.	m ³	811.20		
TOTAL EARTH WORKS:						
06.01.03.		STONE WORKS				
06.01.03.01.	11.7.3.4.	Formation of regulated river bed section by using d=30 cm hammer-dressed stone embedded in 1:3 cement mortar. For formation of river bed use only high-quality limestone so that front side edges are parallel. Joints shall be filled with 1 : 2 cement mortar. Payment per m ³ of placed stone.	m ³	48.08		
06.01.03.02.	11.7.3.5.	Construction of supporting structures of d=30 cm stone embedded in cement mortar according to the enclosed design drawings. Payment per m ³ of placed stone.	m ³	58.83		
06.01.03.03	11.7.3.3.	Rip-rap over the existing river bed, upstream (l=5.0+5.0 m) from the regulated bed. Payment per m ³ of placed stone.	m ³	15.00		
TOTAL STONE WORKS:						
06.01. SUMMARY - REGULATION OF VASILJKOVAC BROOK AT KM 874+115.48						
06.01.01. PRELIMINARY WORKS						
06.01.02. EARTH WORKS						
06.01.03. STONE WORKS						
<u>TOTAL REGULATION OF VASILJKOVAC BROOK AT KM 874+115.48 (06.01.):</u>						

06.02. Regulation of the Juzna Morava River at km 874+266.12

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
06.02.01.		PRELIMINARY WORKS				
06.02.01.01.	2.4.	For river bed regulation: clear ground from brushwood, cut trees up to 10 cm thick and uproot stumps and transport them to dump area specified by the Investor and/or the Engineer. The price includes loading into vehicles, transport to distance of 5 km, unloading and leveling of dump area. Prior to commencement of works, the Contractor in cooperation with the Engineer shall measure quantities and make record into the book. Payment per m ² of cleared area.	m ²	26,880.00		
06.02.01.02.	2.2.	Geodetic surveying. Recovery of apex and traverse in length of river regulated section prior to start of works.	m'	640.00		
TOTAL PRELIMINARY WORKS:						
06.02.02.		EARTH WORKS				
06.02.02.01.	3.1.	Stripping topsoil to depth of 25 cm with clearing weeds and other plants. Topsoil shall be stockpiled at distance up to 5 km. Payment per m ³ of transported material.	m ³	1,733.33		
06.02.02.02.	11.7.1.	For new river bed regulation: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).				
		a) Work in naturally moist earth (70 %)	m ³	25,914.58		
		b) Work in wet earth (30%)	m ³	11,106.25		
06.02.02.03.	11.7.1.	For construction of supporting structure: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).				
		a) Work in naturally moist earth (70 %)	m ³	280.50		
		b) Work in wet earth (30%)	m ³	120.22		
06.02.02.04.	11.7.1.4.	Hand excavation in earth of II and III category for supporting structures. Material shall be transported to stockpiling area specified by the Engineer. Measurement includes any dewatering operation during works. Payment per m ³ of excavated earth.	m ³	276.80		
06.02.02.05.	11.7.1.4.	Additional excavation by hand including fine and rough leveling of bed. After mechanical excavation bed bottom and slopes shall be additionally excavated by hand. Excavated material shall be transported to the stockpiling area or used for embankment construction. Leveling shall be performed to accuracy of 2 cm in relation to designed levels. Price includes any dewatering operation during works. Measurement per m ³ .				
		a) Work in naturally moist earth (70 %)	m ³	2,033.76		
		b) Work in wet earth (30%)	m ³	871.61		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
06.02.02.06.	11.7.3.2.	Procurement and spreading of 15 cm thick sandy gravel layer under the regulated bed. Payment per m ³ of spread gravel.	m ³	2,046.00		
06.02.02.07.	11.7.2.2.	Filling of bank slopes prior to making stone revetment according to cross sections from the design. Slopes shall be filled with excavated material along with spreading and leveling in 30 cm thick layers and mechanical compaction to the required compactness. Payment per m ³ of filled material. NOTE: Use excavated earth to fill ground and backfill the old river bed.	m ³	11,599.66		
06.02.02.08.	3.4.1.5.4.	Protection of slope section from the end point of stone revetment to the existing ground by topsoiling and grassing. Measurement per m ² of topsoiled and grassed area.	m ²	3,916.36		
06.02.02.09.	11.7.1.7.	All material remained from excavation not used for filling shall be transported to the stockpiling area specified by the Engineer. Price includes loading, transport, unloading and rough spreading of material. Payment per m ³ of transported material.	m ³	29,004.05		
TOTAL EARTH WORKS:						
06.02.03.		STONE WORKS				
06.02.03.01.	11.7.3.4.	Formation of slope bases and slopes of regulated river bed section by using d=30 cm hammer-dressed stone embedded in 1:3 cement mortar. For formation of slope bases (2.00x1.00 m) and river bed slopes use only high-quality limestone so that front side edges are parallel. Joints shall be filled with 1 : 2 cement mortar. Payment per m ³ of placed stone.	m ³	5,950.39		
06.02.03.02.	11.7.3.5.	Construction of supporting structures of d=30 cm stone embedded in cement mortar according to the enclosed design drawings. Payment per m ³ of placed stone.	m ³	410.95		
TOTAL STONE WORKS:						

06.02. SUMMARY - REGULATION OF THE JUZNA MORAVA RIVER AT KM 874+266.12						
06.02.01. PRELIMINARY WORKS						
06.02.02. EARTH WORKS						
06.02.03. STONE WORKS						
<i>TOTAL REGULATION OF THE JUZNA MORAVA RIVER AT KM 874+266.12 (06.02.):</i>						

06.03. Regulation of a tributary of the Juzna Morava River (874+266.12) at km 0+570.00

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
06.03.01.		PRELIMINARY WORKS				
06.03.01.01.	2.4.	For river bed regulation: clear ground from brushwood, cut trees up to 10 cm thick and uproot stumps and transport them to dump area specified by the Investor and/or the Engineer. The price includes loading into vehicles, transport to distance of 5 km, unloading and leveling of dump area. Prior to commencement of works, the Contractor in cooperation with the Engineer shall measure quantities and make record into the book. Payment per m ² of cleared area.	m ²	814.00		
06.03.01.02.	2.2.	Geodetic surveying. Recovery of apex and traverse in length of river regulated section prior to start of works.	m'	74.00		
TOTAL PRELIMINARY WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
06.03.02.		EARTH WORKS				
06.03.02.01.	3.1.	Stripping topsoil to depth of 25 cm with clearing weeds and other plants. Topsoil shall be stockpiled at distance up to 5 km. Payment per m ³ of transported material.	m ³	63.15		
06.03.02.02.	11.7.1.	For new river bed regulation: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).				
		a) Work in naturally moist earth (70 %)	m ³	166.72		
		b) Work in wet earth (30%)	m ³	71.45		
06.03.02.03.	11.7.1.	For construction of supporting structure: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).				
		a) Work in naturally moist earth (70 %)	m ³	17.94		
		b) Work in wet earth (30%)	m ³	7.69		
06.03.02.04.	11.7.1.4.	Hand excavation in earth of II and III category for supporting structures. Material shall be transported to stockpiling area specified by the Engineer. Measurement includes any dewatering operation during works. Payment per m ³ of excavated earth.	m ³	6.41		
06.03.02.05.	11.7.1.4.	Additional excavation by hand including fine and rough leveling of bed. After mechanical excavation bed bottom and slopes shall be additionally excavated by hand. Excavated material shall be transported to the stockpiling area or used for embankment construction. Leveling shall be performed to accuracy of 2 cm in relation to designed levels. Price includes any dewatering operation during works. Measurement per m ³ .				
		a) Work in naturally moist earth (70 %)	m ³	41.68		
		b) Work in wet earth (30%)	m ³	17.86		
06.03.02.06.	11.7.3.2.	Procurement and spreading of 15 cm thick sandy gravel layer under the regulated bed. Payment per m ³ of spread gravel.	m ³	115.00		
06.03.02.07.	11.7.2.2.	Filling of bank slopes prior to making stone revetment according to cross sections from the design. Slopes shall be filled with excavated material along with spreading and leveling in 30 cm thick layers and mechanical compaction to the required compactness. Payment per m ³ of filled material.	m ³	279.40		
		NOTE: Use excavated earth to fill ground and backfill the old river bed.				

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
06.03.02.08.	3.4.1.5.4.	Protection of slope section from the end point of stone revetment to the existing ground by topsoiling and grassing. Measurement per m ² of topsoiled and grassed area.	m ²	225.31		
06.03.02.09.	11.7.1.7.	All material remained from excavation not used for filling shall be transported to the stockpiling area specified by the Engineer. Price includes loading, transport, unloading and rough spreading of material. Payment per m ³ of transported material.	m ³	50.35		
TOTAL EARTH WORKS:						
06.03.03.		STONE WORKS				
06.03.03.01.	11.7.3.4.	Lining of regulated river bed section by using d=30 cm hammer-dressed stone embedded in 1:3 cement mortar. For formation of river bed use only high-quality limestone so that front side edges are parallel. Joints shall be filled with 1 : 2 cement mortar. Payment per m ³ of placed stone.	m ³	234.93		
06.03.03.02.	11.7.3.5.	Construction of supporting structures of d=30 cm stone embedded in cement mortar according to the enclosed design drawings. Payment per m ³ of placed stone.	m ³	44.08		
06.03.03.03	11.7.3.3.	Rip-rap over the existing river bed, upstream (l=5.0+5.0 m) from the regulated bed. Payment per m ³ of placed stone.	m ³	13.00		
TOTAL STONE WORKS:						
06.03. SUMMARY - REGULATION OF A TRIBUTARY OF THE JUZNA MORAVA RIVER (874+266.12) at km 0+570.00						
06.03.01. PRELIMINARY WORKS						
06.03.02. EARTH WORKS						
06.03.03. STONE WORKS						
<i>TOTAL REGULATION OF A TRIBUTARY OF THE JUZNA MORAVA RIVER (874+266.12) at km 0+570.00 (06.03.):</i>						
06.04. Regulation of the Juzna Morava River at km 875+434.24						
Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
06.04.01.		PRELIMINARY WORKS				
06.04.01.01.	2.4.	For river bed regulation: clear ground from brushwood, cut trees up to 10 cm thick and uproot stumps and transport them to dump area specified by the Investor and/or the Engineer. The price includes loading into vehicles, transport to distance of 5 km, unloading and leveling of dump area. Prior to commencement of works, the Contractor in cooperation with the Engineer shall measure quantities and make record into the book. Payment per m ² of cleared area.	m ²	23,940.00		
06.04.01.02.	2.2.	Geodetic surveying. Recovery of apex and traverse in length of river regulated section prior to start of works.	m'	570.00		
TOTAL PRELIMINARY WORKS:						
06.04.02.		EARTH WORKS				
06.04.02.01.	3.1.	Stripping topsoil to depth of 25 cm with clearing weeds and other plants. Topsoil shall be stockpiled at distance up to 5 km. Payment per m ³ of transported material.	m ³	839.27		
06.04.02.02.	11.7.1.	For new river bed regulation: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).				
		a) Work in naturally moist earth (70 %)	m ³	15,702.98		
		b) Work in wet earth (30%)	m ³	6,729.85		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
06.04.02.03.	11.7.1.	For construction of supporting structure: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).				
		a) Work in naturally moist earth (70 %)	m ³	123.48		
		b) Work in wet earth (30%)	m ³	52.92		
06.04.02.04.	11.7.1.4.	Hand excavation in earth of II and III category for supporting structures. Material shall be transported to stockpiling area specified by the Engineer. Measurement includes any dewatering operation during works. Payment per m ³ of excavated earth.	m ³	242.20		
06.04.02.05.	11.7.1.4.	Additional excavation by hand including fine and rough leveling of bed. After mechanical excavation bed bottom and slopes shall be additionally excavated by hand. Excavated material shall be transported to the stockpiling area or used for embankment construction. Leveling shall be performed to accuracy of 2 cm in relation to designed levels. Price includes any dewatering operation during works. Measurement per m ³ .				
		a) Work in naturally moist earth (70 %)	m ³	1,811.02		
		b) Work in wet earth (30%)	m ³	776.15		
06.04.02.06.	11.7.3.2.	Procurement and spreading of 15 cm thick sandy gravel layer under the regulated bed. Payment per m ³ of spread gravel.	m ³	1,835.32		
06.04.02.07.	11.7.2.2.	Filling of bank slopes prior to making stone revetment according to cross sections from the design. Slopes shall be filled with excavated material along with spreading and leveling in 30 cm thick layers and mechanical compaction to the required compactness. Payment per m ³ of filled material.	m ³	15,051.03		
		NOTE: Use excavated earth to fill ground and backfill the old river bed.				
06.04.02.08.	3.4.1.5.4.	Protection of slope section from the end point of stone revetment to the existing ground by topsoiling and grassing. Measurement per m ² of topsoiled and grassed area.	m ²	4,710.11		
06.04.02.09.	11.7.1.7.	All material remained from excavation not used for filling shall be transported to the stockpiling area specified by the Engineer. Price includes loading, transport, unloading and rough spreading of material. Payment per m ³ of transported material.	m ³	10,387.58		
TOTAL EARTH WORKS:						
06.04.03.		STONE WORKS				
06.04.03.01.	11.7.3.4.	Formation of slope bases and slopes of regulated river bed section by using d=30 cm hammer-dressed stone embedded in 1:3 cement mortar. For formation of slope bases (2.00x1.00 m) and river bed slopes use only high-quality limestone so that front side edges are parallel. Joints shall be filled with 1 : 2 cement mortar. Payment per m ³ of placed stone.	m ³	5,372.65		
06.04.03.02.	11.7.3.5.	Construction of supporting structures of d=30 cm stone embedded in cement mortar according to the enclosed design drawings. Payment per m ³ of placed stone.	m ³	352.55		
TOTAL STONE WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
06.04.04.		INFLOW REGULATION				
06.04.04.01	06.04.04.01	Regulation of stream inflow into the Juzna Morava River. Payment per m' of regulated section.	m	50.00		
TOTAL INFLOW REGULATION:						

06.04.SUMMARY - REGULATION OF THE JUZNA MORAVA RIVER AT KM 875+434.24						
06.04.01.	PRELIMINARY WORKS					
06.04.02.	EARTH WORKS					
06.04.03.	STONE WORKS					
06.04.04.	TRIBUTARY INFLOW REGULATION					
<i>TOTAL REGULATION OF THE JUZNA MORAVA RIVER AT KM 875+434.24 (06.04.):</i>						

06.05. Regulation of the Palojska River at km 877+386.56

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
06.05.01.		PRELIMINARY WORKS				
06.05.01.01.	2.4.	For river bed regulation: clear ground from brushwood, cut trees up to 10 cm thick and uproot stumps and transport them to dump area specified by the Investor and/or the Engineer. The price includes loading into vehicles, transport to distance of 5 km, unloading and leveling of dump area. Prior to commencement of works, the Contractor in cooperation with the Engineer shall measure quantities and make record into the book. Payment per m ² of cleared area.	m ²	810.00		
06.05.01.02.	2.2.	Geodetic surveying. Recovery of apex and traverse in length of river regulation prior to starting of works.	m'	60.00		
TOTAL PRELIMINARY WORKS:						
06.05.02.		EARTH WORKS				
06.05.02.02.	11.7.1.	For new river bed regulation: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).				
		a) Work in naturally moist earth (70 %)	m ³	339.18		
		b) Work in wet earth (30%)	m ³	145.36		
06.05.02.03.	11.7.1.	For construction of supporting structure: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).				
		a) Work in naturally moist earth (70 %)	m ³	41.45		
		b) Work in wet earth (30%)	m ³	17.76		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
06.05.02.04.	11.7.1.4.	Hand excavation in earth of II and III category for supporting structures. Material shall be transported to stockpiling area specified by the Engineer. Measurement includes any dewatering operation during works. Payment per m ³ of excavated earth.	m ³	14.80		
06.05.02.05.	11.7.1.4.	Additional excavation by hand including fine and rough leveling of bed. After mechanical excavation bed bottom and slopes shall be additionally excavated by hand. Excavated material shall be transported to the stockpiling area or used for embankment construction. Leveling shall be performed to accuracy of 2 cm in relation to designed levels. Price includes any dewatering operation during works. Measurement per m ³ .				
		a) Work in naturally moist earth (70 %)	m ³	84.79		
		b) Work in wet earth (30%)	m ³	36.34		
06.05.02.06.	11.7.3.2.	Procurement and spreading of 15 cm thick sandy gravel layer under the regulated bed. Payment per m ³ of spread gravel.	m ³	60.89		
06.05.02.07.	11.7.2.2.	Filling of bank slopes prior to making stone revetment according to cross sections from the design. Slopes shall be filled with excavated material along with spreading and leveling in 30 cm thick layers and mechanical compaction to the required compactness. Payment per m ³ of filled material.	m ³	37.23		
		NOTE: Use excavated earth to fill ground and backfill the old river bed.				
06.05.02.08.	3.4.1.5.4.	Protection of slope section from the end point of stone revetment to the existing ground by topsoiling and grassing. Measurement per m ² of topsoiled and grassed area.	m ²	227.55		
06.05.02.09.	11.7.1.7.	All material remained from excavation not used for filling shall be transported to the stockpiling area specified by the Engineer. Price includes loading, transport, unloading and rough spreading of material. Payment per m ³ of transported material.	m ³	642.45		
TOTAL EARTH WORKS:						
06.05.03.		STONE WORKS				
06.05.03.01.	11.7.3.4.	Formation of regulated river bed section by using d=30 cm hammer-dressed stone embedded in 1:3 cement mortar. For formation of river bed use only high-quality limestone so that front side edges are parallel. Joints shall be filled with 1 : 2 cement mortar. Payment per m ³ of placed stone.	m ³	205.56		
06.05.03.02.	11.7.3.5.	Construction of supporting structures of d=30 cm stone embedded in cement mortar according to the enclosed design drawings. Payment per m ³ of placed stone.	m ³	55.24		
06.05.03.03	11.7.3.3.	Rip-rap over the existing river bed, upstream (l=5.0+5.0 m) from the regulated bed. Payment per m ³ of placed stone.	m ³	20.00		
TOTAL STONE WORKS:						
06.05.SUMMARY - REGULATION OF THE PALOJSKA RIVER AT KM 877+386.56						
06.05.01. PRELIMINARY WORKS						
06.05.02. EARTH WORKS						
06.05.03. STONE WORKS						
<i>TOTAL REGULATION OF THE PALOJSKA RIVER AT KM 877+386.56 (06.05.):</i>						

06.06. Regulation of the Juzna Morava River at km 877+504.05 - km 878+127.00

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
PRELIMINARY WORKS						
06.06.01.	2.4.	For river bed regulation: clear ground from brushwood, cut trees up to 10 cm thick and uproot stumps and transport them to dump area specified by the Investor and/or the Engineer. The price includes loading into vehicles, transport to distance of 5 km, unloading and leveling of dump area. Prior to commencement of works, the Contractor in cooperation with the Engineer shall measure quantities and make record into the book. Payment per m ² of cleared area.	m ²	26,334.00		
06.06.01.02.	2.2.	Geodetic surveying. Recovery of apex and traverse in length of river regulated section prior to start of works.	m'	627.00		
TOTAL PRELIMINARY WORKS:						
EARTH WORKS						
06.06.02.01.	3.1.	Stripping topsoil to depth of 25 cm with clearing weeds and other plants. Topsoil shall be stockpiled at distance up to 5 km. Payment per m ³ of transported material.	m ³	1,256.09		
06.06.02.02.	11.7.1.	For new river bed regulation: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).				
		a) Work in naturally moist earth (70 %)	m ³	30,560.10		
		b) Work in wet earth (30%)	m ³	13,097.18		
06.06.02.03.	11.7.1.	For construction of supporting structure: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).				
		a) Work in naturally moist earth (70 %)	m ³	356.01		
		b) Work in wet earth (30%)	m ³	152.55		
06.06.02.04.	11.7.1.4.	Hand excavation in earth of II and III category for supporting structures. Material shall be transported to stockpiling area specified by the Engineer. Measurement includes any dewatering operation during works. Payment per m ³ of excavated earth.	m ³	276.88		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
06.06.02.05.	11.7.1.4.	Additional excavation by hand including fine and rough leveling of bed. After mechanical excavation bed bottom and slopes shall be additionally excavated by hand. Excavated material shall be transported to the stockpiling area or used for embankment construction. Leveling shall be performed to accuracy of 2 cm in relation to designed levels. Price includes any dewatering operation during works. Measurement per m³.				
		a) Work in naturally moist earth (70 %)	m³	1,990.77		
		b) Work in wet earth (30%)	m³	853.19		
06.06.02.06.	11.7.3.2.	Procurement and spreading of 15 cm thick sandy gravel layer under the regulated bed. Payment per m³ of spread gravel.	m³	2,015.00		
06.06.02.07.	11.7.2.2.	Filling of bank slopes prior to making stone revetment according to cross sections from the design. Slopes shall be filled with excavated material along with spreading and leveling in 30 cm thick layers and mechanical compaction to the required compactness. Payment per m³ of filled material. NOTE: Use excavated earth to fill ground and backfill the old river bed.	m³	30,122.86		
06.06.02.08.	3.4.1.5.4.	Protection of slope section from the end point of stone revetment to the existing ground by topsoiling and grassing. Measurement per m² of topsoiled and grassed area.	m²	11,895.34		
06.06.02.09.	11.7.1.7.	All material remained from excavation not used for filling shall be transported to the stockpiling area specified by the Engineer. Price includes loading, transport, unloading and rough spreading of material. Payment per m³ of transported material.	m³	17,163.76		
TOTAL EARTH WORKS:						
06.06.03.		STONE WORKS				
06.06.03.01.	11.7.3.4.	Formation of slope bases and slopes of regulated river bed section by using d=30 cm hammer-dressed stone embedded in 1:3 cement mortar. For formation of slope bases (2.00x1.00 m) and river bed slopes use only high-quality limestone so that front side edges are parallel. Joints shall be filled with 1 : 2 cement mortar. Payment per m³ of placed stone.	m³	5,856.84		
06.06.03.02.	11.7.3.5.	Construction of supporting structures of d=30 cm stone embedded in cement mortar according to the enclosed design drawings. Payment per m³ of placed stone.	m³	412.03		
TOTAL STONE WORKS:						

06.06.SUMMARY - REGULATION OF THE JUZNA MORAVA RIVER AT KM 877+504.05 - km 878+127.00		
06.06.01. PRELIMINARY WORKS		
06.06.02. EARTH WORKS		
06.06.03. STONE WORKS		
<u>TOTAL REGULATION OF THE JUZNA MORAVA RIVER AT KM 877+504.05 - km 878+127.00 (06.06.):</u>		

06.07. Regulation of the Licindolska River at km 878+305.47

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
PRELIMINARY WORKS						
06.07.01.	2.4.	For river bed regulation: clear ground from brushwood, cut trees up to 10 cm thick and uproot stumps and transport them to dump area specified by the Investor and/or the Engineer. The price includes loading into vehicles, transport to distance of 5 km, unloading and leveling of dump area. Prior to commencement of works, the Contractor in cooperation with the Engineer shall measure quantities and make record into the book. Payment per m ² of cleared area.	m ²	5,280.00		
06.07.01.01.	2.4.					
06.07.01.02.	2.4.	Cutting trees by mechanical saw, trimming and cutting branches, loading into vehicles, transport to dump area to distance up to 5 km specified by the Engineer and stacking up. Payment per one piece for completed work depending on tree diameter.				
		a) Ø 10 - 20 cm	pc.	18.00		
		b) Ø 20 - 30 cm	pc.	9.00		
06.07.01.03.	2.4.	Pulling out stumps and roots after trees cutting. The price includes loading and transport to distance of 5 km specified by the Engineer. Measurement per one piece depending on tree diameter.				
		a) Ø 10 - 20 cm	pc.	18.00		
		b) Ø 20 - 30 cm	pc.	9.00		
06.07.01.04.	2.2.	Geodetic surveying. Recovery of apex and traverse in length of river regulation prior to starting of works.	m'	132.00		
TOTAL PRELIMINARY WORKS:						
EARTH WORKS						
06.07.02.	11.7.1.	For new river bed regulation: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).				
		a) Work in naturally moist earth (70 %)	m ³	1,145.11		
		b) Work in wet earth (30%)	m ³	490.76		
06.07.02.03.	11.7.1.	For construction of supporting structure: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).				
		a) Work in naturally moist earth (70 %)	m ³	18.72		
		b) Work in wet earth (30%)	m ³	8.02		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
06.07.02.04.	11.7.1.4.	Hand excavation in earth of II and III category for supporting structures. Material shall be transported to stockpiling area specified by the Engineer. Measurement includes any dewatering operation during works. Payment per m ³ of excavated earth.	m ³	6.69		
06.07.02.05.	11.7.1.4.	Additional excavation by hand including fine and rough leveling of bed. After mechanical excavation bed bottom and slopes shall be additionally excavated by hand. Excavated material shall be transported to the stockpiling area or used for embankment construction. Leveling shall be performed to accuracy of 2 cm in relation to designed levels. Price includes any dewatering operation during works. Measurement per m ³ .				
		a) Work in naturally moist earth (70 %)	m ³	286.28		
		b) Work in wet earth (30%)	m ³	122.69		
06.07.02.06.	11.7.3.2.	Procurement and spreading of 15 cm thick sandy gravel layer under the regulated bed. Payment per m ³ of spread gravel.	m ³	143.77		
06.07.02.07.	11.7.2.2.	Filling of bank slopes prior to making stone revetment according to cross sections from the design. Slopes shall be filled with excavated material along with spreading and leveling in 30 cm thick layers and mechanical compaction to the required compactness. Payment per m ³ of filled material. NOTE: Use excavated earth to fill ground and backfill the old river bed.	m ³	1,322.60		
06.07.02.08.	3.4.1.5.4.	Protection of slope section from the end point of stone revetment to the existing ground by topsoiling and grassing. Measurement per m ² of topsoiled and grassed area.	m ²	183.60		
06.07.02.09.	11.7.1.7.	All material remained from excavation not used for filling shall be transported to the stockpiling area specified by the Engineer. Price includes loading, transport, unloading and rough spreading of material. Payment per m ³ of transported material.	m ³	756.50		
TOTAL EARTH WORKS:						
06.07.03.		STONE WORKS				
06.07.03.01.	11.7.3.4.	Formation of regulated river bed section by using d=30 cm hammer-dressed stone embedded in 1:3 cement mortar. For formation of river bed use only high-quality limestone so that front side edges are parallel. Joints shall be filled with 1 : 2 cement mortar. Payment per m ³ of placed stone.	m ³	276.75		
06.07.03.02.	11.7.3.5.	Construction of supporting structures of d=30 cm stone embedded in cement mortar according to the enclosed design drawings. Payment per m ³ of placed stone.	m ³	15.78		
06.07.03.03	11.7.3.3.	Rip-rap over the existing river bed, upstream (l=5.0+5.0 m) from the regulated bed. Payment per m ³ of placed stone.	m ³	5.00		
TOTAL STONE WORKS:						
06.07.SUMMARY - REGULATION OF THE LICINDOLSKA RIVER AT KM 878+305.47						
06.07.01. PRELIMINARY WORKS						
06.07.02. EARTH WORKS						
06.07.03. STONE WORKS						
<u>TOTAL REGULATION OF THE LICINDOLSKA RIVER AT KM 878+305.47 (06.07.):</u>						

06.08. Regulation of the Juzna Morava River at km 878+411.02

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
06.08.01.		PRELIMINARY WORKS				
06.08.01.01.	2.4.	For river bed regulation: clear ground from brushwood, cut trees up to 10 cm thick and uproot stumps and transport them to dump area specified by the Investor and/or the Engineer. The price includes loading into vehicles, transport to distance of 5 km, unloading and leveling of dump area. Prior to commencement of works, the Contractor in cooperation with the Engineer shall measure quantities and make record into the book. Payment per m ² of cleared area.	m ²	7,980.00		
06.08.01.02.	2.2.	Geodetic surveying. Recovery of apex and traverse in length of river regulated section prior to start of works.	m'	190.00		
TOTAL PRELIMINARY WORKS:						
06.08.02.		EARTH WORKS				
06.08.02.01.	3.1.	Stripping topsoil to depth of 25 cm with clearing weeds and other plants. Topsoil shall be stockpiled at distance up to 5 km. Payment per m ³ of transported material.	m ³	200.00		
06.08.02.02.	11.7.1.	For new river bed regulation: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).				
		a) Work in naturally moist earth (70 %)	m ³	5,446.60		
		b) Work in wet earth (30%)	m ³	2,334.26		
06.08.02.03.	11.7.1.	For construction of supporting structure: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).				
		a) Work in naturally moist earth (70 %)	m ³	160.59		
		b) Work in wet earth (30%)	m ³	68.82		
06.08.02.04.	11.7.1.4.	Hand excavation in earth of II and III category for supporting structures. Material shall be transported to stockpiling area specified by the Engineer. Measurement includes any dewatering operation during works. Payment per m ³ of excavated earth.	m ³	138.40		
06.08.02.05.	11.7.1.4.	Additional excavation by hand including fine and rough leveling of bed. After mechanical excavation bed bottom and slopes shall be additionally excavated by hand. Excavated material shall be transported to the stockpiling area or used for embankment construction. Leveling shall be performed to accuracy of 2 cm in relation to designed levels. Price includes any dewatering operation during works. Measurement per m ³ .				
		a) Work in naturally moist earth (70 %)	m ³	529.30		
		b) Work in wet earth (30%)	m ³	226.84		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
06.08.02.06.	11.7.3.2.	Procurement and spreading of 15 cm thick sandy gravel layer under the regulated bed. Payment per m ³ of spread gravel.	m ³	502.12		
06.08.02.07.	11.7.2.2.	Filling of bank slopes prior to making stone revetment according to cross sections from the design. Slopes shall be filled with excavated material along with spreading and leveling in 30 cm thick layers and mechanical compaction to the required compactness. Payment per m ³ of filled material.	m ³	885.02		
06.08.02.08.	3.4.1.5.4.	NOTE: Use excavated earth to fill ground and backfill the old river bed. Protection of slope section from the end point of stone revetment to the existing ground by topsoiling and grassing. Measurement per m ² of topsoiled and grassed area.	m ²	767.84		
06.08.02.09.	11.7.1.7.	All material remained from excavation not used for filling shall be transported to the stockpiling area specified by the Engineer. Price includes loading, transport, unloading and rough spreading of material. Payment per m ³ of transported material.	m ³	8,019.80		
TOTAL EARTH WORKS:						
06.08.03.		STONE WORKS				
06.08.03.01.	11.7.3.4.	Formation of slope bases and slopes of regulated river bed section by using d=30 cm hammer-dressed stone embedded in 1:3 cement mortar. For formation of slope bases (2.00x1.00 m) and river bed slopes use only high-quality limestone so that front side edges are parallel. Joints shall be filled with 1 : 2 cement mortar. Payment per m ³ of placed stone.	m ³	1,397.58		
06.08.03.02.	11.7.3.5.	Construction of supporting structures of d=30 cm stone embedded in cement mortar according to the enclosed design drawings. Payment per m ³ of placed stone.	m ³	207.20		
TOTAL STONE WORKS:						

06.08.SUMMARY - REGULATION OF THE JUZNA MORAVA RIVER AT KM 878+411.02						
06.08.01. PRELIMINARY WORKS						
06.08.02. EARTH WORKS						
06.08.03. STONE WORKS						
<u>TOTAL REGULATION OF THE JUZNA MORAVA RIVER AT KM 878+411.02 (06.08.):</u>						

06. REGULATION OF WATER STREAMS - SUMMARY						
06.01. REGULATION OF VASILJKOVAC BROOK AT km 874+115.48						
06.02. REGULATION OF THE JUZNA MORAVA RIVER AT km 874+266.12						
06.03. REGULATION OF A TRIBUTARY OF THE JUZNA MORAVA RIVER (874+266.12) at km 0+570.00						
06.04. REGULATION OF THE JUZNA MORAVA RIVER AT km 875+434.24						
06.05. REGULATION OF THE PALOJSKA RIVER AT km 877+386.56						
06.06. REGULATION OF THE JUZNA MORAVA RIVER AT km 877+504.05 - km 878+127.00						
06.07. REGULATION OF THE LICINDOLSKA RIVER AT km 878+305.47						
06.08. REGULATION OF THE JUZNA MORAVA RIVER AT km 878+411.02						
SUB-TOTAL						
Unforeseen work (5% of sub-total)						
<u>TOTAL REGULATION OF WATER STREAMS (06.):</u>						

**07.01. Retaining wall 1 rightwards from km 873+875 to km 874+108
and from km 874+119 to km 874+224, L=357,43 m**

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.01.01.		PRELIMINARY WORKS				
07.01.01.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.01.02.		EARTH WORKS				
07.01.02.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m ² . Measurement is made in the LOT 1 Civil engineering design.	m ²			
07.01.02.02.	11.1.1	Excavation of earth for walls Price includes excavation of III and IV category earth, loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m ³ . Measurement is made in the LOT 1 Civil engineering design..	m ³			
07.01.02.03.	3.4.1.4	Filling and compaction Price includes the following machine operations: filling and spreading, fine and rough leveling, wetting and compaction of locally excavated material. Measurement unit is m ³ .	m ³	2,632.34		
07.01.02.04.	3.4.1.1	Embankment slope topsoiling This item includes embankment topsoiling above the filter filling in 15 cm thick layer. Measurement unit is m ² .	m ²	1,384.20		
TOTAL EARTH WORKS:						
07.01.03.		CONCRETE WORKS				
07.01.03.01.	11.1.2	Construction of retaining walls Price includes concreting of retaining walls ring by ring with MB30, V4, M150 reinforced concrete, fully in accordance with designed details. Measurement unit is m ³	m ³	3,134.85		
07.01.03.02.	11.1.2	Placing lean concrete under wall foundation This item includes concreting of 10 cm thick bed under wall foundation with MB 15 dense concrete. Measurement unit is m ³ .	m ³	93.45		
TOTAL CONCRETE WORKS:						
07.01.04.		REINFORCEMENT WORKS				
07.01.04.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg.	kg	107,934.60		
TOTAL REINFORCEMENT WORKS:						
07.01.05.		SUNDRIES				
07.01.05.01.	11.1.4	Placing of drainage filter This item includes placing of gravel filter behind the wall including procurement and transport, fully as designed. Measurement unit is m ³ .	m ³	921.62		
07.01.05.02.	11.1	Plastic pipes φ100 mm for weepholes Price includes procurement and laying of φ100 mm plastic pipes for weepholes including all related works. Measurement unit is m.	m	155.68		
TOTAL SUNDRIES:						

07.01. SUMMARY Retaining wall 1-rightwards, from km 873+875 to km 874+ 108 and from 874+119 to km 874+224 , L=357,43m	
07.01.01.	PRELIMINARY WORKS
07.01.02.	EARTH WORKS
07.01.03.	CONCRETE WORKS
07.01.04.	REINFORCEMENT WORKS
07.01.05.	SUNDRIES
TOTAL Retaining wall 1-rightwards, from km 873+875 to km 874+ 108 and from 874+119 to km 874+224 , L=357,43m (07.01.):	

07.02. Retaining wall 2 leftwards, from km 875+580 to km 875+618 L=39,13 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.02.01.		PRELIMINARY WORKS				
07.02.01.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.02.02.		EARTH WORKS				
07.02.02.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m2. Measurement is made in the LOT 1 Civil engineering design.	m ²			
07.02.02.02.	11.1.1	Excavation of earth for walls Price includes excavation of III and IV category earth, loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m3. Measurement is made in the LOT 1 Civil engineering design.	m ³			
07.02.02.03.	3.4.1.4	Filling and compaction Price includes the following machine operations: filling and spreading, fine and rough leveling, wetting and compaction of locally excavated material. Measurement unit is m3.	m ³	272.69		
07.02.02.04.	3.4.1.1	Embankment slope topsoiling This item includes embankment topsoiling above the filter filling in 15 cm thick layer. Measurement unit is m2.	m ²	97.82		
TOTAL EARTH WORKS:						
07.02.03.		CONCRETE WORKS				
07.02.03.01.	11.1.2	Construction of retaining walls Price includes concreting of retaining walls ring by ring with MB30, V4, M150 reinforced concrete, fully in accordance with designed details. Measurement unit is m3	m ³	98.61		
07.02.03.02.	11.1.2	Placing lean concrete under wall foundation This item includes concreting of 10 cm thick bed under wall foundation with MB 15 dense concrete. Measurement unit is m3.	m ³	9.19		
TOTAL CONCRETE WORKS:						
07.02.04.		REINFORCEMENT WORKS				
07.02.04.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg.	kg	7,671.50		
TOTAL REINFORCEMENT WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.02.05.		SUNDRIES				
07.02.05.01.	11.1	Plastic pipes f100 mm for weepholes Price includes procurement and laying of ϕ100 mm plastic pipes for weepholes including all related works. Measurement unit is m`.	m`	8.00		
TOTAL SUNDRIES:						

07.02. SUMMARY Retaining wall 2-leftwards, from km 875+580 to km 875+618 , L=39,13m						
07.02.01. PRELIMINARY WORKS						
07.02.02. EARTH WORKS						
07.02.03. CONCRETE WORKS						
07.02.04. REINFORCEMENT WORKS						
07.02.05. SUNDRIES						
TOTAL Retaining wall 2-leftwards, from km 875+580 to km 875+618 , L=39,13m (07.02.):						

07.03. Retaining wall 3 leftwards, from km 875+630 to km 875+656 L=26,78 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.03.01.		PRELIMINARY WORKS				
07.03.01.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.03.02.		EARTH WORKS				
07.03.02.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m2. Measurement is made in the LOT 1 Civil engineering design.	m ²			
07.03.02.02.	11.1.1	Excavation of earth for walls Price includes excavation of III and IV category earth,loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m3. Measurement is made in the LOT 1 Civil engineering design..	m ³			
07.03.02.03.	3.4.1.4	Filling and compaction Price includes the following machine operations:filling and spreading, fine and rough leveling, wetting and compaction of locally excavated material. Measurement unit is m3.	m ³	175.06		
07.03.02.04.	3.4.1.1	Embankment slope topsoiling This item includes embankment topsoiling above the filter filling in 15 cm thick layer. Measurement unit is m2.	m ²	66.95		
TOTAL EARTH WORKS:						
07.03.03.		CONCRETE WORKS				
07.03.03.01.	11.1.2	Construction of retaining walls Price includes concreting of retaining walls ring by ring with MB30, V4, M150 reinforced concrete, fully in accordance with designed details. Measurement unit is m3	m ³	67.49		
07.03.03.02.	11.1.2	Placing lean concrete under wall foundation This item includes concreting of 10 cm thick bed under wall foundation with MB 15 dense concrete.. Measurement unit is m3.	m ³	6.30		
TOTAL CONCRETE WORKS:						
07.03.04.		REINFORCEMENT WORKS				
07.03.04.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg	kg	5,399.18		
TOTAL REINFORCEMENT WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.03.05.		SUNDRIES				
07.03.05.01.	11.1	Plastic pipes f100 mm for weepholes Price includes procurement and laying of ϕ100 mm plastic pipes for weepholes including all related works. Measurement unit is m`.	m`	5.50		
TOTAL SUNDRIES:						

07.03. SUMMARY Retaining wall 3-leftwards, from km 875+630 to km 875+656, L=26,78m						
07.03.01.	PRELIMINARY WORKS					
07.03.02.	EARTH WORKS					
07.03.03.	CONCRETE WORKS					
07.03.04.	REINFORCEMENT WORKS					
07.03.05.	SUNDRIES					
TOTAL Retaining wall 3-leftwards, from km 875+630 to km 875+656, L=26,78m(07.03.):						

07.04. Retaining wall 4 in the central reserve
from km 875+730,40 to km 876+229,09 L=498,69 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.04.01.		PRELIMINARY WORKS				
07.04.01.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum..		lump sum		
TOTAL PRELIMINARY WORKS:						
07.04.02.		EARTH WORKS				
07.04.02.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m2. Measurement is made in the LOT 1 Civil engineering design.	m ²			
07.04.02.02.	11.1.1	Excavation of earth for walls Price includes excavation of III and IV category earth,loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m3. Measurement is made in the LOT 1 Civil engineering design.	m ³			
TOTAL EARTH WORKS:						
07.04.03.		CONCRETE WORKS				
07.04.03.01.	11.1.2	Construction of concrete cap Price includes construction of reinforced concrete cap ring by ring, fully in accordance with designed details. Measurement unit is m3	m ³	67.49		
07.04.03.02.	11.1.2	Construction of concrete wall foundation This item includes concreting of wall foundation with MB 30 plain concrete, d=50 cm. Measurement unit is m3.	m ³	6.30		
TOTAL CONCRETE WORKS:						
07.04.04.		MASONRY WORKS				
07.04.04.01.	07.04.04.01.	Construction of stone wall Price includes construction of stone wall of 20-40 cm fractions in cement mortar, fully in accordance with designed details. Measurement unit is m3.	m ³	2,886.22		
TOTAL MASONRY WORKS:						
07.04.05.		REINFORCEMENT WORKS				
07.04.05.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg.	kg	9,435.09		
TOTAL REINFORCEMENT WORKS:						
07.04.06.		SUNDRIES				
07.04.06.01.	11.1	Plastic pipes f100 mm for weepholes Price includes procurement and laying of ϕ100 mm plastic pipes for weepholes including all related works. Measurement unit is m`.	m`	236.00		
TOTAL SUNDRIES:						

07.04. SUMMARY Retaining wall 4-in the central reserve from km 875+730,40 to km 876+229,09, L=498,69m						
07.04.01.	PRELIMINARY WORKS					
07.04.02.	EARTH WORKS					
07.04.03.	CONCRETE WORKS					
07.04.04.	MASONRY WORKS					
07.04.05.	REINFORCEMENT WORKS					
07.04.06.	SUNDRIES					
TOTAL Retaining wall 4-in the central reserve from km 875+730,40 to km 876+229,09, L=498,69m (07.04.):						

07.05. Supporting structure of reinforced earth 5 leftwards, from km 875+844 to km 876+085 L=241 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.05.06.		PRELIMINARY WORKS				
07.05.06.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum..		lump sum		
TOTAL PRELIMINARY WORKS:						
07.05.07.		EARTH WORKS				
07.05.07.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m2. Measurement unit is m2. Measurement is made in the LOT 1 Civil engineering design.	m ²			
07.05.07.02.	11.1.1	Excavation of earth Price includes excavation of II and III category earth, loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m3. Measurement is made in the LOT 1 Civil engineering design.	m ³			
07.05.07.03.	07.05.07.03.	Construction of embankment This item includes construction of earth embankment with min. 30% of 0-125 mm stone fractions. Measurement unit is m3.	m ³	4,440.91		
TOTAL EARTH WORKS:						
07.05.08.		CONCRETE WORKS				
07.05.08.01.	11.1.2	Construction of foundation with MB20 plain concrete This item includes procurement, transport of necessary material, work on concrete mixing and placing, quality proof and other related works. Measurement unit is m3	m ³	30.37		
07.05.08.02.	11.1.2	Construction of top section of retaining wall This item includes concreting of top section of retaining wall with MB 30 concrete, fully in accordance with designed detail. Measurement unit is m3.	m ³	13.50		
TOTAL CONCRETE WORKS:						
07.05.09.		REINFORCEMENT WORKS				
07.05.09.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is m3	m ³	792.89		
TOTAL REINFORCEMENT WORKS:						
07.05.10.		WORKS WITH GEOSYNTHETIC MATERIALS				
07.05.10.01.	07.05.10.01.	Placing of geogrids This item includes procurement, cutting and placing of geogrids as designed. Measurement unit is m2 a) geogrid M1 with Tdop= 8,21KN/m	m ²	4,969.00		
		a) geogrid M2 with Tdop= 18,14KN/m	m ²	6,127.00		
07.05.10.02.	07.05.10.02.	Procurement and installation of connectors This item includes procurement and installation of polyethylene connectors to connect geogrids and concrete blocks. Measurement unit is m`	m`	3,142.00		
TOTAL WORKS WITH GEOSYNTHETIC MATERIALS :						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.05.11.		MASONRY WORKS				
07.05.11.01.	8.3.6	Building wall face of concrete blocks This item includes procurement, transport and building wall face of concrete blocks MB30, V4, M150, 40x 15x22 in size. Measurement unit is piece`.	pc`	17,882.00		
TOTAL MASONRY WORKS:						

07.05. SUMMARY Supporting structure of reinforced earth 5 -leftwards, from km 875+844 to km 876+085, L=241m						
07.05.06.	PRELIMINARY WORKS					
07.05.07.	EARTH WORKS					
07.05.08.	CONCRETE WORKS					
07.05.09.	REINFORCEMENT WORKS					
07.05.10.	WORKS WITH GEOSYNTHETIC MATERIALS					
07.05.11.	MASONRY WORKS					
TOTAL Supporting structure of reinforced earth 5 -leftwards, from km 875+844 to km 876+085, L=241m(07.05.):						

07.06. Supporting structure of reinforced earth 6 leftwards, from km 876+202,99 to km 876+228,99 L=26 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.06.06.		PRELIMINARY WORKS				
07.06.06.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.06.07.		EARTH WORKS				
07.06.07.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m2. Measurement is made in the LOT 1 Civil engineering design.	m ²			
07.06.07.02.	11.1.1	Excavation of earth Price includes excavation of II and III category earth,loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m3. Measurement is made in the LOT 1 Civil engineering design.	m ³			
07.06.07.03.	07.06.07.03.	Construction of embankment This item includes construction of earth embankment with min. 30% of 0-125 mm stone fractions. Measurement unit is m3.	m ³	684.32		
TOTAL EARTH WORKS:						
07.06.08.		CONCRETE WORKS				
07.06.08.01.	11.1.2	Construction of foundation with MB20 plain concrete This item includes procurement, transport of necessary material, work on concrete mixing and placing, quality proof and other related works. Measurement unit is m3	m ³	3.28		
07.06.08.02.	11.1.2	Construction of top section of retaining wall This item includes concreting of top section of retaining wall with MB 30 concrete, fully in accordance with designed detail. Measurement unit is m3.	m ³	1.50		
TOTAL CONCRETE WORKS:						
07.06.09.		REINFORCEMENT WORKS				
07.06.09.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg	kg	792.89		
TOTAL REINFORCEMENT WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.06.10.		WORKS WITH GEOSYNTHETIC MATERIALS				
07.06.10.01.	07.06.10.01.	Placing of geogrids This item includes procurement, cutting and placing of geogrids as designed. Measurement unit is m ² a) geogrid M1 with Tdop= 8,21KN/m	m ²	512.00		
		a) geogrid M2 with Tdop= 18,14KN/m	m ²	656.00		
07.06.10.02.	07.06.10.02.	Procurement and installation of connectors This item includes procurement and installation of polyethylene connectors to connect geogrids and concrete blocks. Measurement unit is m [`]	m [`]	313.00		
TOTAL WORKS WITH GEOSYNTHETIC MATERIALS :						
07.06.11.		MASONRY WORKS				
07.06.11.01.	8.3.6	Building wall face of concrete blocks This item includes procurement, transport and building wall face of concrete blocks MB30, V4, M150, 40x 15x22 in size. Measurement unit is piece.	pc.	1,878.00		
TOTAL MASONRY WORKS:						

07.06. SUMMARY Supporting structure of reinforced earth 6 -leftwards, from km 876+202,99 to km 876+228,99, L=26m						
07.06.06.	PRELIMINARY WORKS					
07.06.07.	EARTH WORKS					
07.06.08.	CONCRETE WORKS					
07.06.09.	REINFORCEMENT WORKS					
07.06.10.	WORKS WITH GEOSYNTHETIC MATERIALS					
07.06.11.	MASONRY WORKS					
<u>TOTAL Supporting structure of reinforced earth 6 -leftwards, from km 876+202,99 to km 876+228,99, L=26m(07.06.):</u>						

07.08.Supporting structure of reinforced earth 8 leftwards, from km 876+409,40 to km 876+506,02 L=95 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.08.06.		PRELIMINARY WORKS				
07.08.06.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum..		lump sum		
TOTAL PRELIMINARY WORKS:						
07.08.07.		EARTH WORKS				
07.08.07.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m ² . Measurement is made in the LOT 1 Civil engineering design.	m ²			
07.08.07.02.	11.1.1	Excavation of earth Price includes excavation of II and III category earth,loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m ³ . Measurement is made in the LOT 1 Civil engineering design.	m ³			
07.08.07.03.	07.08.07.03.	Construction of embankment This item includes construction of earth embankment with min. 30% of 0-125 mm stone fractions. Measurement unit is m ³ .	m ³	5,187.00		
TOTAL EARTH WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.08.08.		CONCRETE WORKS				
07.08.08.01.	11.1.2	Construction of foundation with MB20 plain concrete This item includes procurement, transport of necessary material, work on concrete mixing and placing, quality proof and other related works. Measurement unit is m ³	m ³	11.97		
07.08.08.02.	11.1.2	Construction of top section of retaining wall This item includes concreting of top section of retaining wall with MB 30 concrete, fully in accordance with designed detail. Measurement unit is m ³ .	m ³	5.32		
TOTAL CONCRETE WORKS:						
07.08.09.		REINFORCEMENT WORKS				
07.08.09.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg	kg	312.55		
TOTAL REINFORCEMENT WORKS:						
07.08.10.		WORKS WITH GEOSYNTHETIC MATERIALS				
07.08.10.01.	07.08.10.01.	Placing of geogrids This item includes procurement, cutting and placing of geogrids as designed. Measurement unit is m ² a) geogrid M1 with Tdop= 8,21KN/m	m ²	2,042.00		
		b) geogrid M2 with Tdop= 18,14KN/m	m ²	2,711.00		
07.08.10.02.	07.08.10.02.	Procurement and installation of connectors This item includes procurement and installation of polyethylene connectors to connect geogrids and concrete blocks. Measurement unit is m [`]	m [`]	1,278.00		
TOTAL WORKS WITH GEOSYNTHETIC MATERIALS :						
07.08.11.		MASONRY WORKS				
07.08.11.01.	8.3.6	Building wall face of concrete blocks This item includes procurement, transport and building wall face of concrete blocks MB30, V4, M150, 40x 15x22 in size. Measurement unit is piece.	pcs	7,379.00		
TOTAL MASONRY WORKS:						

<u>07.08. SUMMARY Supporting structure of reinforced earth 8 -leftwards, from km 876+409,40 to km 876+506,02, L=95m</u>			
07.08.06.	PRELIMINARY WORKS		
07.08.07.	EARTH WORKS		
07.08.08.	CONCRETE WORKS		
07.08.09.	REINFORCEMENT WORKS		
07.08.10.	WORKS WITH GEOSYNTHETIC MATERIALS		
07.08.11.	MASONRY WORKS		
<u>TOTAL Supporting structure of reinforced earth 8 -leftwards, from km 876+409,40 to km 876+506,02, L=95m(07.08.):</u>			

07.09. Retaining wall 9 in the central reserve from km 878+675 to km 879+025,38 L=350 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.09.01.		PRELIMINARY WORKS				
07.09.01.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.09.02.		EARTH WORKS				
07.09.02.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m ² . Measurement is made in the LOT 1 Civil engineering design.	m ²			

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.09.02.02.	11.1.1	Excavation of earth for walls Price includes excavation of III and IV category earth, loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m ³ . Measurement is made in the LOT 1 Civil engineering design.	m ³			
TOTAL EARTH WORKS:						
07.09.03.		CONCRETE WORKS				
07.09.03.01.	11.1.2	Construction of concrete cap Price includes construction of reinforced concrete cap ring by ring, fully in accordance with designed details. Measurement unit is m ³	m ³	136.50		
07.09.03.02.	11.1.2	Construction of concrete wall foundation This item includes concreting of wall foundation with MB 30 plain concrete, d=50 cm. Measurement unit is m ³ .	m ³	271.25		
TOTAL CONCRETE WORKS:						
07.09.04.		MASONRY WORKS				
07.09.04.01.	07.09.04.01.	Construction of stone wall Price includes construction of stone wall of 20-40 cm fractions in cement mortar, fully in accordance with designed details. Measurement unit is m ³ .	m ³	2,026.50		
TOTAL MASONRY WORKS:						
07.09.05.		REINFORCEMENT WORKS				
07.09.05.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg.	kg	6,622.52		
TOTAL REINFORCEMENT WORKS:						
07.09.06.		SUNDRIES				
07.09.06.01.	11.1	Plastic pipes f100 mm for weepholes Price includes procurement and laying of ϕ100 mm plastic pipes for weepholes including all related works. Measurement unit is m ³ .	m ³	168.00		
TOTAL SUNDRIES:						

07.09. SUMMARY Retaining wall 9-in the central reserve from km 878+675 to km 879+025,38, L=350m		
07.09.01.	PRELIMINARY WORKS	
07.09.02.	EARTH WORKS	
07.09.03.	CONCRETE WORKS	
07.09.04.	MASONRY WORKS	
07.09.05.	REINFORCEMENT WORKS	
07.09.06.	SUNDRIES	
<u>TOTAL Retaining wall 9-in the central reserve from km 878+675 to km 879+025,38, L=350m(07.09.):</u>		

07.10.Supporting structure of reinforced earth 10 leftwards, from km 878+730 to km 878+829,17 L=101 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.10.06.		PRELIMINARY WORKS				
07.10.06.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.10.07.		EARTH WORKS				
07.10.07.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m ² . Measurement is made in the LOT 1 Civil engineering design.	m ²			
07.10.07.02.	11.1.1	Excavation of earth Price includes excavation of II and III category earth, loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m ³ . Measurement is made in the LOT 1 Civil engineering design.	m ³			

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.10.07.03.	07.10.07.03.	Construction of embankment This item includes construction of earth embankment with min. 30% of 0-125 mm stone fractions. Measurement unit is m3.	m ³	2,893.04		
TOTAL EARTH WORKS:						
07.10.08.		CONCRETE WORKS				
07.10.08.01.	11.1.2	Construction of foundation with MB20 plain concrete This item includes procurement, transport of necessary material, work on concrete mixing and placing, quality proof and other related works. Measurement unit is m3	m ³	14.62		
07.10.08.02.	11.1.2	Construction of top section of retaining wall This item includes concreting of top section of retaining wall with MB 30 concrete, fully in accordance with designed detail. Measurement unit is m3.	m ³	6.50		
TOTAL CONCRETE WORKS:						
07.10.09.		REINFORCEMENT WORKS				
07.10.09.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg	kg	381.64		
TOTAL REINFORCEMENT WORKS:						
07.10.10.		WORKS WITH GEOSYNTHETIC MATERIALS				
07.10.10.01.	07.10.10.01.	Placing of geogrids This item includes procurement, cutting and placing of geogrids as designed. Measurement unit is m2	m ²	2,556.00		
		a) geogrid M1 with Tdop= 8,21KN/m	m ²	3,295.00		
07.10.10.02.	07.10.10.02.	Procurement and installation of connectors This item includes procurement and installation of polyethylene connectors to connect geogrids and concrete blocks. Measurement unit is m`	m`	1,366.00		
TOTAL WORKS WITH GEOSYNTHETIC MATERIALS :						
07.10.11.		MASONRY WORKS				
07.10.11.01.	8.3.6	Building wall face of concrete blocks This item includes procurement, transport and building wall face of concrete blocks MB30, V4, M150, 40x 15x22 in size. Measurement unit is piece.	pcs	8,336.00		
TOTAL MASONRY WORKS:						

<u>07.10. SUMMARY Supporting structure of reinforced earth 10 -leftwards, from km 878+730 to km 878+829,17, L=101m</u>			
07.10.06.	PRELIMINARY WORKS		
07.10.07.	EARTH WORKS		
07.10.08.	CONCRETE WORKS		
07.10.09.	REINFORCEMENT WORKS		
07.10.10.	WORKS WITH GEOSYNTHETIC MATERIALS		
07.10.11.	MASONRY WORKS		
<u>TOTAL Supporting structure of reinforced earth 10 -leftwards, from km 878+730 to km 878+829,17, L=101m(07.10.):</u>			

07.11.Supporting structure of reinforced earth 11 leftwards, from km 879+005 to km 879+120,23 L=117 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.11.06.		PRELIMINARY WORKS				
07.11.06.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.11.07.		EARTH WORKS				
07.11.07.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m2. Measurement is made in the LOT 1	m ²			
07.11.07.02.	11.1.1	Civil engineering design. Excavation of earth Price includes excavation of II and III category earth, loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m3. Measurement is made in the LOT 1	m ³			
07.11.07.03.	07.11.07.03.	Civil engineering design. Construction of embankment This item includes construction of earth embankment with min. 30% of 0-125 mm stone fractions. Measurement unit is m3.	m ³	6,550.00		
TOTAL EARTH WORKS:						
07.11.08.		CONCRETE WORKS				
07.11.08.01.	11.1.2	Construction of foundation with MB20 plain concrete This item includes procurement, transport of necessary material, work on concrete mixing and placing, quality proof and other related works. Measurement unit is m3	m ³	14.74		
07.11.08.02.	11.1.2	Construction of top section of retaining wall This item includes concreting of top section of retaining wall with MB 30 concrete, fully in accordance with designed detail. Measurement unit is m3.	m ³	7.02		
TOTAL CONCRETE WORKS:						
07.11.09.		REINFORCEMENT WORKS				
07.11.09.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg	kg	400.00		
TOTAL REINFORCEMENT WORKS:						
07.11.10.		WORKS WITH GEOSYNTHETIC MATERIALS				
07.11.10.01.	07.11.10.01.	Placing of geogrids This item includes procurement, cutting and placing of geogrids as designed. Measurement unit is m2	m ²	2,450.00		
		a) geogrid M1 with Tdop= 8,21KN/m	m ²			
		b) geogrid M2 with Tdop= 18,14KN/m	m ²	3,190.00		
07.11.10.02.	07.11.10.02.	Procurement and installation of connectors This item includes procurement and installation of polyethylene connectors to connect geogrids and concrete blocks. Measurement unit is m`	m`	1,622.00		
TOTAL WORKS WITH GEOSYNTHETIC MATERIALS :						
07.11.11.		MASONRY WORKS				
07.11.11.01.	8.3.6	Building wall face of concrete blocks This item includes procurement, transport and building wall face of concrete blocks MB30, V4, M150, 40x 15x22 in size. Measurement unit is piece.	pcs	9,737.00		
TOTAL MASONRY WORKS:						

07.11. SUMMARY Supporting structure of reinforced earth 11 -leftwards, from km 879+005 to km 879+120.23, L=117m		
07.11.06.	PRELIMINARY WORKS	
07.11.07.	EARTH WORKS	
07.11.08.	CONCRETE WORKS	
07.11.09.	REINFORCEMENT WORKS	
07.11.10.	WORKS WITH GEOSYNTHETIC MATERIALS	
07.11.11.	MASONRY WORKS	
<u>TOTAL Supporting structure of reinforced earth 11 -leftwards, from km 879+005 to km 879+120.23, L=117m(07.11.):</u>		

07.12. Retaining wall 12 rightwards from km 879+362 to km 879+450 L=88,03 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.12.01.		PRELIMINARY WORKS				
07.12.01.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.12.02.		EARTH WORKS				
07.12.02.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m2. Measurement is made in the LOT 1 Civil engineering design.	m ²			
07.12.02.02.	11.1.1	Excavation of earth for walls Price includes excavation of III and IV category earth,loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m3. Measurement is made in the LOT 1 Civil engineering design.	m ³			
07.12.02.03.	3.4.1.4	Filling and compaction Price includes the following machine operations:filling and spreading, fine and rough leveling, wetting and compaction of locally excavated material. Measurement unit is m3.	m ³	331.87		
07.12.02.04.	3.4.1.1	Embankment slope topsoiling This item includes embankment topsoiling above the filter filling in 15 cm thick layer. Measurement unit is m2.	m ²	176.06		
TOTAL EARTH WORKS:						
07.12.03.		CONCRETE WORKS				
07.12.03.01.	11.1.2	Construction of retaining walls Price includes concreting of retaining walls ring by ring with MB30, V4, M150 reinforced concrete, fully in accordance with designed details. Measurement unit is m3	m ³	3,134.85		
07.12.03.02.	11.1.2	Construction of concrete cap on the wall This item includes construction of cap of MB 30 plain concrete, fully in accordance with designed detail. Measurement unit is m3.	m ³	23.77		
TOTAL CONCRETE WORKS:						
07.12.04.		REINFORCEMENT WORKS				
07.12.04.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kr.	kg	26,454.63		
TOTAL REINFORCEMENT WORKS:						
07.12.05.		SUNDRIES				
07.12.05.01.	11.1.4	Placing of drainage filter This item includes placing of gravel filter behind the wall including procurement and transport,fully as designed. Measurement unit is m3.	m ³	260.57		
07.12.05.02.	11.1	Plastic pipes f100 mm for weepholes Price includes procurement and laying of ϕ100 mm plastic pipes for weepholes including all related works. Measurement unit is m'.	m	37.10		
TOTAL SUNDRIES:						

07.12. SUMMARY Retaining wall 12-rightwards, from km 879+362 to km 879+450,L=88,03m		
07.12.01.	PRELIMINARY WORKS	
07.12.02.	EARTH WORKS	
07.12.03.	CONCRETE WORKS	
07.12.04.	REINFORCEMENT WORKS	
07.12.05.	SUNDRIES	
<i>TOTAL Retaining wall 12-rightwards, from km 879+362 to km 879+450,L=88,03m (07.12.):</i>		

07.13. Supporting structure of reinforced earth 13 leftwards, from km 879+518,01 to km 879+680 L=162 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.13.06.		PRELIMINARY WORKS				
07.13.06.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.13.07.		EARTH WORKS				
07.13.07.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m ² . Measurement is made in the LOT 1 Civil engineering design.	m ²			
07.13.07.02.	11.1.1	Excavation of earth Price includes excavation of II and III category earth, loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m ³ . Measurement is made in the LOT 1 Civil engineering design.	m ³			
07.13.07.03.	07.13.07.03.	Construction of embankment This item includes construction of earth embankment with min. 30% of 0-125 mm stone fractions. Measurement unit is m ³ .	m ³	8,833.63		
TOTAL EARTH WORKS:						
07.13.08.		CONCRETE WORKS				
07.13.08.01.	11.1.2	Construction of foundation with MB20 plain concrete This item includes procurement, transport of necessary material, work on concrete mixing and placing, quality proof and other related works. Measurement unit is m ³	m ³	20.41		
07.13.08.02.	11.1.2	Construction of top section of retaining wall This item includes concreting of top section of retaining wall with MB 30 concrete, fully in accordance with designed detail. Measurement unit is m ³ .	m ³	9.07		
TOTAL CONCRETE WORKS:						
07.13.09.		REINFORCEMENT WORKS				
07.13.09.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg	kg	532.98		
TOTAL REINFORCEMENT WORKS:						
07.13.10.		WORKS WITH GEOSYNTHETIC MATERIALS				
07.13.10.01.	07.13.10.01.	Placing of geogrids This item includes procurement, cutting and placing of geogrids as designed. Measurement unit is m ² a) geogrid M1 with Tdop= 8,21KN/m	m ²	6,035.00		
		b) geogrid M2 with Tdop= 18,14KN/m	m ²	7,785.00		
07.13.10.02.	07.13.10.02.	Procurement and installation of connectors This item includes procurement and installation of polyethylene connectors to connect geogrids and concrete blocks. Measurement unit is m`	m`	2,551.00		
TOTAL WORKS WITH GEOSYNTHETIC MATERIALS :						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.13.11.		MASONRY WORKS				
07.13.11.01.	8.3.6	Building wall face of concrete blocks This item includes procurement, transport and building wall face of concrete blocks MB30, V4, M150, 40x 15x22 in size. Measurement unit is piece.	pcs	16,180.00		
TOTAL MASONRY WORKS:						

07.13. SUMMARY Supporting structure of reinforced earth 13 -leftwards, from km 879+518,01 to km 879+680, L=162m						
07.13.06.	PRELIMINARY WORKS					
07.13.07.	EARTH WORKS					
07.13.08.	CONCRETE WORKS					
07.13.09.	REINFORCEMENT WORKS					
07.13.10.	WORKS WITH GEOSYNTHETIC MATERIALS					
07.13.11.	MASONRY WORKS					
TOTAL Supporting structure of reinforced earth 13 -leftwards, from km 879+518,01 to km 879+680, L=162m(07.13.):						

07.14. Retaining wall 14 rightwards from km 879+590 to km 879+773,63 L=183 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.14.01.		PRELIMINARY WORKS				
07.14.01.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.14.02.		EARTH WORKS				
07.14.02.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m2. Measurement is made in the LOT 1 Civil engineering design.	m ²			
07.14.02.02.	11.1.1	Excavation of earth for walls Price includes excavation of III and IV category earth,loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m3. Measurement is made in the LOT 1 Civil engineering design.	m ³			
07.14.02.03.	3.4.1.4	Filling and compaction Price includes the following machine operations:filling and spreading, fine and rough leveling, wetting and compaction of locally excavated material. Measurement unit is m3.	m ³	689.89		
07.14.02.04.	3.4.1.1	Embankment slope topsoiling This item includes embankment topsoiling above the filter filling in 15 cm thick layer. Measurement unit is m2.	m ²	366.00		
TOTAL EARTH WORKS:						
07.14.03.		CONCRETE WORKS				
07.14.03.01.	11.1.2	Construction of retaining walls Price includes concreting of retaining walls ring by ring with MB30, V4, M150 reinforced concrete, fully in accordance with designed details. Measurement unit is m3	m ³	1,594.93		
07.14.03.02.	11.1.2	Construction of concrete cap on the wall This item includes construction of cap of MB 30 plain concrete, fully in accordance with designed detail. Measurement unit is m3.	m ³	49.41		
TOTAL CONCRETE WORKS:						
07.14.04.		REINFORCEMENT WORKS				
07.14.04.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kr.	kg	56,095.49		
TOTAL REINFORCEMENT WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.14.05.		SUNDRIES				
07.14.05.01.	11.1.4	Placing of drainage filter This item includes placing of gravel filter behind the wall including procurement and transport, fully as designed.				
		Measurement unit is m ³ .	m ³	541.71		
07.14.05.02.	11.1	Plastic pipes f100 mm for weepholes Price includes procurement and laying of φ100 mm plastic pipes for weepholes including all related works. Measurement unit is m`.	m`	77.38		
TOTAL SUNDRIES:						

07.14. SUMMARY Retaining wall Z14-rightwarts, from km 879+590 to km 879+773,63, L=183m						
07.14.01.	PRELIMINARY WORKS					
07.14.02.	EARTH WORKS					
07.14.03.	CONCRETE WORKS					
07.14.04.	REINFORCEMENT WORKS					
07.14.05.	SUNDRIES					
TOTAL Retaining wall 14-rightwarts, from km 879+590 to km 879+773,63, L=183m(07.14.):						

07.M6. Supporting structure of reinforced earth M6 rightwarts, from km 0+435,30 to km 0+457 (following the centerline of conection between the parallel road and M1) L=21,70 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.M6.06.		PRELIMINARY WORKS				
07.M6.06.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.M6.07.		EARTH WORKS				
07.M6.07.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m ² . Measurement is made in the LOT 1 Civil engineering design.	m ²			
07.M6.07.02.	11.1.1	Excavation of earth Price includes excavation of II and III category earth, loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m ³ . Measurement is made in the LOT 1 Civil engineering design.	m ³			
07.M6.07.03.	07.M6.07.03.	Construction of embankment This item includes construction of earth embankment with min. 30% of 0-125 mm stone fractions. Measurement unit is m ³ .	m ³	470.00		
TOTAL EARTH WORKS:						
07.M6.08.		CONCRETE WORKS				
07.M6.08.01.	11.1.2	Construction of foundation with MB20 plain concrete This item includes procurement, transport of necessary material, work on concrete mixing and placing, quality proof and other related works. Measurement unit is m ³	m ³	2.73		
07.M6.08.02.	11.1.2	Construction of top section of retaining wall This item includes concreting of top section of retaining wall with MB 30 concrete, fully in accordance with designed detail. Measurement unit is m ³ .	m ³	1.30		
TOTAL CONCRETE WORKS:						
07.M6.09.		REINFORCEMENT WORKS				
07.M6.09.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg	kg	130.00		
TOTAL REINFORCEMENT WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.M6.10.		WORKS WITH GEOSYNTHETIC MATERIALS				
07.M6.10.01.	07.M6.10.01.	Placing of geogrids This item includes procurement, cutting and placing of geogrids as designed. Measurement unit is m ² a) geogrid M1 with Tdop= 8,21KN/m	m ²	495.00		
		b) geogrid M2 with Tdop= 18,14KN/m	m ²	535.00		
07.M6.10.02.	07.M6.10.02.	Procurement and installation of connectors This item includes procurement and installation of polyethylene connectors to connect geogrids and concrete blocks. Measurement unit is m [`]	m [`]	320.00		
TOTAL WORKS WITH GEOSYNTHETIC MATERIALS :						
07.M6.11.		MASONRY WORKS				
07.M6.11.01.	8.3.6	Building wapl face of concrete blocks This item includes procurement, transport and building wall face of concrete blocks MB30, V4, M150, 40x 15x22 in size. Measurement unit is piece.	pc.	1,905.00		
TOTAL MASONRY WORKS:						

<u>07.M6. SUMMARY Supporting structure of reinforced earth M6 -rightwards, from km 0+435,30 to km 0+457(following the centerline of conection between the parallel road and M1), L=21,70m</u>						
07.M6.06.	PRELIMINARY WORKS					
07.M6.07.	EARTH WORKS					
07.M6.08.	CONCRETE WORKS					
07.M6.09.	REINFORCEMENT WORKS					
07.M6.10.	WORKS WITH GEOSYNTHETIC MATERIALS					
07.M6.11.	MASONRY WORKS					
<u>TOTAL Supporting structure of reinforced earth M6 -rightwards, from km 0+435,30 to km 0+457(following the centerline of conection between the paralell road and M1), L=21,70m(07.M6.):</u>						

07.K1. Slope K1 rightwards from km 875+505 to km 876+245

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.K1.01.		PRELIMINARY WORKS				
07.K1.01.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.K1.02.		WORKS ON SLOPE PROTECTION				
07.K1.02.01.	5.1.	Drilling and installation of SN anchor RØ25 This item includes drilling of f42-44 mm holes,procurement, treatment, installation and grouting of 5 m long SN anchor Rf25,placing the concrete base, installation of steel base plate and tightening the nut. Measurement unit is piece	pc.	2,050.00		
07.K1.02.02.	5.2.	Reinforcement mesh This item includes procurement, transport, cutting and fixing of Q138 reinforcement mesh. Measurement unit is kg	kg	17,290.00		
07.K1.02.03.	5.3.	Placing 5-10 cm thick layer of MB30 jet concrete This item includes procurement, transport and placing of jet concrete in two layers. Measurement unit is m ²	m ²	16,460.00		
07.K1.02.04.	8.3.6.	Installation of prefabricated berm perimeter channel maid of MB30 reinforced concrete This item includes procurement, transport and installation of prefabricated perimeter channel. Measurement unit is m [`]	m [`]	2,455.00		
07.K1.02.05.	4.4.6	Laying of drainage half-pipes This item includes procurement, preparation, laying and protection of half-pipes against clogging during jet concreting. Measurement unit is m [`]	m [`]	250.00		
TOTAL WORKS ON SLOPE PROTECTION :						

07.K1. SUMMARY Slope 1 rightwards from km 875+505 to km 876+245		
07.K1.01.	PRELIMINARY WORKS	
07.K1.02.	WORKS ON SLOPE PROTECTION	
<i>TOTAL Slope 1 rightwards from km 875+505 to km 876+245(07.K1.):</i>		

07.K2. Slope K2 rightwards from KM 876+510 to km 876+745

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.K2.01.		PRELIMINARY WORKS				
07.K2.01.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.K2.02.		WORKS ON SLOPE PROTECTION				
07.K2.02.01.	5.1.	Drilling and installation of SN anchor RØ25 This item includes drilling of f42-44 mm holes, procurement, treatment, installation and grouting of 5 m long SN anchor Rf25, placing the concrete base, installation of steel base plate and tightening the nut. Measurement unit is piece	pc.	410.00		
07.K2.02.02.	5.2.	Reinforcement mesh This item includes procurement, transport, cutting and fixing of Q138 reinforcement mesh. Measurement unit is kg	kg	3,300.00		
07.K2.02.03.	5.3.	Placing 5-10 cm thick layer of MMB30 jet concrete This item includes procurement, transport and placing of jet concrete in two layers. Measurement unit is m ²	m ²	3,140.00		
07.K2.02.04.	8.3.6.	Installation of prefabricated berm perimeter channel maid of MB30 reinforced concrete This item includes procurement, transport and installation of prefabricated perimeter channel. Measurement unit is m`	m`	418.00		
07.K2.02.05.	4.4.6	Laying of drainage half-pipes This item includes procurement, preparation, laying and protection of half-pipes against clogging during jet concreting. Measurement unit is m`	m`	90.00		
TOTAL WORKS ON SLOPE PROTECTION :						

07.K2. SUMMARY Slope 2 rightwards from km 876+510 to km 876+745		
07.K2.01.	PRELIMINARY WORKS	
07.K2.02.	WORKS ON SLOPE PROTECTION	
<i>TOTAL Slope 2 rightwards from km 876+510 to km 876+745(07.K2.):</i>		

07.K3. Slope K3 leftwards, from km 875+555 to km 876+685

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.K3.01.		PRELIMINARY WORKS				
07.K3.01.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.K3.02.		WORKS ON SLOPE PROTECTION				
07.K3.02.01.	5.1.	Drilling and installation of SN anchor RØ25 This item includes drilling of f42-44 mm holes, procurement, treatment, installation and grouting of 5 m long SN anchor Rf25, placing the concrete base, installation of steel base plate and tightening the nut. Measurement unit is piece	pc.	115.00		
07.K3.02.02.	5.2.	Reinforcement mesh This item includes procurement, transport, cutting and fixing of Q138 reinforcement mesh. Measurement unit is kg	kg	930.00		
07.K302.03.	5.3.	Placing 5-10 cm thick layer of MMB30 jet concrete This item includes procurement, transport and placing of jet concrete in two layers. Measurement unit is m ²	m ²	886.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.K3.02.04.	8.3.6.	Installation of prefabricated berm perimeter channel maid of MB30 reinforced concrete This item includes procurement, transport and installation of prefabricated perimeter channel. Measurement unit is m`	m`	135.00		
07.K3.02.05.	4.4.6	Laying of drainage half-pipes This item includes procurement, preparation, laying and protection of half-pipes against clogging during jet concreting. Measurement unit is m`	m`	45.00		
TOTAL WORKS ON SLOPE PROTECTION :						

<u>07.K3. SUMMARY Slope 3 leftwards from km 875+555 to km 876+685</u>		
07.K3.01.	PRELIMINARY WORKS	
07.K3.02.	WORKS ON SLOPE PROTECTION	
<u>TOTAL Slope 3 leftwards from km 875+555 to km 876+685(07.K3.):</u>		

07.K4. Slope K4 rightwards from KM 878+625 to km 879+090

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.K4.01.	PRELIMINARY WORKS					
07.K4.01.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum..		lump sum		
TOTAL PRELIMINARY WORKS:						
07.K4.02.	WORKS ON SLOPE PROTECTION					
07.K4.02.01.	5.1.	Drilling and installation of SN anchor RØ25 This item includes drilling of f42-44 mm holes,procurement, treatment, installation and grouting of 5 m long SN anchor Rf25,placing the concrete base, installation of steel base plate and tightening the nut. Measurement unit is piece	pc.	560.00		
07.K4.02.02.	5.2.	Reinforcement mesh This item includes procurement, transport, cutting and fixing of Q138 reinforcement mesh. Measurement unit is kg	kg	4,380.00		
07.K4.02.03.	5.3.	Placing 5-10 cm thick layer of MMB30 jet concrete This item includes procurement, transport and placing of jet concrete in two layers. Measurement unit is m2	m ²	4,170.00		
07.K4.02.04.	8.3.6.	Installation of prefabricated berm perimeter channel maid of MB30 reinforced concrete This item includes procurement, transport and installation of prefabricated perimeter channel. Measurement unit is m`	m`	366.00		
07.K4.02.05.	4.4.6	Laying of drainage half-pipes This item includes procurement, preparation, laying and protection of half-pipes against clogging during jet concreting. Measurement unit is m`	m`	155.00		
TOTAL WORKS ON SLOPE PROTECTION :						

<u>07.K4. SUMMARY Slope 4 leftwards from km 878+625 to km 879+090</u>		
07.K4.01.	PRELIMINARY WORKS	
07.K4.02.	WORKS ON SLOPE PROTECTION	
<u>TOTAL Slope 4 leftwards from km 878+625 to km 879+090(07.K4.):</u>		

07.K5. Slope K5 rightwards from KM 879+450 to km 879+590

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.K5.01.	PRELIMINARY WORKS					
07.K5.01.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum..		lump sum		
TOTAL PRELIMINARY WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.K5.02.		WORKS ON SLOPE PROTECTION				
07.K5.02.01.	5.1.	Drilling and installation of SN anchor RØ25 This item includes drilling of f42-44 mm holes, procurement, treatment, installation and grouting of 5 m long SN anchor Rf25, placing the concrete base, installation of steel base plate and tightening the nut. Measurement unit is piece	pc.	140.00		
07.K5.02.02.	5.2.	Reinforcement mesh This item includes procurement, transport, cutting and fixing of Q138 reinforcement mesh. Measurement unit is kg	kg	1,090.00		
07.K5.02.03.	5.3.	Placing 5-10 cm thick layer of MMB30 jet concrete This item includes procurement, transport and placing of jet concrete in two layers. Measurement unit is m2	m ²	1,033.00		
07.K5.02.04.	8.3.6.	Installation of prefabricated berm perimeter channel maid of MB30 reinforced concrete This item includes procurement, transport and installation of prefabricated perimeter channel. Measurement unit is m`	m`	292.00		
07.K5.02.05.	4.4.6	Laying of drainage half-pipes This item includes procurement, preparation, laying and protection of half-pipes against clogging during jet concreting. Measurement unit is m`	m`	45.00		
TOTAL WORKS ON SLOPE PROTECTION :						

<u>07.K5. SUMMARY Slope 5 leftwards from km 879+450 to km 879+590</u>		
07.K5.01.	PRELIMINARY WORKS	
07.K5.02.	WORKS ON SLOPE PROTECTION	
<u>TOTAL Slope 5 leftwards from km 879+450 to km 879+590(07.K5.):</u>		

<u>07. Summary Engineering structures</u>						
7.1	Retaining wall	1-rightwards, from km 873+875 to km 874+ 108 and from 874+119 to km 874+224 , L=357,43m				
7.2	Retaining wall	2-leftwards, from km 875+580 to km 875+618 , L=39,13m				
7.3	Retaining wall	3-leftwards, from km 875+630 to km 875+656, L=26,78m				
7.4	Retaining wall	4-in the central reserve , from km 875+730,40 to km 876+229,09, L=498,69m				
7.5	Supporting structure of reinforced earth	5 -leftwards, from km 875+844 to km 876+085, L=241m				
7.6	Supporting structure of reinforced earth	6 -leftwards, from km 876+202,99 to km 876+228,99, L=26m				
7.8	Supporting structure of reinforced earth	8 -leftwards, from km 876+409,40 to km 876+506,02, L=95m				
7.9	Retaining wall	Z9-in the central reserve, from km 878+675 to km 879+025,38, L=350m				
7.10	Supporting structure of reinforced earth	10 -leftwards, from km 878+730 to km 878+829,17, L=101m				
7.11	Supporting structure of reinforced earth	11 -leftwards, from km 879+005 to km 879+120,23, L=117m				
7.12	Retaining wall	12-rightwards, from km 879+362 to km 879+450,L=88,03m				
7.13	Supporting structure of reinforced earth	13 -leftwards, from km 879+518,01 to km 879+680, L=162m				
7.14	Retaining wall	14-rightwards, from km 879+590 to 879+773,63, L=183m				
7.M6	Supporting structure of reinforced earth	M6 -rightwards, from km 0+435,30 to km 0+457 (following the centerline of road connecting the parallel road and M1), L=21,70m				
7.K1	Slope	1 rightwards from km 875+505 to km 876+245				
7.K2	Slope	2 rightwards from km 876+510 to km 876+745				
7.K3	Slope	3 leftwards from km 875+555 to km 876+685				
7.K4	Slope	4 leftwards from km 878+625 to km 879+090				
7.K5	Slope	5 leftwards from km 879+450 to km 879+590				
SUB-TOTAL						
Unforeseen work (5% of sub-total)						
<i>TOTAL ENGINEERING STRUCTURES (7.):</i>						

08.01. Bridge km 874+286.563

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.01.01.		EARTH WORKS				
08.01.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	6,044.53		
08.01.01.02	13.2.1	Excavation of foundations in IV category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 2-4 m	m ³	3,357.36		
08.01.01.04	13.2.2	Extra for excavation of foundations with pumping of 30 lit/min - 120 lit/min water.	m ³	4,700.95		
08.01.01.05	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	6,199.70		
08.01.01.06	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	3564.00		
08.01.01.08	13.2.8 additional specifications	Construction of end slope of material from the cutting or borrow pit including mechanical compaction in 30 cm thick layers, fully as designed. Payment per m ³ of compacted material.	m ³	394.50		
08.01.01.09	11.1.4	Drainage filter layer of gravel behind the wall	m ³	231.37		
TOTAL EARTH WORKS:						
08.01.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.01.02.01	13.4.1.3 additional specifications	Blinking layer, 10 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	262.90		
	13.4.3	Reinforced concrete constructions				
08.01.02.02	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	698.34		
	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
08.05.02.05	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	854.65		
08.01.02.05	13.4.3.2	Middle pier bodies constructed of concrete, class II, MB 35, M-150, V-6.	m ³	59.36		
08.01.02.06	13.4.3.2	Bearing beams of middle piers made of concrete, class II, MB 40, M-150, V-6.	m ³	38.28		
08.01.02.07	13.4.3.2	Top slab culvert reinforced concrete. Concrete class II, MB35, M-150, V-6	m ³	388.98		
08.01.02.08	13.4.3.2	Reinforced concrete of wings, front parapet and masks. Concrete class II MB 35, M-150, V-6	m ³	73.40		
08.01.02.09	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 40, M-150, V-6	m ³	108.03		
08.01.02.10	13.4.3.5	Crossing slabs made of concrete MB 30, M-150, V-6	m ³	43.24		
	13.4.4	Prestressed bridge constructions				
08.01.02.11	13.4.4	Prestressed box bridge construction cast in situ. Concrete class II MB 45, M-150, V-3	m ³	1,391.74		
08.01.02.12	11.1.2	Concrete works on retaining structure. Concrete class II MB 30, M-150, V-4	m ³	1,000.00		
TOTAL CONCRETE WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.01.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.01.03.01	13.5.1	Smooth rebars GA 240/360	kg	190.00		
08.01.03.02	13.5.1	Ribbed rebars RA 400/500-2	kg	537,317.0		
		Metal works in prestressed concrete * The price includes procurement, fixing and tensioning.				
08.01.03.03	13.5.2	Patented high-strength prestressing strands with all anchors, base plates and protective tubes for cables	kg	81,449.00		
08.01.03.04	13.6	Expansion joints - procurement and installation as designed.	m'	49.76		
08.01.03.05	13.7	S-7 gullies of cast iron, procurement and installation as designed.	pc.	14.00		
08.01.03.06	13.8.2	- tubular fences or fences made of steel sections	kg	4,578.00		
08.01.03.07	13.9	Bridge bearings Neotopf	pc.	12.00		
TOTAL METAL WORK						
08.01.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
		along the highway, 13/20 MB 40	m'	378.80		
08.01.04.02	13.10.2	Insulating coat on pavement top	m ²	2530.07		
08.01.04.03	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	2,596.44		
08.01.04.04	13.10.4	Bituminous pavement base course, BNHS 16A, 5 cm thick	m ²	2,044.00		
08.01.04.05	13.10.4	Pavement wearing course of skeleton mastic asphalt SMA 0/11S, 4cm thick	m ²	2044.00		
08.01.04.06	13.11.2	Epoxy and polyurethane preservative on footways	m ²	488.41		
08.01.04.07	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	857.60		
08.01.04.08	13.11.8 additional specifications	Construction of cementitious grouting mortar beds	m ²	13.76		
08.01.04.09	13.11.1	Laying PVC pipes into footways (cat walks), Ø110 mm	m'	756.00		
08.01.04.10	13.7.2	Cast iron pipes for gully water discharge including all fixing accessories.	m'	200.00		
08.01.04.11	13.10.5	Trial loading of constructed bridge.		lump sum		
08.01.04.12	13.10.6	Photographing during bridge construction		lump sum		
08.01.04.13	11.1.4.1	Plastic pipes Ø100 mm	m'	59.5		
08.01.04.14	11.1.4.2	Perforate plastic pipes for drainage Ø200 mm	m'	91.2		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						
08.01.05.	2	PRELIMINARY WORKS				
08.01.05.01	2.5	Demolition of existing construction		lump sum		
TOTAL PRELIMINARY WORKS:						

Summary bridge at km 874+286.563:		
08.01.01. EARTH WORKS		
08.01.02. CONCRETE		
08.01.03. METALWORK		
08.01.04 FINISHING AND SUNDRY WORKS ON BRIDGES		
08.01.05 PRELIMINARY WORKS		
Total bridge at km 874+286.563:		

08.02. Overpass at km 874+080.470

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.02.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.02.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	432.40		
		- at depth of 2-4 m	m ³	257.80		
		- at depth of 4-6 m	m ³	257.80		
		- at depth over 6 m	m ³	298.20		
08.02.01.02	13.2.1	Excavation of foundations in V category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth over 6 m	m ³	148.20		
08.02.01.03	13.2.2	Extra for excavation of foundations with pumping of 30 lit/min - 120 lit/min water.	m ³	697.20		
08.02.01.04	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	165.00		
08.02.01.05	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	588.00		
08.02.01.06	13.2.9 additional specifications	Placing 80 cm thick cover protecting a gravel wedge made of gravel sand where top 30 cm shall be stabilized with cement and bottom 50 cm compacted in two layers to modulus of compressibility Ms=40 MPa. Payment per m ³ of compacted gravel.	m ³	74.00		
08.02.01.07	13.4.2	Construction of Ø120 cm piles with concrete, class MB 30, M-150, V-3. Payment per m' of completed pile.	m'	96.00		
TOTAL EARTH WORKS:						
08.02.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.02.02.01	13.4.1.1	Foundation of end slope wall made of concrete, class I MB25.	m ³	25.70		
08.02.02.02	13.4.1.2	Lining of end slopes with concrete plates (60'40'12 cm) MB 40, M-150, V-3	m ²	113.42		
08.02.02.03	13.4.1.3 additional specifications	Blinking layer, 10 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	109.50		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
	13.4.3	Reinforced concrete constructions				
08.02.02.04	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	359.20		
	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
08.02.02.05	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	55.44		
08.02.02.06	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m ³	50.05		
08.02.02.07	13.4.3.2	Bearing beams of abutment made of concrete, class II, MB 30, M-150, V-6.	m ³	87.82		
08.02.02.08	13.4.3.2	Abutment parapets constructed of concrete, class II, MB 30, M-150, V-6.	m ³	32.82		
08.02.02.09	13.4.3.2	Pedestrian cantilever walkway at abutment wing walls constructed of concrete, class II, MB 30, M-150, V-6.	m ³	6.40		
08.02.02.10	13.4.3.2	Masking covers of abutments and middle piers made of concrete, class II, MB 30, M-150, V-6.	m ³	3.01		
08.02.02.11	13.4.3.2	Middle pier bodies constructed of concrete, class II, MB 40, M-150, V-6.	m ³	39.35		
08.02.02.12	13.4.3.3	Cross girders made of reinforced concrete, class II, MB 30, M-150, V-6.	m ³	83.15		
08.02.02.13	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 40, M-150, V-6	m ³	61.10		
08.02.02.14	13.4.3.5	Crossing slabs made of concrete MB 30, M-150, V-6	m ³	18.02		
08.02.02.15	13.4.3.4	Masking covers of cornices at footway level made of concrete, class II, MB 45, M-150, V-8.	m ³	15.80		
08.02.02.16	13.4.4	Prestressed box bridge construction cast in situ.	m ³	764.20		
TOTAL CONCRETE WORKS:						
08.02.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.02.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	180,737.11		
	13.5.2	Metal works in prestressed concrete * The price includes procurement, fixing and tensioning.				
08.02.03.02	13.5.2	Patented high-strength prestressing strands with all anchors, base plates and protective tubes for cables	kg	44,795.42		
08.02.03.03	13.6	Expansion joints - procurement and installation as designed, MT100.	m'	21.20		
08.02.03.04	13.7	S-7 gullies of cast iron, procurement and installation as designed.	pc.	5.00		
08.02.03.05	13.8	Steel bridge fences:				
	13.8.1	-H2W4	m'	219.80		
08.02.03.06	13.8.2	- tubular fences or fences made of steel sections	kg	4,479.10		
08.02.03.07	13.8.3	-protective mesh	kg	3,441.82		
08.02.03.08	13.9	Bridge bearings				
		NGe400,NGa400	pc.	4.00		
TOTAL METAL WORK						
08.02.04.	13.10	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.02.04.01	13.10.1	Concrete or stone curbs along the highway, 13/20 MB 40	m'	219.80		
08.02.04.02	13.10.2	Insulating coat on pavement top	m ²	734.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.02.04.03	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	546.30		
08.02.04.04	13.10.4	Bituminous pavement base course, BNHS 16A, 5 cm thick	m ²	658.00		
08.02.04.05	13.10.4	Pavement wearing course of skeleton mastic asphalt SMA 0/11S, 4cm thick	m ²	658.00		
08.02.04.06	13.10.5	Trial loading of constructed bridge.	lump sum			
08.02.04.07	13.10.6	Photographing during bridge construction	lump sum			
08.02.04.08	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	21.20		
08.02.04.09	13.11.1	Laying PVC pipes into footways (cat walks), Ø110 mm	m'	594.00		
08.02.04.10	13.11.2	Epoxy and polyurethane preservative on footways	m ²	382.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						
08.02.05.	2	PRELIMINARY WORKS				
08.02.05.01	2.5	Demolition of existing construction	lump sum			
TOTAL PRELIMINARY WORKS:						

Summary Overpass at km 874+080.470					
08.02.01 EARTH WORKS					
08.02.02. CONCRETE					
08.02.03. METALWORK					
08.02.04 FINISHING AND SUNDRY WORKS ON BRIDGES					
08.02.05 PRELIMINARY WORKS					
Total Overpass at km 874+080.470:					

08.03. Bridge at km 875+371.465

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.03.01	13.2	EARTH WORKS				
		Excavation for foundations				
08.03.01.01	13.2.1	Excavation of foundations in IV category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	1,380.60		
08.03.01.02	13.2.1	- at depth of 2-4 m Excavation of foundations in V category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 4-6 m	m ³	1,907.88		
		- at depth over 6 m	m ³	4,772.28		
08.03.01.03	13.2.2	Extra for excavation of foundations with pumping of 30 lit/min - 120 lit/min water.	m ³	2,638.89		
08.03.01.04	13.2.3	Excavation of Trenches and Channels Less than 1.5 m Wide and Less than 2.0 m Deep	m ³	19.60		
08.03.01.05	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	2,016.30		
08.03.01.06	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	1,283.10		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.03.01.07	13.2.8 additional specifications	Construction of end slope of material from the cutting or borrow pit including mechanical compaction in 30 cm thick layers, fully as designed. Payment per m3 of compacted material.	m ³	87.70		
08.03.01.08	13.4.2	Construction of Ø90 cm piles with concrete, class MB 30, M-150, V-3. Payment per m' of completed pile.	m'	120.00		
TOTAL EARTH WORKS:						
08.03.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.03.02.01	13.4.1.1	Foundation of end slope wall made of concrete, class I MB25.	m ³	8.20		
08.03.02.02	13.4.1.2	Lining of end slopes with concrete plates (60'40'12 cm) MB 40, M-150, V-3	m ²	63.00		
08.03.02.03	13.4.1.3 additional specifications	Blinding layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	72.30		
08.03.02.04	13.1.4.1 additional specifications	Foundation made of plain concrete, class I, MB 25. Payment per m3 of concrete.	m ³	842.40		
08.03.02.05	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	1,015.70		
08.03.02.06	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	288.70		
08.03.02.07	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m ³	9.80		
08.03.02.08	13.4.3.2	Abutment parapets constructed of concrete, class II, MB 30, M-150, V-6.	m ³	216.50		
08.03.02.09	13.4.3.2	Pedestrian cantilever walkway at abutment wing walls constructed of concrete, class II, MB 30, M-150, V-6.	m ³	4.24		
08.03.02.10	13.4.3.2	Masking covers of abutments and middle piers made of concrete, class II, MB 30, M-150, V-6.	m ³	73.08		
08.03.02.11	13.4.3.2	Middle pier bodies constructed of concrete, class II, MB 50, M-150, V-6.	m ³	242.00		
08.03.02.12	13.4.3.2	Abutment and middle pier caps made of concrete, class II, MB 30, M-150, V-6.	m ³	2.70		
08.03.02.13	13.4.3.2	Wing walls constructed of reinforced concrete, class II MB 30, M-150, V-6	m ³	242.70		
08.03.02.14	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 40, M-150, V-6	m ³	197.90		
08.03.02.15	13.4.3.5	Crossing slabs made of concrete MB 30, M-150, V-6	m ³	50.80		
08.03.02.16	13.4.3.4	Masking covers of cornices at footway level made of concrete, class II, MB 45, M-150, V-8.	m ³	67.10		
	13.4.4	Prestressed bridge constructions				
08.03.02.17	13.4.4	Prestressed box bridge construction cast in situ. Concrete class II MB 50, M-150, V-3	m ³	4,664.30		
TOTAL CONCRETE WORKS:						
08.03.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.03.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	799,795.61		
	13.5.2	Metal works in prestressed concrete * The price includes procurement, fixing and tensioning.				

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.03.03.02	13.5.2	Patented high-strength prestressing strands with all anchors, base plates and protective tubes for cables	kg	227,482.00		
08.03.03.03	13.6	Expansion joints - procurement and installation as designed, MT160	m'	52.20		
08.03.03.04	13.7	S-7 gullies of cast iron, procurement and installation as designed.	pc.	30.00		
08.03.03.05	13.8	Steel bridge fences:				
	13.8.2	- tubular fences or fences made of steel sections	kg	10,010.50		
08.03.03.06	13.9	Bridge bearings	pc.	4.00		
08.03.03.07	13.10.	N	pc.	8.00		
		Nge	pc.	8.00		
		Nga	pc.	4.00		
		Steel plates	m ²	1,152.00		
TOTAL METAL WORK						
08.03.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
08.03.04.01	13.10.1	This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
		Concrete or stone curbs along the highway, 13/20 MB 40	m'	932.30		
08.03.04.02	13.10.2	Insulating coat on pavement top	m ²	4,866.75		
08.03.04.03	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	2,656.00		
08.03.04.04	13.10.4	Bituminous pavement base course, BNHS 16A, 5 cm thick	m ²	4,565.03		
08.03.04.05	13.10.4	Pavement wearing course of skeleton mastic asphalt SMA 0/11S, 4cm thick	m ²	4,565.03		
08.03.04.06	13.10.5	Trial loading of constructed bridge.	lump sum			
08.03.04.07	13.10.6	Photographing during bridge construction	lump sum			
08.03.04.08	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	2,431.60		
08.03.04.09	13.11.1	Laying PVC pipes into footways (cat walks), AÆ110 mm	m'	1,410.90		
08.03.04.10	13.11.2	Epoxy and polyurethane preservative on footways	m ²	1,215.80		
08.03.04.11	13.11.8 additional specifications	Construction of cementitious grouting mortar beds	m ²	50.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						
08.03.05.	2	PRELIMINARY WORKS				
08.03.05.01	2.5	Demolition of existing construction	lump sum			
TOTAL PRELIMINARY WORKS:						

Summary bridge at km 875+371.465		
08.03.01	EARTH WORKS	
08.03.02	CONCRETE	
08.03.03	METALWORK	
08.03.04	FINISHING AND SUNDRY WORKS ON BRIDGES	
08.03.05	PRELIMINARY WORKS	
Total bridge at km 875+371.465:		

08.04. Bridge at km 876+319.196

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.04.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.04.01.01	13.2.1	Excavation of foundations in IV category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	2,684.00		
		- at depth of 2-4 m	m ³	7,910.00		
08.04.01.02	13.2.1	Excavation of foundations in V category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 4-6 m	m ³	2,022.00		
		- at depth over 6 m	m ³	2,509.00		
08.04.01.03	13.2.2	Extra for excavation of foundations with pumping of 30 lit/min - 120 lit/min water.	m ³	1,030.00		
08.04.01.04	13.2.3	Excavation of Trenches and Channels Less than 1.5 m Wide and Less than 2.0 m Deep	m ³	21.70		
08.04.01.05	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	13,103.00		
08.04.01.06	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	1,425.00		
08.04.01.07	13.2.8 additional specifications	Construction of end slope of material from the cutting or borrow pit including mechanical compaction in 30 cm thick layers, fully as designed. Payment per m ³ of compacted material.	m ³	14.70		
TOTAL EARTH WORKS:						
08.04.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.04.02.01	13.4.1.1	Foundation of end slope wall made of concrete, class I MB25.	m ³	8.60		
08.04.02.02	13.4.1.2	Lining of end slopes with concrete plates (60'40'12 cm) MB 40, M-150, V-3	m ²	36.20		
08.04.02.03	13.4.1.3 additional specifications	Blinding layer, 10 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	96.00		
	13.4.3	Reinforced concrete constructions				
08.04.02.05	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	800.40		
08.04.02.06	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	649.80		
08.04.02.07	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m ³	77.30		
08.04.02.08	13.4.3.2	Abutment parapets constructed of concrete, class II, MB 30, M-150, V-6.	m ³	74.43		
08.04.02.09	13.4.3.2	Pedestrian cantilever walkway at abutment wing walls constructed of concrete, class II, MB 30, M-150, V-6.	m ³	7.00		
08.04.02.10	13.4.3.2	Masking covers of abutments and middle piers made of concrete, class II, MB 30, M-150, V-6.	m ³	10.88		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.04.02.11	13.4.3.2	Middle pier bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	371.70		
08.04.02.12	13.4.3.2	Bearing beams of middle piers made of concrete, class II, MB 30, M-150, V-6.	m ³	284.60		
08.04.02.13	13.4.3.2	Abutment and middle pier caps made of concrete, class II, MB 30, M-150, V-6.		11.56		
08.04.02.14	13.4.3.3	Spanning bridge construction of reinforced concrete				
08.04.02.15	13.4.3.3	Cross girders made of reinforced concrete, class II, MB 50, M-150, V-6.	m ³	227.60		
08.04.02.16	13.4.3.3	Bridge deck over prefabricated girders made of reinforced concrete, class II, MB 50, M-150, V-6.	m ³	1,067.40		
08.04.02.17	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 40, M-150, V-6	m ³	152.30		
08.04.02.18	13.4.3.5	Crossing slabs made of concrete MB 30, M-150, V-6	m ³	42.10		
08.04.02.19	13.4.3.4	Masking covers of cornices at footway level made of concrete, class II, MB 45, M-150, V-8.	m ³	46.51		
	13.4.4	Prestressed bridge constructions				
08.04.02.20	13.4.4	Prefabricated main girders made of prestressed concrete, class II MB 50, M-150, V-3	m ³	1,107.00		
TOTAL CONCRETE WORKS:						
08.04.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.04.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	769,296.00		
		Metal works in prestressed concrete * The price includes procurement, fixing and tensioning.				
08.04.03.02	13.5.2	Patented high-strength prestressing strands with all anchors, base plates and protective tubes for cables	kg	73,539.00		
08.04.03.03	13.6	Expansion joints - procurement and installation as designed MT-100.	m'	52.00		
08.04.03.04	13.7	S-6 gullies of cast iron, procurement and installation as designed.	pc.	2.00		
		S-9 gullies of cast iron, procurement and installation as designed.	pc.	16.00		
08.04.03.05	13.8	Steel bridge fences:				
08.04.03.06	13.8.1	H2W4	m'	646.00		
	13.8.2	- tubular fences or fences made of steel sections	kg	323.00		
08.04.03.07	13.9	Bridge bearings				
		Neotopf (ΓXX)				
		NAL-b 350x450x85	pc.	16.00		
		NAL-f 450x600x85	pc.	28.00		
TOTAL METAL WORK						
08.04.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.04.04.01	13.10.1	Concrete or stone curbs along the highway, 13/20 MB 40	m'	646.00		
08.04.04.02	13.10.2	Insulating coat on pavement top	m ²	3,391.00		
08.04.04.03	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	1,561.00		
08.04.04.04	13.10.4	Bituminous pavement base course, BNHS 16A, 5 cm thick	m ²	3,298.00		
08.04.04.05	13.10.4	Pavement wearing course of skeleton mastic asphalt SMA 0/11S, 4cm thick	m ²	3,298.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.04.04.06	13.10.5	Trial loading of constructed bridge.		lump sum		
08.04.04.07	13.10.6	Photographing during bridge construction		lump sum		
08.04.04.08	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	1,396.00		
08.04.04.09	13.11.1	Laying PVC pipes into footways (cat walks), \varnothing 110 mm	m'	432.00		
08.04.04.10	13.11.2	Epoxy and polyurethane preservative on footways	m ²	1,396.00		
08.04.04.11	13.11.8 additional specifications	Construction of cementitious grouting mortar beds	m ²	28.16		
08.04.04.12	13.11.9 additional specifications	Steel plates embedded in girder at points where girders rest on bearings.	kg	1,100.00		
08.04.04.13	13.7.2	Cast iron pipes for gully water discharge including all fixing accessories.	m'	126.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

Summary bridge at km 876+319.194					
08.04.01 EARTH WORKS					
08.04.02 CONCRETE					
08.04.03 METALWORK					
08.04.04 FINISHING AND SUNDRY WORKS ON BRIDGES					
Total bridge km 876+319.194:					

08.05. Bridge at km 876+973.313

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.05.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.05.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	8,231.83		
		- at depth of 2-4 m	m ³	4,187.92		
		- at depth of 4-6 m	m ³	1,257.00		
		- at depth over 6 m	m ³	375.00		
08.05.01.02	13.2.1	Excavation of foundations in IV category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	409.00		
		- at depth of 2-4 m	m ³	933.00		
08.05.01.03	13.2.1	Excavation of foundations in V category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 4-6 m	m ³	917.00		
		- at depth over 6 m	m ³	116.00		
08.05.01.04	13.2.2	Extra for excavation of foundations with pumping of 30 lit/min - 120 lit/min water.	m ³	8,213.38		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.05.01.05	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	13,323.38		
08.05.01.06	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	1,491.00		
08.05.01.07	13.2.6 additional specifications	Extra for excavation to place all needed supports in the foundation pit including wooden shoring, combination of wooden shoring and steel supports and steel shoring. Payment per m ² of used material.	m ²	107.77		
08.05.01.08	13.2.8 additional specifications	Construction of end slope of material from the cutting or borrow pit including mechanical compaction in 30 cm thick layers, fully as designed. Payment per m ³ of compacted material.	m ³	1,041.00		
08.05.01.09	13.4.2	Construction of Ø150 cm piles with concrete, class MB 30, M-150, V-3. Payment per m' of completed pile.	m'	405.00		
TOTAL EARTH WORKS:						
08.05.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.05.02.01	13.4.1.1	Foundation of end slope wall made of concrete, class I MB25.	m ³	8.20		
08.05.02.02	13.4.1.2	Lining of end slopes with concrete plates (60'40'12 cm) MB 40, M-150, V-3	m ²	18.98		
08.05.02.03	13.4.1.3 additional specifications	Blinding layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	209.00		
	13.4.3	Reinforced concrete constructions				
08.05.02.04	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	1,522.00		
	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
08.05.02.05	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 35, M-150, V-6.	m ³	399.00		
08.05.02.06	13.4.3.2	Abutment wing walls made of concrete, class II, MB 35, M-150, V-6.	m ³	32.00		
08.05.02.07	13.4.3.2	Abutment parapets constructed of concrete, class II, MB 35, M-150, V-6.	m ³	95.00		
08.05.02.08	13.4.3.2	Pedestrian cantilever walkway at abutment wing walls constructed of concrete, class II, MB 35, M-150, V-6.	m ³	8.00		
08.05.02.09	13.4.3.2	Masking covers of abutments and middle piers made of concrete, class II, MB 30, M-150, V-6.	m ³	19.00		
08.05.02.10	13.4.3.2	Middle pier bodies constructed of concrete, class II, MB 35, M-150, V-6.	m ³	991.00		
08.05.02.11	13.4.3.2	Bearing beams of middle piers made of concrete, class II, MB 40, M-150, V-6.	m ³	687.00		
08.05.02.12	13.4.3.2	Abutment and middle pier caps made of concrete, class II, MB 40, M-150, V-6.	m ³	57.00		
08.05.02.13	13.4.3.2	Wing walls constructed of reinforced concrete, class II MB 30, M-150, V-6	m ³	61.70		
	13.4.3.3	Spanning bridge construction of reinforced concrete				
08.05.02.14	13.4.3.3	Cross girders made of reinforced concrete, class II, MB 50, M-150, V-6.	m ³	656.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.05.02.15	13.4.3.3	Bridge deck over prefabricated girders made of reinforced concrete, class II, MB 45, M-150, V-6.	m ³	2,134.00		
08.05.02.16	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 30, M-150, V-6	m ³	510.00		
08.05.02.17	13.4.3.5	Crossing slabs made of concrete MB 35, M-150, V-6	m ³	53.00		
08.05.02.18	13.4.3.4	Masking covers of cornices at footway level made of concrete, class II, MB 45, M-150, V-8.	m ³	130.00		
	13.4.4	Prestressed bridge constructions				
08.05.02.19	13.4.4	Prefabricated main girders made of prestressed concrete, class II MB 50, M-150, V-3	m ³	2,202.00		
08.05.02.20	13.4.4	Prestressed box bridge construction cast in situ. Concrete class II MB 45, M-150, V-3	m ³	2,516.00		
TOTAL CONCRETE WORKS:						
08.05.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.05.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	8,261.00		
08.05.03.02	13.5.2.1.	Reinforcement B500A	kg	1,540,662.00		
	13.5.2	Metal works in prestressed concrete * The price includes procurement, fixing and tensioning.				
08.05.03.03	13.5.2	Patented high-strength prestressing strands with all anchors, base plates and protective tubes for cables	kg	180,382.00		
08.05.03.04	13.6	Expansion joints - procurement and installation as designed (drawing No. 33).	m'	105.00		
08.05.03.05	13.7	S-7 gullies of cast iron, procurement and installation as designed.	pc.	52.00		
08.05.03.06	13.8	Steel bridge fences:				
08.05.03.07	13.8.2	- tubular fences or fences made of steel sections	kg	17,120.00		
08.05.03.08	13.9	Bridge bearings (procurement and installation as designed (drawing No. 33)				
		fixed end bearings	pc.	18.00		
		free end bearings movable in direction of bridge center line	pc.	16.00		
		bearings movable vertically to bridge centerline	pc.	42.00		
		bearings movable in both directions	pc.	28.00		
TOTAL METAL WORKS:						
08.05.04.	13.10	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.05.04.01	13.10.1	Concrete or stone curbs along the highway, 13/20 MB 40	m'	1,800.00		
08.05.04.02	13.10.2	Insulating coat on pavement top	m ²	9,336.00		
08.05.04.03	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	3,374.00		
08.05.04.04	13.10.4	Bituminous pavement base course, BNHS 16A, 5 cm thick	m ²	8,769.00		
08.05.04.05	13.10.4	Pavement wearing course of skeleton mastic asphalt SMA 0/11S, 4cm thick	m ²	8,769.00		
08.05.04.06	13.10.5	Trial loading of constructed bridge.		lump sum		
08.05.04.07	13.10.6	Photographing during bridge construction		lump sum		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.05.04.08	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	3,699.00		
08.05.04.09	13.11.1	Laying PVC pipes into footways (cat walks), Ø110 mm	m'	2,618.00		
08.05.04.10	13.11.2	Epoxy and polyurethane preservative on footways	m ²	2,269.00		
08.05.04.11	13.11.8	Construction of cementitious grouting mortar beds	m ²	67.00		
08.05.04.12	13.11.9 additional specifications	Steel plates embedded in girder at points where girders rest on bearings.	kg	2,171.00		
08.05.04.13	13.7.2	Cast iron pipes for gully water discharge including all fixing accessories.	m'	165.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

Summary bridge at km 876+973.313	
08.05.01 EARTH WORKS	
08.05.02 CONCRETE	
08.05.03 METALWORK	
08.05.04 FINISHING AND SUNDRY WORKS ON BRIDGES	
Total bridge at km 876+973.313:	

08.06. Bridge at km 877+386.56

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.06.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.06.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	830.00		
		- at depth of 2-4 m	m ³	468.00		
08.06.01.02	13.2.2	Extra for excavation of foundations with pumping of 30 lit/min - 120 lit/min water.	m ³	800.00		
08.06.01.03	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	480.20		
08.06.01.04	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	500.00		
08.06.01.05	13.2.9 additional specifications	Placing 80 cm thick cover protecting a gravel wedge made of gravel sand where top 30 cm shall be stabilized with cement and bottom 50 cm compacted in two layers to modulus of compressibility Ms=40 MPa. Payment per m ³ of compacted gravel.	m ³	98.00		
TOTAL EARTH WORKS:						
08.06.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.06.02.01	13.4.1	Plain concrete				
	13.4.1.3 additional specifications	Blinding layer, 10 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	43.10		
08.06.02.02	13.4.3	Reinforced concrete constructions				
	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	118.00		
08.06.02.03	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	149.20		
08.06.02.04	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m ³	21.60		
08.06.02.05	13.4.3.2	Abutment parapets constructed of concrete, class II, MB 30, M-150, V-6.	m ³	5.70		
08.06.02.06	13.4.3.3	Spanning bridge construction of reinforced concrete				
	13.4.3.3	Main plate girder made of reinforced concrete class II, MB 30, M-150,V-6.	m ³	250.40		
08.06.02.07	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 30, M-150, V-6	m ³	70.20		
08.06.02.08	13.4.3.5	Crossing slabs made of concrete MB 30, M-150, V-6	m ³	50.40		
08.06.02.09	13.4.3.4	Masking covers of cornices at footway level made of concrete, class II, MB 45, M-150, V-8.	m ³	2.91		
TOTAL CONCRETE WORKS:						
08.06.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.06.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	86,900.00		
08.06.03.02	13.8	Steel bridge fences:				
	13.8.2	- tubular fences or fences made of steel sections	kg	804.90		
TOTAL METAL WORK						
08.06.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.06.04.01	13.10.1	Concrete or stone curbs along the highway, 13/20 MB 40	m'	64.00		
08.06.04.02	13.10.2	Insulating coat on pavement top	m ²	279.10		
08.06.04.03	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	618.20		
08.06.04.04	13.10.4	Bituminous pavement base course, BNHS 16A, 5 cm thick	m ²	235.20		
08.06.04.05	13.10.4	Pavement wearing course of skeleton mastic asphalt SMA 0/11S, 4cm thick	m ²	235.20		
08.06.04.06	13.10.5	Trial loading of constructed bridge.	lump sum			
08.06.04.07			lump sum			
08.06.04.08	13.10.6	Photographing during bridge construction	lump sum			
08.06.04.09	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	128.00		
08.06.04.10	13.11.1	Laying PVC pipes into footways (cat walks), Ø110 mm	m'	122.40		
08.06.04.11	13.11.2	Epoxy and polyurethane preservative on footways	m ²	110.70		
08.06.04.12	13.11.6 additional specifications	Crashed stone revetment	m ³	89.10		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.06.04.13	13.11.8 additional specifications	Construction of cementitious grouting mortar beds	m ²	14.10		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

Summary bridge at km 877+386.56		
08.06.01	EARTH WORKS	
08.06.02	CONCRETE	
08.06.03	METALWORK	
08.06.04	FINISHING AND SUNDRY WORKS ON BRIDGES	
Total bridge km 877+386.56:		

08.07. Bridge at km 878+305.468

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.07.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.07.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	1,318.00		
		- at depth of 2-4 m	m ³	1,023.00		
		- at depth of 4-6 m	m ³	356.00		
08.07.01.02	13.2.2	Extra for excavation of foundations with pumping of 30 lit/min - 120 lit/min water.	m ³	1,000.00		
08.07.01.03	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	571.00		
08.07.01.04	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	988.60		
08.07.01.05	13.2.7 additional specifications	Placing the sub-base made of gravel and sand in 30 cm thick layers under foundation including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted gravel.	m ³	99.60		
08.07.01.06	13.2.9 additional specifications	Placing 80 cm thick cover protecting a gravel wedge made of gravel sand where top 30 cm shall be stabilized with cement and bottom 50 cm compacted in two layers to modulus of compressibility Ms=40 MPa. Payment per m ³ of compacted gravel.	m ³	224.50		
TOTAL EARTH WORKS:						
08.07.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.07.02.01	13.4.1.3 additional specifications	Blinding layer, 10 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	37.00		
08.07.02.02	13.1.4.1 additional specifications	Concrete layer for slope. Concrete class I MB 20.	m ³	10.00		
08.07.02.03	13.1.4.2	Protective concrete over waterproofing layer (MB20, 5cm) with galvanized mesh .	m ²	241.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.07.02.04	13.4.3	Reinforced concrete constructions				
	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	245.60		
08.07.02.05	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	199.20		
08.07.02.06	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m ³	38.50		
08.07.02.07	13.4.3.3	Spanning bridge construction of reinforced concrete				
	13.4.3.3	Main plate girder made of reinforced concrete class II, MB 30, M-150, V-6.	m ³	195.00		
08.07.02.08	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 30, M-150, V-6	m ³	8.23		
TOTAL CONCRETE WORKS:						
08.07.03.	13.5	METALWORK				
08.07.03.01	13.5.1	Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
		Ribbed rebars RA 400/500-2	kg	86,445.00		
		Metal works in prestressed concrete * The price includes procurement, fixing and tensioning.				
08.07.03.02	13.8.2	Steel bridge fences: - tubular fences or fences made of steel sections	kg	361.00		
TOTAL METAL WORK						
08.07.02.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
08.07.04.01	13.10.2	This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
		Insulating coat on pavement top	m ²	236.90		
08.07.04.02	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	674.50		
08.07.04.03	13.10.5	Trial loading of constructed bridge.		lump sum		
08.07.04.04	13.10.6	Photographing during bridge construction		lump sum		
08.07.04.05	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	16.60		
08.07.04.06	13.11.2	Epoxy and polyurethane preservative on footways	m ²	11.62		
08.07.04.07	13.11.6 additional specifications	Crashed stone revetment	m ³	69.10		
08.07.04.08	13.11.15 additional specifications	'Fugeband" tapes for sealing concrete connections	m'	147.84		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

Summary bridge at km 878+305.468					
08.07.01 EARTH WORKS					
08.07.02 CONCRETE					
08.07.03 METALWORK					
08.07.04 FINISHING AND SUNDRY WORKS ON BRIDGES					
Total bridge at km 878+305.468:					

08.08. Bridge at km 878+394.758

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.08.01	13.2	EARTH WORKS				
		Excavation for foundations				
08.08.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 2-4 m	m ³	1,697.00		
		- at depth of 4-6 m	m ³	2,536.00		
		- at depth over 6 m	m ³	1,479.00		
08.08.01.02	13.2.1	Excavation of foundations in V category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth over 6 m	m ³	372.00		
08.08.01.03	13.2.2	Extra for excavation of foundations with pumping of 30 lit/min - 120 lit/min water.	m ³	2,834.00		
08.08.01.04	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	3,210.00		
08.08.01.05	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	588.00		
08.08.01.06	13.2.8 additional specifications	Construction of end slope of material from the cutting or borrow pit including mechanical compaction in 30 cm thick layers, fully as designed. Payment per m ³ of compacted material.	m ³	197.00		
08.08.01.07	13.4.2	Construction of Ø120 cm piles with concrete, class MB 30, M-150, V-3. Payment per m' of completed pile.	m'	448.00		
TOTAL EARTH WORKS:						
08.08.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.08.02.01	13.4.1.3 additional specifications	Blinking layer, 10 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	64.58		
08.08.02.02	13.4.1.3 additional specifications	Plain concrete for open caissons. Class I MB 20	m ³	304.00		
	13.4.3	Reinforced concrete constructions				
08.08.02.03	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	1,052.60		
	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
08.08.02.04	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	249.00		
08.08.02.05	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m ³	28.50		
08.08.02.06	13.4.3.2	Abutment parapets constructed of concrete, class II, MB 30, M-150, V-6.	m ³	78.30		
08.08.02.07	13.4.3.2	Pedestrian cantilever walkway at abutment wing walls constructed of concrete, class II, MB 30, M-150, V-6.	m ³	10.53		
08.08.02.08	13.4.3.2	Masking covers of abutments and middle piers made of concrete, class II, MB 30, M-150, V-6.	m ³	7.84		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.08.02.09	13.4.3.2	Middle pier bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	334.90		
08.08.02.10	13.4.3.2	Bearing beams of middle piers made of concrete, class II, MB 30, M-150, V-6.	m ³	248.60		
08.08.02.11	13.4.3.2	Abutment and middle pier caps made of concrete, class II, MB 40, M-150, V-6.	m ³	11.56		
	13.4.3.3	Spanning bridge construction of reinforced concrete				
08.08.02.12	13.4.3.3	Cross girders made of reinforced concrete, class II, MB 50, M-150, V-6.	m ³	225.40		
08.08.02.13	13.4.3.3	Bridge deck over prefabricated girders made of reinforced concrete, class II, MB 50, M-150, V-6.	m ³	970.80		
08.08.02.14	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 40, M-150, V-6	m ³	145.00		
08.08.02.15	13.4.3.5	Crossing slabs made of concrete MB 30, M-150, V-6	m ³	42.10		
08.08.02.16	13.4.3.4	Masking covers of cornices at footway level made of concrete, class II, MB 45, M-150, V-8.	m ³	43.37		
	13.4.4	Prestressed bridge constructions				
08.08.02.17	13.4.4	Prefabricated main girders made of prestressed concrete, class II MB 50, M-150, V-3	m ³	984.00		
TOTAL CONCRETE WORKS:						
08.08.03	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions				
		* The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.08.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	804,697.70		
		Metal works in prestressed concrete				
		* The price includes procurement, fixing and tensioning.				
08.08.03.02	13.5.2	Patented high-strength prestressing strands with all anchors, base plates and protective tubes for cables	kg	65,368.00		
08.08.03.03	13.6	Expansion joints - procurement and installation as designed (drawing No. 33).	m'	52.00		
08.08.03.04	13.7	Gullies of cast iron, procurement and installation as designed.				
		S6	pc.	8.00		
		S9	pc.	8.00		
08.08.03.05	13.8	Steel bridge fences:				
08.08.03.06	13.8.2	- tubular fences or fences made of steel sections	kg	301.26		
	13.9	Bridge bearings				
		NAL-b-350x450x85	pc.	16.00		
		NAL-f-450x600x85	pc.	24.00		
TOTAL METAL WORK						
08.08.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works:				
		* The price includes procurement, construction and installation as designed.				
08.08.04.01	13.10.1	Concrete or stone curbs along the highway, 13/20 MB 40	m'	602.00		
08.08.04.02	13.10.2	Insulating coat on pavement top	m ²	3,013.00		
08.08.04.03	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	806.00		
08.08.04.04	13.10.4	Bituminous pavement base course, BNHS 16A, 5 cm thick	m ²	2,924.00		
08.08.04.05	13.10.4	Pavement wearing course of skeleton mastic asphalt SMA 0/11S, 4cm thick	m ²	2,924.00		
08.08.04.06	13.10.5	Trial loading of constructed bridge.	lump sum			

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.08.04.07	13.10.6	Photographing during bridge construction				
				lump sum		
08.08.04.08	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	1,308.00		
08.08.04.09	13.11.1	Laying PVC pipes into footways (cat walks), Ø110 mm	m'	451.50		
08.08.04.10	13.11.2	Epoxy and polyurethane preservative on footways	m ²	782.00		
08.08.04.11	13.11.8	Construction of cementitious grouting mortar beds	m ²	28.16		
08.08.04.12	13.11.9	Steel plates embedded in girder at points where girders rest on bearings.	kg	1,100.00		
08.08.04.13	13.7.2	Cast iron pipes for gully water discharge including all fixing accessories.	m'	110.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

Summary bridge at km 878+394.758					
08.08.01	EARTH WORKS				
08.08.02	CONCRETE				
08.08.03	METALWORK				
08.08.04	FINISHING AND SUNDRY WORKS ON BRIDGES				
Total bridge at km 878+394.758:					

08.15. Top slab culvert at km 879+770.542 and inlet structure

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.15.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.15.01.01	13.2.1	Excavation of foundations in IV category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	798.88		
		- at depth of 2-4 m	m ³	410.44		
		- at depth of 4-6 m	m ³	346.03		
		- at depth over 6 m	m ³	59.04		
08.15.01.02	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	242.92		
08.15.01.03	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	528.61		
08.15.01.04	13.2.7 additional specifications	Placing 80 cm thick cover protecting a gravel wedge made of gravel sand where top 30 cm shall be stabilized with cement and bottom 50 cm compacted in two layers to modulus of compressibility Ms=40 MPa. Payment per m ³ of compacted gravel.	m ³	115.96		
TOTAL EARTH WORKS:						
08.15.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
	13.4.1	Plain concrete				
08.15.02.01	13.4.1.3 additional specifications	Blinking layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	44.00		
08.15.02.02	13.1.4.1 additional specifications	Concrete layer for slope. Concrete class I MB 20.	m ³	102.96		
08.15.02.03	13.1.4.2	Protective concrete over waterproofing layer (MB20, 5cm) with galvanized mesh .	m ²	331.32		
	13.4.3	Reinforced concrete constructions				
08.15.02.04	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	160.81		
	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
08.15.02.05	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	95.18		
08.15.02.06	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m ³	13.76		
	13.4.3.3	Spanning bridge construction of reinforced concrete				
08.15.02.07	13.4.3.3	Main plate girder made of reinforced concrete class II, MB 30, M-150,V-6.	m ³	77.20		
08.15.02.08	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 30, M-150, V-6	m ³	0.97		
TOTAL CONCRETE WORKS:						
08.15.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions				
		* The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.15.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	33,918.00		
08.15.03.02	13.5.1	Welded mesh reinforcement MAG 500/560	kg	2,734.70		
	13.8	Steel bridge fences:				
08.15.03.03	13.8.2	- tubular fences or fences made of steel sections	kg	109.30		
TOTAL METAL WORK						
08.15.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.15.04.01	13.10.2	Insulating coat on pavement top	m ²	350.00		
08.15.04.02	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	1,041.20		
08.15.04.03	13.10.5	Trial loading of constructed bridge.				
				lump sum		
08.15.04.04	13.10.6	Photographing during bridge construction				
				lump sum		
08.15.04.05	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	7.60		
08.15.04.06	13.11.6 additional specifications	Crashed stone revetment	m ³	68.64		
08.15.04.07	13.11.15 additional specifications	'Fugeband" tapes for sealing concrete conexions	m'	13.50		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY TOP SLAB CULVERT AT km 879+770.542 AND INLET STRUCTURE			
08.15.01	EARTH WORKS		
08.15.02	CONCRETE		
08.15.03	METALWORK		
08.15.04	FINISHING AND SUNDRY WORKS ON BRIDGES		
TOTAL TOP SLAB CULVERT AT km 879+770.542 AND INLET STRUCTURE			

08.25. Inlet structure at km 876+531.38

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.25.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.25.01.01	13.2.1	Excavation of foundations in IV category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	26.65		
		- at depth of 2-4 m	m ³	32.00		
		- at depth of 4-6 m	m ³	32.00		
		- at depth over 6 m	m ³	43.32		
08.25.01.02	13.2.4	Backfilling with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	43.20		
TOTAL EARTH WORKS:						
08.25.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.25.02.01	13.4.1.3 additional specifications	Blinding layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	1.95		
	13.4.3	Reinforced concrete constructions				
08.25.02.02	13.4.3.1	Reinforced concrete for inlet structure Concrete class II MB 30, M-150, V-6.	m ³	36.31		
TOTAL CONCRETE WORKS:						
08.25.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.25.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	2,649.77		
08.25.03.02	13.5.1	Welded mesh reinforcement MAG 500/560	kg	1,755.75		
TOTAL METAL WORK						
08.25.04.	13.10	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.25.04.01	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	77.20		
08.25.04.02	13.10.10	Procurement, transport and instalation of metal rungs. Payment per pieces	pc.	30.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

Summary inlet structure at km 876+531.38	
08.25.01 EARTH WORKS	
08.25.02 CONCRETE	
08.25.03 METALWORK	
08.25.04 FINISHING AND SUNDRY WORKS ON BRIDGES	
TOTAL INLET at km 876+531.38	

<u>08. SUMMARY – Bridges</u>	
8.01 Bridge km 874+286.563	
8.02 Overpass at km 874+080.470	
8.03 Bridge at km 875+371.465	
8.04 Bridge at km 876+319.196	
8.05 Bridge at km 876+973.313	
8.06 Bridge at km 877+386.56	
8.07 Bridge at km 878+305.468	
8.08 Bridge at km 878+394.758	
8.15 Top slab culvert at km 879+770.542 and inlet structure	
8.25 Inlet structure at km 876+531.38	
SUB-TOTAL	
Unforeseen work (5% of sub-total)	
<u>TOTAL BRIDGES (8.):</u>	

PROTECTION WALL 1 LEFTWARDS from km 873+879.14 to km 874+109.76, L=224.0 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
10.01.01.		EARTH WORKS				
10.01.01.01.	3.2	Excavation of earth for foundations This item includes excavation of II category earth for Ø630 mm foundations with loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m3.	m ³	45.00		
TOTAL EARTH WORKS:						
10.01.02.		CONCRETE WORKS				
10.01.02.01.	8.3.6	Construction of prefabricated foundations with mB30 reinforced concrete This item includes procurement, transport and placing of prefabricated foundations, designed size: Ø600 mm, 2.50 m high including all related works. Measurement unit is piece.	piece	57.00		
10.01.02.02.	8.3.6	Construction and placing of 396x50x11 reinforced concrete sheet piles This item includes procurement, transport and placing of prefabricated sheet piles made of MB30 reinforced concrete, 396x50x11 in size. Measurement unit is piece.	piece	56.00		
TOTAL CONCRETE WORKS:						
10.01.03.		REINFORCEMENT WORKS				
10.01.03.01.	10.01.03.01.	Procurement and erection of HEA140 steel posts Price includes procurement, transport, assembly and erection of steel posts made of HEA140 sections including all related works. Measurement unit is kg.	kg	5,965.05		
TOTAL REINFORCEMENT WORKS:						
10.01.04.		SUNDRIES				
10.01.04.01.	10.01.04.01.	Procurement and placing of absorptive sheet piles This item includes procurement, transport and placing of absorptive sheet piles, 396x50x11 in size. Measurement unit is piece.	piece	362.00		
TOTAL SUNDRIES:						

10.01. SUMMARY PROTECTION WALL 1-LEFTWARDS, from km 873+879.14 to km 874+ 109.76, L=224.0m

10.01.01. EARTH WORKS	
10.01.02. CONCRETE WORKS	
10.01.03. REINFORCEMENT WORKS	
10.01.04. SUNDRIES	
<i>TOTAL PROTECTION WALL 1-LEFTWARDS, from km 873+879.14 to km 874+ 109.76, L=224.0m (10.01.):</i>	

10.02. PROTECTION WALL 2 –LEFTWARDS, from km 877+564.60 to km 878+163.76, L=604.0m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
10.02.01.		EARTH WORKS				
10.02.01.01.	3.2	Excavation of earth for foundations This item includes excavation of II category earth for Ø630 mm foundations with loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m3.	m ³	120.00		
10.02.01.02.	3.4.1.3	Filling and leveling of stone aggregate This item includes filling and leveling of stone aggregate between reinforced concrete sheet piles and pavement edge. Measurement unit is m3.	m ³	98.00		
TOTAL EARTH WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
10.02.02.		CONCRETE WORKS				
10.02.02.01.	8.3.6	Construction of prefabricated foundations with mB30 reinforced concrete This item includes procurement, transport and placing of prefabricated foundations, designed size: Ø600 mm, 2.50 m high including all related works. Measurement unit is piece.	piece	152.00		
10.02.02.02.	8.3.6	Construction and placing of 396x50x11 reinforced concrete sheet piles This item includes procurement, transport and placing of prefabricated sheet piles made of MB30 reinforced concrete, 396x50x11 in size. Measurement unit is piece.	piece	151.00		
TOTAL CONCRETE WORKS:						
10.02.03.		REINFORCEMENT WORKS				
10.02.03.01.	10.02.03.01.	Procurement and erection of HEA140 steel posts Price includes procurement, transport, assembly and erection of steel posts made of HEA140 sections including all related works. Measurement unit is kg.	kg	15,412.85		
TOTAL REINFORCEMENT WORKS:						
10.02.04.		SUNDRIES				
10.02.04.01.	10.02.04.01.	Procurement and placing of absorptive sheet piles This item includes procurement, transport and placing of absorptive sheet piles, 396x50x11 in size. Measurement unit is piece.	piece	916.00		
TOTAL SUNDRIES:						

10.02. SUMMARY PROTECTION WALL 2 –LEFTWARDS, from km 877+564,60 to km 878+163,76, L=604.0m						
10.02.01. EARTH WORKS						
10.02.02. CONCRETE WORKS						
10.02.03. REINFORCEMENT WORKS						
10.02.04. SUNDRIES						
<u>TOTAL PROTECTION WALL 2 –LEFTWARDS, from km 877+564,60 to km 878+163,76, L=604.0m(10.02.):</u>						

10. SUMMARY –ENVIRONMENTAL PROTECTION -PROTECTION WALLS						
10.01. WALL 1 LEFTWARDS from km 873+879,14 to km 874+109,76, L=224m						
10.02. WALL 2 LEFTWARDS from km 877+564,60 to km 878+163,76, L=604m						
SUB-TOTAL						
Unforeseen work (5% of sub-total)						
<u>TOTAL ENVIRONMENTAL PROTECTION -PROTECTION WALLS (10.):</u>						

11. Traffic-technical and service equipment for roads

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
11.01.		ELEMENTS OF TRAFFIC SIGNS AND				
11.01.01.		Reflective traffic sign with mounting accessories, class 3:				
OPEN SECTION						
11.01.01.01	12.1,12.2,3	I-20 1200x1200x1200mm	pcs.	2		
11.01.01.02	12.1,12.2,3	I-24 + 2 fleshers 1650x1400mm	pcs.	1		
11.01.01.03	12.1,12.2,3	I-24 1500x1400mm	pcs.	1		
11.01.01.04	12.1,12.2,3	II-29 ø900mm	pcs.	2		
11.01.01.05	12.1,12.2,3	II-30 (80) ø900mm	pcs.	2		
11.01.01.06	12.1,12.2,3	II-30 (100) ø900mm	pcs.	2		
11.01.01.07	12.1,12.2,3	III-26 ø900mm	pcs.	2		
11.01.01.08	12.1,12.2,3	III-17.1 400x200mm	pcs.	14		
11.01.01.09	12.1,12.2,3	III-56 (1) 1400x1200mm	pc.	1		
11.01.01.11	12.1,12.2,3	III-58 2100x1200mm	pcs.	13		
11.01.01.12	12.1,12.2,3	3T3-1 2900x3200mm	pc.	1		
11.01.02.01	12.4	φ 60 x 2300 mm	pcs.	14		
11.01.02.02		post sign	pcs.	4		
TRAFFIC SIGNS AND SIGNALS						
11.02.		ELEMENTS OF ROAD MARKINGS				
OPEN SECTION						
11.02.01.	12.5	continuous line (0.20m)	m ²	2,303.70		
11.02.02.		vibro continuous line (0.20m)	m ²	2,303.70		
11.02.03.		broken line, type C (0.2m) 6-12m	m ²	1,007.87		
ROAD MARKINGS						
11.03.		TRAFFIC EQUIPMENT - delivery + full installation				
OPEN SECTION						
11.3.01.	12.6	Double sided distance barrier H2W7 assembly-type	m	96		
11.3.02.		Single sided distance barrier H1W4* on the road	m	28		
11.3.03.		Single sided distance barrier H1W5	m	14710		
11.3.04.		Sleeves for single sided distance barrier H1W5 assembly-type	m	312		
11.3.05.		Single sided distance barrier H2W3	m	8		
11.3.06.		Single sided distance barrier H2W4	m	2120		
11.3.07.		Single sided distance barrier H2W4* on object	m	4616		
11.3.11.		Single sided barrier	m	8		
11.3.09.		Single sided distance barrier H1W5-H2W4 crossing	pcs.	47		
11.3.10.		Direction sign	pcs.	84		
11.3.11.		Retroreflecting stud on safety barrier	pcs.	1150		
11.3.12.		Oblique ending of single-sided distance barrier, 12m	pcs.	11		
TRAFFIC EQUIPMENT						

11. Summary – Traffic-technical and service equipment for roads

11.01.01.	TRAFFIC SIGNS AND SIGNALS	
11.01.02.	ROAD MARKINGS	
11.01.03.	TRAFFIC EQUIPMENT	
SUB-TOTAL		
Unforeseen work (5% of sub-total)		
<i>Total Traffic-technical and service equipment for roads:</i>		1-139

14. Landscaping of road land strip

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
14.01.00	14.01.00	LANDSCAPING				
14.01.01.	14.01.01.	Procurement and planting of 8-10 year old plantlets of high conifers. Cylindrical planting pits, 1.00x1.00 m shall be excavated, detritus, barren soil and other damaging substances removed from the pit and plantlets bedded with mix of humus, peat fertilizer and sand in approximate proportion 6:3:1 to 2/3 of pit volume. The top third of pit shall be enriched with peat fertilizer of prescribed quantity (20 kg per plantlet). Sand content in the mix depends on soil substrate structure. After planting ground shall be bowl-shaped and plantlets abundantly watered. Other operations shall be performed in accordance with attached General conditions of landscaping.				
		PINUS NIGRA	pcs.	22		
14.01.02.	14.01.02.	Procurement and planting of 10-12 year old plantlets of high deciduous trees. Cylindrical planting pits, 1.00x1.00 m shall be excavated, detritus, barren soil and other damaging substances removed from the pit and plantlets bedded with mix of humus, peat fertilizer and sand in approximate proportion 6:3:1 to 2/3 of pit volume. The top third of pit shall be enriched with peat fertilizer of prescribed quantity (25 kg per plantlet). Sand content in the mix depends on soil substrate structure. Plantlets shall be fixed to rod of specified height with rounded top placed prior to covering up the clods taking care not to damage the root system. After planting ground shall be bowl-shaped and plantlets abundantly watered. Other operations shall be performed in accordance with attached General conditions of landscaping				
		TILIA ARGENTEA	pcs.	15		
		ACER PLATANOIDES	pcs.	3		
		FRAIXINUS ANGUSTIFOLIA	pcs.	17		
14.01.03.	14.01.03.	Procurement and planting of 6-8 year old plantlets of medium high conifers. Cylindrical planting pits, 0.80x0.80 m shall be excavated, detritus, barren soil and other damaging substances removed from the pit and plantlets bedded with mix of humus, peat fertilizer and sand in approximate proportion 6:3:1 to 2/3 of pit volume. The top third of pit shall be enriched with peat fertilizer of prescribed quantity (10 kg per plantlet). Sand content in the mix depends on soil substrate structure. After planting ground shall be bowl-shaped and plantlets abundantly watered. Plantlets shall be baled for transport to prevent drying of root system. Other operations shall be performed in accordance with attached General conditions of landscaping.				
		TAXUS BACCATA	pcs.	11		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
14.01.04.	14.01.04.	Procurement and planting of 6-8 year old plantlets of medium high and small deciduous trees. Cylindrical planting pits, 0.80x0.80 m shall be excavated, detritus, barren soil and other damaging substances removed from the pit and plantlets bedded with mix of humus, peat fertilizer and sand in approximate proportion 6:3:1 to 2/3 of pit volume. The top third of pit shall be enriched with peat fertilizer of prescribed quantity (15 kg per plantlet). Sand content in the mix depends on soil substrate structure. After planting ground shall be bowl-shaped and plantlets abundantly watered. Plantlets shall be baled for transport to prevent drying of root system. Other operations shall be performed in accordance with attached General conditions of landscaping.				
		CRATAEGUS NIGRA	pcs.	18		
		ACER CAMPESTRE	pcs.	17		
		FRAXINUS ORNUS	pcs.	15		
		PRUNUS CERASIFERA "NIGRA"	pcs.	24		
		SAMBUCUS NIGRA	pcs.	61		
		ELEAGNUS ANGUSTIFOLIA	pcs.	40		
		CORNUS MAS "VARIEGATA"	pcs.	35		
		COTINUS COGGYGRIA	pcs.	14		
		SYRINGA VULGARIS	pcs.	90		
14.01.05.	14.01.05.	Procurement and planting of 3-5 year old plantlets of deciduous shrubs and creepers. Cylindrical planting pits, 0.4x0.4 m shall be excavated and plantlets bedded by using mix of humus, peat fertilizer and sand in approximate proportion 6:3:1 to 2/3 of pit volume. The top third of pit shall be enriched with peat fertilizer of prescribed quantity (3 kg per plantlet). Sand content in the mix depends on soil substrate structure. Appropriate number of plantlets shall be bedded in the area of one m2 depending on the sort. Other operations shall be performed in accordance with attached General conditions of landscaping.				
		CORNUS ALBA	pcs.	252		
		CORNUS SANGUINEA	pcs.	446		
		TAMARIX PENTANDRA	pcs.	282		
		PHILADELPHUS CORONARIUS	pcs.	252		
		SPIRAEA X VANHOUTTEI	pcs.	410		
		ROSA RUGOSA	pcs.	376		
		FORSYTHIA X INTERMEDIA	pcs.	1026		
		LONICERA CAPRIFOLIUM	pcs.	114		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
14.01.06.	14.01.06.	Procurement and planting of 3-5 year old plantlets of evergreen shrubs. Cylindrical planting pits, 0.4x0.4 m shall be excavated and plantlets bedded by using mix of humus, peat fertilizer and sand in approximate proportion 6:3:1 to 2/3 of pit volume. The top third of pit shall be enriched with peat fertilizer of prescribed quantity (3 kg per plantlet). Sand content in the mix depends on soil substrate structure. Appropriate number of plantlets shall be bedded in the area of one m2 depending on the sort. Other operations shall be performed in accordance with attached General conditions of landscaping.				
		PRUNUS LAUROCERASUS	pcs.	523		
		PYRACANTHA COCCINEA	pcs.	164		
		VIBURNUM RHYTIDOPHILLUM	pcs.	115		
TOTAL LANDSCAPING:						
14.02.00.	14.02.00.	MAINTENANCE				
14.02.01.	14.02.01.	Capital maintenance of green areas includes all greenery maintenance and cultivation operations, watering, sprinkler irrigation, hoeing, formation (pruning) of hedge, lawn cut and protection of plants against entomological and phytopathological damages. It amounts to 20% approximately of landscaping investment value for one year period.				
				lump sum		
TOTAL MAINTENANCE:						

Summary Landscaping of road land strip (14.):					
14.01.00 LANDSCAPING					
14.02.00 MAINTENANCE					
SUB-TOTAL					
Unforeseen work (5% of sub-total)					
<u>TOTAL Landscaping of road land strip (14.):</u>					

Technical infrastructure
DESIGN FOR DISPLACEMENT AND PROTECTION OF 10 kV AND 1 kV POWER LINES

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.00.00		10 kV, Al/C 3x50/8 mm² overhead line "Grdelica - Palojce" - spur line to Graovo at km 876+577				
01.01.00		CIVIL WORKS				
01.01.01	01.01.01	Dismantling of the existing old masts which are out of function (2 pcs.) and 3 new concrete masts including transport to the nearest warehouse directed by the Investor (up to distance of 5 km).	pcs.	5.00		
01.01.02	16.2.2.	Construction of reinforced concrete foundation for the new steel lattice mast 12/1900. The item includes the following works:				
01.01.02.01	16.2.2.	EARTH WORKS				
		Excavation of III category earth including all needed supports and transport to stockpiling area. Payment per m ³ of "net" excavated earth within outer dimensions of the structure.	m ³	27.00		
		Backfilling of over-excavated area with earth in 30 cm thick layers including compaction of each layer to modulus of compressibility Ms=30 MPa and backfilling of abandoned manholes. Payment per m ³ of compacted earth.	m ³	16.00		
01.01.02.02	16.2.2.	WORKS ON PLAIN AND REINFORCED CONCRETE				
		Foundation of reinforced concrete MB 30, V-6 impermeability and m-150 frost resistance.	m ³	11.00		
01.01.02.03	16.2.2.	REINFORCEMENT WORKS				
		Measurement includes all labor, procurement and transport, wire-brushing, cutting, mechanical bending and fixing of reinforcing bars according to designed details and quality. Payment per kg of fixed reinforcing bars. RA 400/500-2.	kg	690.00		
		Total construction of foundation for steel lattice mast 12/19000 and laying of Ø110 pipes for cables. All materials and work included.	complete	2.00		
TOTAL CIVIL WORKS:						
01.02.00		Electrical and installation works				
01.02.01	01.02.01	Dismantling of the existing mast equipment and Al/C conductor as well as transport to the nearest warehouse as directed by the Investor (up to distance of 5 km).	complete	3.00		
01.02.02	01.02.02	Delivery and erection of new steel lattice mast EBB 12/1900 according to supplier's erection plan. The mast shall be delivered together with suitable tension cantilevers for semi-vertical arrangement of conductors in the mast top section including all needed supports for equipment to be mounted onto mast. All materials and work included.	pcs.	2.00		
01.02.03	16.2.4.8.	Installation of earth electrode for the mast. The item includes earth excavation, procurement and installation of Ø10 mm earth electrode of galvanized iron. The earth electrode shall have two rings: one ring will be placed at depth of 0.5 m and at distance of 1 m from the mast edge while the other ring will be placed at depth of 0.8-1 m and at distance of 2 m at least from the mast edge, as shown on the drawing. All materials and work included.	complete	2.00		
01.02.04	16.2.4.8. 16.2.4.5.	The following equipment shall be delivered and mounted onto newly designed 12/1900 steel lattice mast: - double tension insulator string with long rod insulators, 10 kV - 3 pcs. - single tension insulator string with long rod insulators, 10 kV - 3 pcs. Other accessories necessary for fixing equipment to supports. All materials and work included.	complete	2.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.02.05	01.02.05	Delivery, mounting and tensioning of Al/C 3x50/8 mm2 strand to newly designed steel lattice masts. All materials and work included.	m	150.00		
01.02.06	01.02.06	Control of performed works, carrying out all required tests and issuing relevant certificates and putting into operation.		lump sum		
01.02.07	01.02.07	Switching off the voltage and safeguarding the site.		lump sum		
TOTAL ELECTRICAL AND INSTALLATION WORKS:						

Summary 10 kV, Al/C 3x50/8 mm2 overhead line "Grdelica - Palojce" - spur line to Graovo		
01.01.00	TOTAL CIVIL WORKS:	
01.02.00	TOTAL ELECTRICAL AND INSTALLATION WORKS:	
TOTAL 10 kV, Al/C 3x50/8 mm2 overhead line "Grdelica - Palojce" - spur line to Graovo		

Note: After visual inspection of functional reinforced concrete mast located on the left in the crossing span, it was found out that the mast is in very good order. However, since data about the above-mentioned mast are not available and it was not possible to prove that the mast is satisfactory, the design engineer decided to replace it with a new steel lattice mast. If the Contractor, in coordination with representatives of ED Leskovac, obtains all required data and proves that the existing reinforced concrete mast is satisfactory, there is no need for its replacement.

35 kV transmission line Grdelica - Predejane

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
2		CIVIL WORKS				
2.1	16.3.4.	Preliminary and finishing works				
2.1.1	16.3.4	Establishment of site, construction and repair of access roads, preparation of ground at mast support points, control and inspection of performed works. Measurement: lump sum		lump sum		
Total preliminary and finishing works:						
2.2	16.2.2	Earth works				
2.2.1	16.2.2	Excavation of II and III category earth for mast foundations. Measurement per m3	m ³	847.47		
2.2.2	16.2.2	Compaction of earth around foundations in 30 cm thick layers and necessary wetting. Measurement per m3	m ³	460.45		
2.2.3	16.2.2	Haulage of earth after ground leveling at mast support points. Measurement per m3	m ³	235.50		
Total earth works:						
2.3	16.2.2	Works on plain and reinforced concrete with reinforcing bars				
2.3.1	16.2.2	Casting in situ of mast foundations with concrete, MB 20 class. Necessary formwork and reinforcing bars are given separately. Measurement per m3 of concrete	m ³	363.03		
2.3.2	16.2.2	Procurement, transport, straightening, wire-brushing, cutting, bending and fixing of ribbed reinforcing bars G.A. 240/360 Measurement per kg of reinforcing bars	kg	7,339.00		
Total Works on plain and reinforced concrete with reinforcing bars						
2.4	16.2.2	Carpentry works				
2.4.1	16.2.2	Fabrication, placing and dismantling of foundation formwork (30% of needed formwork measured) Measurement per m2	m ²	142.00		
Total carpentry works:						
2.5	16.3.2.	Steel structure				
2.5.1	16.3.2	Procurement and assembly of galvanized steel structure with all necessary connection pieces. The unit price includes trial mast erection. Measurement per one tone of structure	t	40.972		
2.5.2	16.3.2	Taking over and transport of structural members to the site. Measurement per one tone of structure	t	40.972		
2.5.3	16.3.2	Sorting and transport of structural members to the mast support point. Measurement per one tone of structure	t	40.972		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
2.5.4	16.3.2	Centering of mast anchors prior to grouting with concrete. <u>Measurement per one mast</u>	pcs.	29.00		
2.5.5	16.3.2	Assembly and erection of masts. The price includes applying of zincolite coat over all overlaps in joints. <u>Measurement per one tone of structure</u>	t	40.972		
Total steel structure:						
2.6		Earthing				
2.6.1	2.6.1	Installation of earth electrode made of galvanized round steel bars, Φ 10 mm, according to designed details and drawing including all needed materials and works. <u>Measurement per one mast</u>	pcs.	29.00		
Total earthing:						
2.7		Dismantling and removal of the existing masts				
2.7.1	2.7.1	Dismantling of the existing conductor 3 x strand Cu 35 mm ² and transport to warehouse. <u>Measurement per km of the existing route.</u>	km	4.241		
2.7.2	2.7.2	Dismantling of insulator strings and transport to warehouse. <u>Measurement per one mast</u>	pcs.	51.00		
2.7.3	2.7.3	Dismantling of the existing wooden masts and transport to warehouse. <u>Measurement per one mast</u>	pcs.	49.00		
2.7.4	2.7.4	Dismantling of the existing steel lattice masts and transport to warehouse. <u>Measurement per one mast.</u>	pcs.	2.00		
2.7.5	2.7.5	Demolition of the existing steel lattice mast foundations to depth of 1 m and ground leveling. <u>Measurement per one mast</u>	pcs.	2.00		
Total dismantling:						
3.1	16.3.3.	Equipment and materials				
3.1.1	16.3.3	Strand SRPS (JUS) N.C1.351-95/15-Al/Č (26x1.85+7x1.44)	kg	5,270.00		
3.1.2	16.3.3	Rod insulators L70 BE 310	pcs.	87.00		
3.1.3	16.3.3	Rod insulators L70 BE 380	pcs.	72.00		
3.1.4	16.3.3	Fittings for JN insulator string	pcs.	30.00		
3.1.5	16.3.3	Fittings for DNp insulator string	pcs.	18.00		
3.1.6	16.3.3	Fittings for JZ insulator string	pcs.	57.00		
3.1.7	16.3.3	Fittings for JZp insulator string	pcs.	6.00		
3.1.8	16.3.3	Fittings for DZp insulator string	pcs.	15.00		
3.1.9	16.3.3	Weight 25 kg (to be applied on the mast No. 19)	pcs.	3.00		
3.1.10	16.3.3	Plates for marking phases.	pcs.	39.00		
3.1.11	16.3.3	Warning plate with mast number.	pcs.	29.00		
Total equipment and materials:						
3.2	16.3.3.	Works				
3.2.1	16.3.3	Transport of equipment and materials from warehouse to mast support points.	lump sum			
3.2.2	16.3.3	Acceptance and sorting of electrical equipment and materials on the site (according to the bill of quantities)	lump sum			
3.2.3	16.3.3	Reinforcing of masts, mounting of insulator strings	mast	29.00		
3.2.4	16.3.3	Pulling out of conductors	km	4.322		
3.2.5	16.3.3	Tensioning of conductors	km	4.322		
3.2.7	16.3.3	Insertion of electric bridges onto tension masts	mast	13.00		
3.2.8	16.3.3	Mounting of warning plates	pcs.	29.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
3.2.9	16.3.3	Mounting of plates for marking phases	pcs.	39.00		
3.2.10	16.3.3	Measurement of earthing resistance of masts	pcs.	29.00		
Total works:						

Summary 35 kV transmission line Grdelica - Predejane		
2.1	Preliminary and finishing works	
2.2	Earth works	
2.3	Works on plain and reinforced concrete with reinforcing bars	
2.4	Carpentry works	
2.5	Steel structure	
2.6	Earthing	
2.7	Dismantling and removal of the existing masts	
3.1	Equipment and materials	
3.2	Works	
TOTAL 35 kV transmission line Grdelica - Predejane		

DESIGN FOR DISPLACEMENT AND PROTECTION OF THE EXISTING TELECOMMUNICATION SYSTEM

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
Note: All items referred to material include its delivery.						
12.5.01.00	COLLISION 1 - OVERLAPPING OF THE EXISTING TELECOMMUNICATION OPTIC CABLE AND THE PLANNED HIGHWAY ALIGNMENT from 874+415.00 km to 875+365.00 km					
Collision 1 - material						
12.5.01.01	15.4.1.	Straight splice for optic cable with splice cassette for 48 fibers, necessary material, holder and heat shrink pipe.	pcs.	2.00		
12.5.01.02	15.4.1.	Optic cable, type TOSM 03 (8x6)xIIx0.4x3.5 CMAN	m	955.00		
12.5.01.03	15.4.1.	PE hose, Ø40	m	1,910.00		
12.5.01.04	15.4.1.	PVC pipe, 1xØ110	m	56.00		
12.5.01.05	15.4.1.	Plug for pipe, Ø40 mm	pcs.	4.00		
12.5.01.06	15.4.1.	Plug for pipe, Ø110 mm	pcs.	4.00		
12.5.01.07	15.4.1.	PVC cable shield, 1 m	pcs.	955.00		
12.5.01.08	15.4.1.	Concrete post for marking straight cable route	pcs.	10.00		
12.5.01.09	15.4.1.	Concrete post for marking turning points in cable route	pcs.	5.00		
12.5.01.10	15.4.1.	Identification and warning tape with aluminum backing	m	955.00		
12.5.01.11	15.4.1.	Sand	m³	171.90		
TOTAL COLLISION 1 - material:						
Collision 1 – works						
12.5.01.12	15.4.2.2.	Routing	m	955.00		
12.5.01.13	12.5.01.13	Detection of the existing cable routes by cable detector and pegging out.	m	990.00		
12.5.01.14	15.4.2.2.	Manual excavation of 0.6 m x 1.2 m trench in III category earth	m	955.00		
12.5.01.15	15.4.2.2.	Backfilling of 0.6 m x 1.2 m trench and compaction of earth in layers	m	955.00		
12.5.01.16	15.4.2.2.	Spreading of sand in trench	m	955.00		
12.5.01.17	15.4.2.3.	Placing 50 cm thick sand layer onto cable splices	pcs.	2.00		
12.5.01.18	15.4.2.2.	Laying of Ø40 mm pipe into excavated trench	m	1,910.00		
12.5.01.19	12.5.01.19	Plugging of Ø40 mm pipe	pcs.	4.00		
12.5.01.20	15.4.2.3.	Placing concrete post for marking pipe ends and turning points in cable route.	pcs.	15.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
12.5.01.21	15.4.2.3.	Excavation and backfilling of trench enlargements for cable splicing along with planting concrete post and placing two PVC shields	pcs.	2.00		
12.5.01.22	15.5.1.	Drawing optic cable through pipe	m	955.00		
12.5.01.23	12.5.01.23	Straight cable splicing in trench on optic cable of 48 fibers	pcs.	2.00		
12.5.01.24	15.5.2.	Electrical measurements on optic cable prior to cable laying	pc.	1.00		
12.5.01.25	15.5.2.	Electrical measurements on optic cable after cable splicing	pc.	1.00		
12.5.01.26	12.5.01.26	Preparation of as-built technical documentation	m	955.00		
12.5.01.27	12.5.01.27	Geodetic surveys and mapping up to 1 km	m	955.00		
12.5.01.28	15.4.1.	Placing identification and warning tape with aluminum backing	m	955.00		
TOTAL COLLISION 1 - works:						
TOTAL COLLISION 1 - material+works:						
12.5.02.00	COLLISION 2 - OVERLAPPING OF THE EXISTING TELECOMMUNICATION OPTIC CABLE AND THE PLANNED HIGHWAY ALIGNMENT from 878+750.00 km to 879+100.00 km					
Collision 2 – material						
12.5.02.01	15.4.1.	Straight splice for optic cable with splice cassette for 48 fibers, necessary material, holder and heat shrink pipe.	pcs.	2.00		
12.5.02.02	15.4.1.	Optic cable, type TOSM 03 (8x6)xIIx0.4x3.5 CMAN	m	700.00		
12.5.02.03	15.4.1.	PE hose, Ø40	m	680.00		
12.5.02.04	15.4.1.	Plug for pipe, Ø40 mm	pcs.	4.00		
12.5.02.05	15.4.1.	PVC cable shield, 1 m	pcs.	340.00		
12.5.02.06	15.4.1.	Concrete post for marking straight cable route	pcs.	3.00		
12.5.02.07	15.4.1.	Concrete post for marking turning points in cable route	pcs.	2.00		
12.5.02.08	15.4.1.	Identification and warning tape with aluminum backing	m	700.00		
12.5.02.09	15.4.1.	Sand	m³	61.20		
TOTAL COLLISION 2 - material:						
Collision 2 – works						
12.5.02.10	15.4.2.2.	Routing	m	340.00		
12.5.02.11	12.5.02.11	Detection of the existing cable routes by cable detector and pegging out.	m	715.00		
12.5.02.12	15.4.2.2.	Manual excavation of 0.6 m x 1.2 m trench in III category earth	m	340.00		
12.5.02.13	15.4.2.2.	Backfilling of 0.6 m x 1.2 m trench and compaction of earth in layers	m	340.00		
12.5.02.15	15.4.2.2.	Spreading of sand in trench	m	340.00		
12.5.02.16	15.4.2.3.	Placing 50 cm thick sand layer onto cable splices	pcs.	2.00		
12.5.02.17	15.4.2.2.	Laying of Ø40 mm pipe into excavated trench	m	680.00		
12.5.02.18	12.5.02.18	Plugging of Ø40 mm pipe	pcs.	4.00		
12.5.02.19	15.4.2.3.	Placing concrete post for marking pipe ends and turning points in cable route.	pcs.	5.00		
12.5.02.20	15.4.2.3.	Excavation and backfilling of trench enlargements for cable splicing along with planting concrete post and placing two PVC shields	pcs.	2.00		
12.5.02.21	15.5.1.	Drawing optic cable through pipe	m	700.00		
12.5.02.22	12.5.02.22	Straight cable splicing in trench on optic cable of 48 fibers	pcs.	2.00		
12.5.02.23	12.5.02.23	Pulling the existing cable out from pipe	m	340.00		
12.5.02.24	12.5.02.24	Joining new PE hoses, Ø40 to the existing ones	pcs.	4.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
12.5.02.25	15.5.2.	Electrical measurements on optic cable prior to cable laying	pc.	1.00		
12.5.02.26	15.5.2.	Electrical measurements on optic cable after cable splicing	pc.	1.00		
12.5.02.27	12.5.02.27	Preparation of as-built technical documentation	m	955.00		
12.5.02.28	12.5.02.28	Geodetic surveys and mapping up to 1 km	m	955.00		
12.5.02.29	15.4.1.	Placing identification and warning tape with aluminum backing	m	955.00		
TOTAL COLLISION 2 - works:						
TOTAL COLLISION 2 - material+works:						
12.5.03.00	COLLISION 3 - THE EXISTING TELECOMMUNICATION OPTIC CABLE RUNNING IN PARALLEL WITH PLANNED HIGHWAY ALIGNMENT from 879+475.00 km to 879+625.00 km					
Collision 3 – material						
12.5.03.01	15.4.1.	PVC pipe, 1xØ110	m	320.00		
12.5.03.02	15.4.1.	Plug for pipe, Ø40 mm	pcs.	4.00		
12.5.03.04	15.4.1.	Comb for two pipes, Ø110 mm	pcs.	20.00		
12.5.03.05	15.4.1.	PVC cable shield, 1 m	pcs.	160.00		
12.5.03.06	15.4.1.	Concrete post for marking straight cable route	pcs.	2.00		
12.5.03.07	15.4.1.	Concrete post for marking turning points in cable route	pcs.	2.00		
12.5.03.08	15.4.1.	Identification and warning tape with aluminum backing	m	160.00		
12.5.03.09	15.4.1.	Sand	m³	28.80		
TOTAL COLLISION 3 - material:						
Collision 3 – works						
12.5.03.10	15.4.2.2.	Routing	m	160.00		
12.5.03.11	12.5.03.11	Detection of the existing cable routes by cable detector and pegging out.	m	160.00		
12.5.03.12	15.4.2.2.	Manual excavation of 0.6 m x 1.2 m trench in III category earth	m	160.00		
12.5.03.13	15.4.2.2.	Backfilling of 0.6 m x 1.2 m trench and compaction of earth in layers	m	160.00		
12.5.03.14	12.5.03.14	Placing combs into trench	pcs.	20.00		
12.5.03.15	15.4.2.2.	Spreading of sand in trench	m	160.00		
12.5.03.16	15.4.2.2.	Laying and casing the existing Ø40 PE hoses into Ø110 pipes in excavated trench	m	320.00		
12.5.03.17	12.5.03.17	Plugging of Ø110 mm pipe	pcs.	4.00		
12.5.03.18	15.4.2.3.	Placing concrete post for marking pipe ends and turning points in cable route.	pcs.	4.00		
12.5.03.19	15.5.2.	Electrical measurements on optic cable after protection	pc.	1.00		
12.5.03.20	12.5.03.20	Preparation of as-built technical documentation	m	160.00		
12.5.03.21	12.5.03.21	Geodetic surveys and mapping up to 1 km	m	160.00		
12.5.03.22	15.4.1.	Placing identification and warning tape with aluminum backing	m	955.00		
TOTAL COLLISION 3 - works:						
TOTAL COLLISION 3 - material+works:						

Summary DESIGN FOR DISPLACEMENT AND PROTECTION OF THE EXISTING TELECOMMUNICATION SYSTEM		
12.5.01.00	COLLISION 1	
12.5.02.00	COLLISION 2	
12.5.03.00	COLLISION 3	
TOTAL DESIGN FOR DISPLACEMENT AND PROTECTION OF THE EXISTING TELECOMMUNICATION SYSTEM		

Design for displacement and protection of the existing water supply network

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
12.7/7.01.00.		PRELIMINARY WORKS				
12.7/7.01.01.	2.2	Setting out the route.	m ¹	415.00		
TOTAL PRELIMINARY WORKS						
12.7/7.02.00.		EARTH WORKS				
12.7/7.02.01.	4.1.3.1	Mechanical and manual trench excavation in III category soil for laying of water pipes. 80% mechanical excavation	m ³	332.50		
		20% hand excavation	m ³	83.00		
12.7/7.02.02.	4.4.1	Excavation for water manholes. 80% mechanical excavation	m ³	12.50		
		20% hand excavation	m ³	3.12		
12.7/7.02.03.	4.1.3.2	Procurement, transport and placing of sand underneath, at sides and on top of pipes.	m ³	85.00		
12.7/7.02.04.		Backfilling of pipes with excavated earth.	m ³	261.00		
12.7/7.02.05.	4.4.1.2	Haulage of remaining excavated earth.	m ³	154.50		
12.7/7.02.06.	12.7/7.02.06.	Pumping water out of trench.	h	4.00		
TOTAL EARTH WORKS						
12.7/7.03.00.		INSTALLATION WORKS				
12.7/7.03.01.	12.7/7.03.01.	Procurement, transport, carrying along trench and installation of water pipes for 10 bar NP as designed. PEHD - polyethylene pipes, DN90 mm	m ¹	415.00		
12.7/7.03.02.	12.7/7.03.02.	Cast iron pipe fittings for 10 bar NP.	kg	201.70		
12.7/7.03.03.	12.7/7.03.03.	Polyethylene pipe fittings for 10 bar NP. Flange adaptor, DN90 mm	pcs.	10.00		
12.7/7.03.04.	12.7/7.03.04.	Valves EURO 20 (type 21). EURO 20 (type 21) Ø80 mm.	pcs.	4.00		
		EURO 20 a with set of accessories, Ø80 mm.	pcs.	1.00		
		Air valve, Ø80 mm	pcs.	1.00		
12.7/7.03.05.	12.7/7.03.05.	Cast iron lids.	pcs.	2.00		
12.7/7.03.06.	12.7/7.03.06.	Cast iron rungs.	pcs.	10.00		
TOTAL INSTALLATION WORKS						
12.7/7.04.00.		WORKS ON PLAIN AND REINFORCED CONCRETE				
12.7/7.04.01.	12.7/7.04.01.	10 cm thick layer of lean concrete, class MB 15, under the bottom manhole plate.	m ³	1.00		
12.7/7.04.02.	4.1.3.6	Construction of manhole top and bottom plates and side walls with reinforced concrete, class MB30, V-6 impermeability and m-150 frost resistance	m ³	7.50		
12.7/7.04.04.	4.4.4	Construction of anchor blocks for pipes with MB15 concrete	m ³	1.50		
12.7/7.04.05.	4.4.4	Reinforcing bars mesh reinforcement MA 500/560	kg	195.67		
		ribbed reinforcing bars RA 400/500	kg	468.37		
TOTAL WORKS ON PLAIN AND REINFORCED CONCRETE						
12.7/7.05.00.		SUNDRIES				
12.7/7.05.01.	4.1.3.1	Trench supporting	m ²	1,058.00		
12.7/7.05.02.	4.4.3.2	Pipeline testing	m ¹	415.00		
12.7/7.05.03.	4.5	Pipeline disinfection	m ¹	415.00		
12.7/7.05.04.	12.7/7.05.04.	As-built survey and report preparation.	m ¹	415.00		
TOTAL SUNDRIES						

Summary Design for displacement and protection of the existing water supply network		
12.7/7.01.00. PRELIMINARY WORKS		
12.7/7.02.00. EARTH WORKS		
12.7/7.03.00. INSTALLATION WORKS		
12.7/7.04.00. WORKS ON PLAIN AND REINFORCED CONCRETE		
12.7/7.05.00. SUNDRIES		
TOTAL Design for displacement and protection of the existing water supply network		

08.02. Telecommunication installations – civil engineering part

08.02.01. Manholes

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.02.01.01.		EARTH WORKS				
08.02.01.01.01.	13.2.2.	Excavation of II and III category earth with all needed supports and transport to stockpiling area. Payment per m³ of "net" excavated earth	m³	176.00		
08.02.01.01.02.	08.02.01.01.02.	Placing and compaction of 10 cm thick sub-base made of gravel and sand mix around telephone manhole.	m³	3.30		
08.02.01.01.03.	13.2.4.	Backfilling of over-excavated area with earth in 30 cm thick layers including compaction of each layer to modulus of compressibility Ms=30 MPa and backfilling of abandoned manholes. Payment per m³ of compacted earth	m³	134.75		
TOTAL EARTH WORKS:						
08.02.01.02.		WORKS ON PLAIN AND REINFORCED CONCRETE				
08.02.01.02.01.	8.10.	10 cm thick blinding course made of lean concrete MB15 under the bottom plate.	m³	4.50		
08.02.01.02.02.	8.10.	10 cm thick layer made of lean concrete MB 20 around telephone manholes to serve as a platform for any installation and urgent works on telecommunication cable conduits.	m³	5.17		
08.02.01.02.03.	8.10.	Reinforced concrete MB 30, V-6 impermeability, M-150 frost resistance for bottom manhole plate.	m³	6.60		
08.02.01.02.04.	8.10.	Reinforced concrete MB 30, V-6 impermeability, M-150 frost resistance for 15 cm thick manhole walls.	m³	19.80		
08.02.01.02.05.	8.10.	Sloping layer of lean concrete MB 15 and 10 cm thick leveling layer of lean concrete MB 15 under the bottom plate.	m³	0.88		
TOTAL WORKS ON PLAIN AND REINFORCED CONCRETE:						
08.02.01.03.		REINFORCEMENT WORKS				
08.02.01.03.01.	13.5.1.	Measurement includes all labor, procurement and transport, wire-brushing, cutting, mechanical bending and fixing of reinforcing bars according to designed details and quality. Payment per kg of fixed reinforcing bars RA 400/500-2.	kg	3,291.00		
TOTAL REINFORCEMENT WORKS:						
08.02.01.04.		MASONRY WORKS				
08.02.01.04.01	08.02.01.04.01	Making wall of bricks laid on edge in cement mortar to protect vertical waterproofing layer. Payment per m² of protected surface. The price includes procurement and transport of all needed material and masonry.	m²	176.00		
TOTAL MASONRY WORKS:						
08.02.01.05.		SUNDRIES				
08.02.01.05.01	08.02.01.05.01	Placing waterproofing layer of bitulite, two coats of hot bitumen and one coat of "Condor IV" band over external concrete surfaces. Payment per m² of finished and protected surface. The price includes procurement, transport and incorporation of materials, overlappings and all works in situ.	m²	204.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.02.01.05.02	08.02.01.05.02	Procurement, transport and fitting of lids for telephone manholes.				
		Payment per one fully fitted lid for heavy traffic with a frame for double lid.	pcs.	24.00		
08.02.01.05.03	08.02.01.05.03	Making funnel-like openings for newly designed manholes				
		- 2 Ø 110 pipes	pcs.	24.00		
08.02.01.05.04	08.02.01.05.04	Delivery and mounting of prefabricated cantilevers and cantilever supports				
		Cantilever supports - 2 per one manhole	pcs.	48.00		
		Cantilevers - (1 per one support)	pcs.	48.00		
TOTAL SUNDRIES:						
TOTAL MANHOLES (08.02.01.):						

08.02.02. Telecommunication cable conduit route

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.02.02.01.		MATERIAL				
08.02.02.01.01	15.4.2.1.	Plug for PVC pipes, Ø110 mm	pcs.	154.00		
08.02.02.01.02	15.4.2.1.	Comb for 2 PVC pipes, Ø110 mm	pcs.	354.00		
08.02.02.01.03	15.4.2.1.	PVC pipe, Ø110 mm, L=6.00 m	pcs.	118.00		
08.02.02.01.04	15.4.2.1.	Comb for 4 HDPE pipe, Ø50 mm	pcs.	6,099.00		
08.02.02.01.05	15.4.2.1.	HDPE pipe, 4xØ50 mm	m'	24,396.00		
08.02.02.01.06	15.4.2.1.	Rubber ring for PVC pipes, Ø110 mm	pcs.	118.00		
08.02.02.01.07	15.4.2.2.	Yellow warning tape for P.O. cables, 8 cm	kg	462.00		
TOTAL MATERIAL:						
08.02.02.02.		EARTH WORKS				
08.02.02.02.01	15.4.2.2.	Excavation of III category earth to depth of 2 m	m ³	3,604.00		
		90% mechanical excavation	m ³	400.00		
		10% hand excavation	m ³			
TOTAL EARTH WORKS:						
08.02.02.03.		BUILDING MATERIAL				
08.02.02.03.01	15.4.2.2.	Procurement and transport of sand to telecommunication cable conduit route.	m ³	1,896.00		
TOTAL BUILDING MATERIAL:						
08.02.02.04.		WORKS ON TELECOMMUNICATION CABLE ROUTE				
08.02.02.04.01.	15.4.2.2.	Routing	m	6,452.00		
08.02.02.04.02.	15.4.2.2.	Backfilling with sand of trench bottom for telecommunication cable conduit and area around and above PVC pipe including wetting and compaction.	m ³	1,896.00		
08.02.02.04.03.	15.4.2.2.	Backfilling of trench for telecommunication cable conduit, area next to manhole and trench under the pavement with over-excavated material including compaction in 20 cm thick layers.	m ³	2,176.00		
08.02.02.04.04.	15.4.2.2.	Haulage of surplus material	m ³	2,108.00		
08.02.02.04.05.	15.4.2.1.	Laying of 4 HDPE pipes, Ø50	m	24,396.00		
08.02.02.04.06.	15.4.2.1.	Laying of 2 pipes, Ø110 mm into excavated trench.	m	707.00		
08.02.02.04.07.	15.4.2.2.	Placing a warning tape.	m	6,452.00		
08.02.02.04.08.	15.4.2.1.	Sealing of pipes, Ø110 mm	pcs.	154.00		
TOTAL WORKS ON TELECOMMUNICATION CABLE ROUTE:						
TOTAL TELECOMMUNICATION CABLE CONDUIT ROUTE (08.02.02.):						

08.02. Summary – telecommunication installations – civil engineering part	
08.02.01. MANHOLES	
08.02.02. TELECOMMUNICATION CABLE CONDUIT ROUTE	
TOTAL telecommunication installations – civil engineering part (08.02.):	

12.09. Displacement and protection of lineside telecommunication cables

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
Note: All items related to material include delivery.						
12.09.01.	COLLISION 1 - Cables are affected by construction of embankment on the right track side					
12.09.01.01. Collision 1 - material						
12.09.01.01.01	15.4.1	STA cable	m	920.00		
12.09.01.01.02	15.4.1	SPZ 21x0.9	m	920.00		
12.09.01.01.03	15.4.1	PNK	m	920.00		
12.09.01.01.04	15.4.1	Straight joint on STA cable, code N1626, without measurement of coupling, accessories and material included.	pc.	2.00		
12.09.01.01.05	15.4.1	Straight joint on STA cable with measurement of capacitive coupling and making diagram of crossing points, accessories and material included.	pc.	1.00		
12.09.01.01.06	15.4.1	Pupinized joint on STA cable with measurement of coupling and making diagram of crossing points, accessories and material included.	pc.	1.00		
12.09.01.01.07	15.4.1	Joint on SPZ cable with heat-shrink coupling	pc.	2.00		
12.09.01.01.08	15.4.1	Joint on PNK cable with heat-shrink coupling	pc.	2.00		
12.09.01.01.09	15.4.1	Brick for separation of PNK cables from other cables in a trench	pc.	3,680.00		
12.09.01.01.10	15.4.1	Yellow PVC pipes, 110 mm dia., 6 m long	pc.	8.00		
12.09.01.01.11	15.4.1	Sand	m³	46.00		
TOTAL COLLISION 1 - material:						
12.09.01.02. Collision 1 - works						
12.09.01.02.12	15.4.2.2	Routing	m	920.00		
12.09.01.02.13	15.4.2.2	Excavation of 0.8x0.5 m trench, placing PVC shields and yellow PVC warning tape, backfilling and compaction in minimum three layers and haulage of surplus earth to specified stockpiling area.	m	920.00		
12.09.01.02.14	12.09.01.02.14	Construction of passage under the track.	m	20.00		
12.09.01.02.15	15.4.2.3	Laying STA cable in a trench	m	920.00		
12.09.01.02.16	15.4.2.3	Laying SPZ cable in a trench	m	920.00		
12.09.01.02.17	15.4.2.3	Laying PNK cable in a trench	m	920.00		
12.09.01.02.18	12.09.01.02.18	Installation of straight cable joint on STA cable without measurement of coupling.	pc.	2.00		
12.09.01.02.19	12.09.01.02.19	Installation of straight cable joint on STA cable with measurement of capacitive coupling.	pc.	1.00		
12.09.01.02.20	12.09.01.02.20	Installation of pupinized joint.	pc.	1.00		
12.09.01.02.21	12.09.01.02.21	Installation of joint on SPZ cable.	pc.	2.00		
12.09.01.02.22	12.09.01.02.22	Installation of joint on PNK cable.	pc.	2.00		
12.09.01.02.22.01	12.09.01.02.22.01	Placing bricks in a soldier course	pc.	3,680.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
12.09.01.02.23	12.09.01.02.23	System switch off/on Signaling/safety systems	compl.	1.00		
12.09.01.02.24	12.09.01.02.24	1. Central traffic control	compl.	1.00		
12.09.01.02.25	12.09.01.02.25	2. Station interlocking	compl.	1.00		
12.09.01.02.26	12.09.01.02.26	3. Level crossing control	compl.	1.00		
		Telecommunication systems				
12.09.01.02.27	12.09.01.02.27	1. HF system Z12 Nis – Leskovac – Skopje	compl.	1.00		
12.09.01.02.28	12.09.01.02.28	2. Selective dispatch system - traffic	compl.	1.00		
12.09.01.02.29	12.09.01.02.29	3. Selective dispatch system - electric traction	compl.	1.00		
12.09.01.02.30	12.09.01.02.30	4. Radio dispatch system	compl.	1.00		
		Power supply systems				
12.09.01.02.31	12.09.01.02.31	1. Central electric traction control	compl.	1.00		
		Measurement, testing and documentation				
12.09.01.02.32	15.5.2	Measurement of a cable drum	compl.	1.00		
12.09.01.02.33	15.4.2.2	Identification of cable route by detector and recording.	m	950.00		
12.09.01.02.34	15.5.2	Measurement of finished cable installation between two stations.	compl.	1.00		
12.09.01.02.35	15.5.2	Measurement of SPZ cable.	compl.	1.00		
12.09.01.02.36	15.5.2	Measurement of PNK cable.	compl.	1.00		
12.09.01.02.37	12.09.01.02.37	As-built design of cable works with measurement protocols	compl.	1.00		
12.09.01.02.38	12.09.01.02.38	As-built design of civil works	compl.	1.00		
TOTAL COLLISION 1 - works:						
TOTAL COLLISION 1 - material+works:						
12.09.02.	COLLISION 2 - Cables are affected by construction of embankment on the right track side					
12.09.02.01. Collision 2 - material						
12.09.02.01.01	15.4.1.	STA cable	m	570.00		
12.09.02.01.02	15.4.1.	SPZ 21x0.9	m	570.00		
12.09.02.01.03	15.4.1.	PNK	m	570.00		
12.09.02.01.04	15.4.1.	Straight joint on STA cable, code N1626, without measurement of coupling, accessories and material included.	pc.	2.00		
12.09.02.01.05	15.4.1.	Straight joint on STA cable with measurement of capacitive coupling and making diagram of crossing points, accessories and material included.	pc.	1.00		
12.09.02.01.06	15.4.1.	Capacitor joint on STA cable with measurement of coupling and making diagram of crossing points, accessories and material included.	pc.	1.00		
12.09.02.01.07	15.4.1.	Joint on SPZ cable with heat-shrink coupling	pc.	2.00		
12.09.02.01.08	15.4.1.	Joint on PNK cable with heat-shrink coupling	pc.	2.00		
12.09.02.01.09	15.4.1.	Brick for separation of PNK cables from other cables in a trench	pc.	2,280.00		
12.09.02.01.10	15.4.1	Yellow PVC pipes, 110 mm dia., 6 m long	pc.	4.00		
12.09.02.01.11	15.4.1.	Sand	m³	29.00		
TOTAL COLLISION 2 - material:						
12.09.02.02. Collision 2 - works						
12.09.02.02.11	15.4.2.2.	Routing	m	570.00		
12.09.02.02.12	15.4.2.2.	Excavation of 0.8x0.5 m trench, placing PVC shields and yellow PVC warning tape, backfilling and compaction in minimum three layers and haulage of surplus earth to specified stockpiling area	m	570.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
12.09.02.02.13	12.09.02.02.13	Construction of passage under the track.	m	10.00		
12.09.02.02.14	15.4.2.3	Laying STA cable in a trench	m	570.00		
12.09.02.02.15	15.4.2.3	Laying SPZ cable in a trench	m	570.00		
12.09.02.02.16	15.4.2.3	Laying PNK cable in a trench	m	570.00		
12.09.02.02.17	12.09.02.02.17	Installation of straight cable joint on STA cable without measurement of coupling.	pc.	2.00		
12.09.02.02.18	12.09.02.02.18	Installation of straight cable joint on STA cable with measurement of capacitive coupling.	pc.	1.00		
12.09.02.02.19	12.09.02.02.19	Installation of capacitor joint.	pc.	1.00		
12.09.02.02.20	12.09.02.02.20	Installation of joint on SPZ cable.	pc.	2.00		
12.09.02.02.21	12.09.02.02.21	Installation of joint on PNK cable.	pc.	2.00		
12.09.02.02.22	12.09.02.02.22	Placing bricks in a soldier course	pc.	2,280.00		
		System switch off/on				
12.05.02.02.23	12.05.02.02.23	Signaling/safety systems	compl.	1.00		
12.05.02.02.24	12.05.02.02.24	1. Central traffic control	compl.	1.00		
12.05.02.02.25	12.05.02.02.25	2. Station interlocking	compl.	1.00		
12.05.02.02.26	12.05.02.02.26	3. Level crossing control	compl.	1.00		
		Telecommunication systems				
12.05.02.02.27	12.05.02.02.27	1. HF system Z12 Nis – Leskovac – Skopje	compl.	1.00		
12.05.02.02.28	12.05.02.02.28	2. Selective dispatch system - traffic	compl.	1.00		
12.05.02.02.29	12.05.02.02.29	3. Selective dispatch system - electric traction	compl.	1.00		
		4. Radio dispatch system	compl.	1.00		
		Power supply systems				
12.05.02.02.30	12.05.02.02.30	1. Central electric traction control	compl.	1.00		
		Measurement, testing and documentation				
12.05.02.02.31	15.5.2	Measurement of a cable drum	compl.	1.00		
12.05.02.02.32	15.4.2.2	Identification of cable route by detector and recording.	m	600.00		
12.05.02.02.33	15.5.2	Measurement of finished cable installation between two stations.	compl.	1.00		
12.05.02.02.34	15.5.2	Measurement of SPZ cable.	compl.	1.00		
12.05.02.02.35	15.5.2	Measurement of PNK cable.	compl.	1.00		
12.05.02.02.36	12.05.02.02.36	As-built design of cable works with measurement protocols	compl.	1.00		
12.05.02.02.37	12.05.02.02.37	As-built design of civil works	compl.	1.00		
TOTAL COLLISION 2 - works:						
TOTAL COLLISION 2 - material+works:						
12.09.03.	COLLISION 3 - Cables are affected by construction of embankment on the right track side					
12.09.03.01. Collision 3 - material						
12.09.03.01.01	15.4.1.	STA cable	m	210.00		
12.09.03.01.02	15.4.1.	SPZ 21x0.9	m	210.00		
12.09.03.01.03	15.4.1.	PNK	m	210.00		
12.09.03.01.04	15.4.1.	Straight joint on STA cable, code N1626, without measurement of coupling, accessories and material included.	pc.	2.00		
12.09.03.01.05	15.4.1.	Joint on SPZ cable with heat-shrink coupling	pc.	2.00		
12.09.03.01.06	15.4.1.	Joint on PNK cable with heat-shrink coupling	pc.	2.00		
12.09.03.01.07	15.4.1.	Brick for separation of PNK cables from other cables in a trench	pc.	840.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
12.09.03.01.08	15.4.1.	Sand	m ³	11.00		
TOTAL COLLISION 3 - material:						
12.09.03.02. Collision 3 - works						
12.09.03.02.09	15.4.2.2.	Routing	m	210.00		
12.09.03.02.10	15.4.2.2.	Excavation of 0.8x0.5 m trench, placing PVC shields and yellow PVC warning tape, backfilling and compaction in minimum three layers and haulage of surplus earth to specified stockpiling area.	m	210.00		
12.09.03.02.11	15.4.2.3	Laying STA cable in a trench	m	210.00		
12.09.03.02.12	15.4.2.3	Laying SPZ cable in a trench	m	210.00		
12.09.03.02.13	15.4.2.3	Laying PNK cable in a trench	m	210.00		
12.09.03.02.14	12.09.03.02.14	Installation of straight cable joint on STA cable without measurement of coupling.	pc.	2.00		
12.09.03.02.15	12.09.03.02.15	Installation of joint on SPZ cable.	pc.	2.00		
12.09.03.02.16	12.09.03.02.16	Installation of joint on PNK cable.	pc.	2.00		
12.09.03.02.16.01	12.09.03.02.16.01	Placing bricks in a soldier course	pc.	840.00		
System switch off/on						
12.09.03.02.17	12.09.03.02.17	Signaling/safety systems	compl.	1.00		
12.09.03.02.18	12.09.03.02.18	1. Central traffic control	compl.	1.00		
12.09.03.02.19	12.09.03.02.19	2. Station interlocking	compl.	1.00		
12.09.03.02.20	12.09.03.02.20	3. Level crossing control	compl.	1.00		
Telecommunication systems						
12.09.03.02.21	12.09.03.02.21	1. HF system Z12 Nis – Leskovac – Skopje	compl.	1.00		
12.09.03.02.22	12.09.03.02.22	2. Selective dispatch system - traffic	compl.	1.00		
12.09.03.02.23	12.09.03.02.23	3. Selective dispatch system - electric traction	compl.	1.00		
12.09.03.02.24	12.09.03.02.24	4. Radio dispatch system	compl.	1.00		
Power supply systems						
12.09.03.02.25	12.09.03.02.25	1. Central electric traction control	compl.	1.00		
Measurement, testing and documentation						
12.09.03.02.26	15.5.2	Measurement of a cable drum	compl.	1.00		
12.09.03.02.27	15.4.2.2	Identification of cable route by detector and recording.	m	250.00		
12.09.03.02.28	15.5.2	Measurement of finished cable installation between two stations.	compl.	1.00		
12.09.03.02.29	15.5.2	Measurement of SPZ cable.	compl.	1.00		
12.09.03.02.30	15.5.2	Measurement of PNK cable.	compl.	1.00		
12.09.03.02.31	12.09.03.02.31	As-built design of cable works with measurement protocols	compl.	1.00		
12.09.03.02.32	12.09.03.02.32	As-built design of civil works	compl.	1.00		
TOTAL COLLISION 3 - works:						
TOTAL COLLISION 3 - material+works:						

12.09. Displacement and protection of the existing lineside telecommunication cables						
12.09.01. COLLISION 1						
12.09.02. COLLISION 2						
12.09.03. COLLISION 3						
TOTAL Displacement and protection of the existing lineside telecommunication cables (12.09.):						

<u>12. SUMMARY – Technical infrastructure</u>	
DESIGN FOR DISPLACEMENT AND PROTECTION OF 10 kV AND 1 kV POWER LINES	
35 kV transmission line Grdelica - Predejane	
DESIGN FOR DISPLACEMENT AND PROTECTION OF THE EXISTING TELECOMMUNICATION SYSTEM	
Design for displacement and protection of the existing water supply network	
Telecommunication installations – civil engineering part	
Displacement and protection of lineside telecommunication cables	
SUB-TOTAL	
Unforeseen work (5% of sub-total)	
<u>TOTAL TECHNICAL INFRASTRUCTURE (12.):</u>	

No.	Description	Unit	Nominal quantity	Rate	Extended amount
D100	Skilled concrete finisher	hour	500.00		
D101	Skilled asphalt finisher	hour	500.00		
D102	Skilled mason	hour	500.00		
D103	Skilled electrician	hour	500.00		
D104	Skilled fitter	hour	500.00		
D105	Skilled joiner	hour	500.00		
D106	Skilled carpenter	hour	500.00		
D107	Skilled steelwork erector	hour	500.00		
D108	Unskilled labourer	hour	500.00		
D109	Unskilled assitant	hour	500.00		
D110	Highly-skilled group leader	hour	500.00		
D112	Foreman	hour	500.00		
D113	Driver for vehicle up to 10 tons	hour	1,000.00		
D114	Driver for vehicle 10 to 20 tons	hour	1,000.00		
D115	Driver for vehicle above 10 tons	hour	1,000.00		
D116	Operator for excavator, dragline, shovel, or crane	hour	500.00		
D117	Operator for roller, asphalt finisher, concrete finisher	hour	500.00		
D118	Operator for tractor with dozer blade or ripper	hour	500.00		
	Subtotal				
D150	Allow _ percent ^a of Subtotal for Contractor’s overhead, profit, etc.				
Total for Daywork: Labor					
a. To be entered by the bidder.					

No.	Description	Unit	Nominal quantity	Rate	Extended amount
D201	Cement	t	200.00		
D202	Mild steel reinforcing bar up to 16 mm diameter	t	100.00		
D203	Mild steel reinforcing bar above 16 mm diameter	t	100.00		
D204	Aggregate for pavement base	m3	500.00		
D205	Gravel	m3	500.00		
D206	Lime	kg	200.00		
D207	Mortar	m3	200.00		
D208	Concrete aggregate				
D208.1	0-4 mm	m3	500.00		
D208.2	4-8 (0-8) mm	m3	500.00		
D208.3	8-16 mm	m3	500.00		
D208.4	16-32 (22) mm	m3	500.00		
D209	Asphalt aggregate, limestone				
D209.1	0-4 mm	m3	500.00		
D209.2	4-8 (0-8) mm	m3	500.00		
D209.3	8-16 mm	m3	500.00		
D209.4	16-32 (22) mm	m3	500.00		
D210	Asphalt aggregate, igneous				
D210.1	0-4 mm	m3	500.00		
D210.2	4-8 (0-8) mm	m3	500.00		
D210.3	8-16 mm	m3	500.00		
D210.4	16-22 mm	m3	500.00		
D211	Planed softwood	m3	50.00		
D212	Sawn softwood	m3	50.00		
D213	Plywood	m3	50.00		
D214	Gas oil	l	1,000.00		
D215	Bitumen	t	200.00		
	Subtotal				
D150	Allow _ percent ^a of Subtotal for Contractor’s overhead, profit, etc.				
Total for Daywork: Materials					
a. To be entered by the bidder.					

No.	Description	Nominal quantity (hours)	Basic hourly rental rate	Extended amount
D301	Excavator, face shovel, or dragline:			
D301.1	Up to and including 1 m ³	500.00		
D301.2	Over 1 m ³ to 2 m ³	400.00		
D301.3	Over 2 m ³	100.00		
D302	Tractor, including bull or angle dozer:			
D302.1	Up to and including 150 kW	500.00		
D302.2	Over 150 kW to 200 kW	400.00		
D302.3	Over 200 kW to 250 kW	200.00		
D303	Tractor with ripper:			
D303.1	Up to and including 200 kW	400.00		
D303.2	Over 200 kW to 250 kW	200.00		
D304	Roller	200.00		
D305	Shovel	200.00		
D306	Crane	200.00		
D307	Pneumatic hammer	200.00		
D308	Pneumatic drill	200.00		
D309	Draining unit	200.00		
D310	Loader	200.00		
D311	Truck:			
D311.1	up to and including 10 t	500.00		
D311.2	over 10 to 20 t	500.00		
D312	Power generator up to 25 kVA	200.00		
Total for Daywork: Equipment				

	Amount (RSD)	% Foreign
1. Total for Daywork: Labour		
2. Total for Daywork: Materials		
3. Total for Daywork: Equipment		
Total for Daywork		

Bills of Quantities LOT 2

Grand summary	Amount
GENERAL ITEMS (A)	
Civil engineering design (1)	
Stormwater sewage system (2)	
Regulation of water streams (3)	
Engineering structures (4)	
Bridges (5)	
Retaining walls (6)	
Traffic-technical and service equipment for roads (7)	
Technical infrastructure (8)	
Landscaping (9)	
SUBTOTAL OF BILLS $\Sigma[(1)-(9)]=(B)$	
UNFORSEEN WORKS 5% $0.05x(B)=(C)$	
TOTAL FOR DAYWORK (D)	
TOTAL OF BILLS $(A+B+C+D)=(E)$	
CONTINGENCY ALLOWANCE 10% $0.1x(E)=(F)$	
BID PRICE $(E)+(F)=(G)$	
VAT (Nil-Since the Project is financed by the EIB, the payment of VAT is exempted) $0=(H)$	
FINAL BID PRICE $(G)+(H)=(I)$	

No.	Description	Unit	Quantity	Unit price	Amount
1	Site offices building	ls	1		
2	Site offices furniture and equipment	ls	1		
3	Supply of computers and software for Site offices	ls	1		
4	Compound, paving, fencing, lighting and provision of utilities	ls	1		
5	Vehicles (offroad)	pcs	3		
6	Vehicles (C class)	pcs	1		
7	Vehicles (pick up)	pcs	2		
8	Provisions and consumables for the Engineer	ls	1		
9	Supply of additional equipment for the Engineer and Employer's representative	ls	1		
10	Maintain facilities in compound for the Engineer and Employer's representative during works and up to the issue of the Taking over Certificate	month	24		
11	Maintenance, fueling and insurance of vehicles of the Engineer and Employer's representative	month	24		
Total General Items					

CIVIL ENGINEERING DESIGN
01.01. HIGHWAY ALIGNMENT

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.01.01.		PRELIMINARY WORKS				
01.01.01.01	2.1.	Geotechnical investigations				
				lump sum		
01.01.01.02.	2.4.	Removal of bushes and trees a) cutting bushes up to Ø10 cm: 10064 m² b) cutting bushes Ø10 - Ø25 cm: 8405 m² c) cutting trees Ø10 - Ø20 cm: 2275 pcs. d) cutting trees Ø20 - Ø40 cm: 1040 pcs. e) uprooting stumps Ø10 - Ø20 cm: 2275 pcs. f) uprooting stumps Ø20 - Ø40 cm: 1040 pcs.	km'	4.60		
01.01.01.03.	2.5.	Demolition of buildings	m²	1,075.00		
01.01.01.04.	2.7.	Demolition of the existing pavement	m²	5,145.00		
TOTAL PRELIMINARY WORKS:						
01.01.02.		EARTH WORKS				
01.01.02.01.	3.1.	Topsoil stripping	(price included in the price of excavation and embankment)			
01.01.02.02.	3.2.	Bulk excavation and transport (including topsoil stripping and stockpiling, excavation of soil of low bearing capacity, topsoiling and grassing) Excavation in II and III category earth, transport of material to stockpiling area and spreading without compaction - 3000 - 5000 m (excavation for subsoil substitution: 24603 m³) (excavation for temporary channels during construction works: 476 m³) - Excavation in III and IV category soil with loading, transport and unloading of material from the excavation or borrow pit - up to 60 m - up to 500 m - 500 m - 1000 m - 1000 m - 3000 m - Excavation in V and VI category soil with loading, transport and unloading of material from the excavation or borrow pit - up to 60 m - up to 500 m - 500 m - 1000 m - 1000 m - 3000 m	m³	25,079.00		
			m³	6,695.00		
			m³	28,753.00		
			m³	65,440.00		
			m³	36,072.00		
			m³	6,290.00		
			m³	21,680.00		
			m³	62,461.00		
			m³	33,216.00		
01.01.02.03.	3.3.	Subsoil finishing	m²	102,393.00		
01.01.02.04.	3.4.	Construction of embankment (including topsoil stripping, construction of stepped side cuts, shoulder central part, leveling, topsoiling and grassing of embankment slopes) a) topsoil stripping: 24005 m³ b) surplus topsoil: 12780 m³ c) stepped side cuts: 3416 m³ d) shoulder central part: 2860 m³ e) topsoiling of slopes: 42823 m² f) topsoiling and grassing of shoulders: 13305 m² g) lining with stone the embankment slopes: 991 m³ h) Filling of temporary channels with stones of specific grading during construction works: 476 m³ i) Embankment top layer of 0/63 mm stable material in the cutting section where material will be substituted: 24603 m³	m³	234,522.00		
01.01.02.05	3.6.1.	Substitution of soil of low bearing capacity with sandy gravel layer	m³	338.00		
TOTAL EARTH WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.01.03.		DRAINAGE AND DEWATERING				
01.01.03.01.	4.3.	Drainage channels	m ³	2,189.00		
		- Excavation				
		- Lining of channels with prefabricated elements of MB 30 concrete onto 5 cm thick sandy gravel bed.	m ²	5,581.00		
		- Placing 20 cm thick drainage channel lining of MB 25 concrete	m ²	420.00		
		- Procurement and installation of drain channels for controlled drainage of run-off from highway central reserve. Drain channel dimensions: 100x100x20 cm. It shall be installed onto sandy gravel bed, fully in accordance with designed details.	m'	976.00		
		- Procurement and installation of drain channels for controlled water drainage down the embankment slope.	m'	167.00		
01.01.03.02	4.3	- Casting of 25 cm thick layer of MB 25 concrete over shoulder at lower highway side toward central reserve and placing of protective waterproof, procurement and delivery of materials.	m ²	2,879.00		
TOTAL DRAINAGE AND DEWATERING:						
01.01.04.		SUB-BASES				
01.01.04.01	AS-3.4 additional specifications	Sandy gravel materials - placing subgrade layer	m ²	91,936.00		
01.01.04.02	AS-6.2.2 additional specifications	Placing and rolling the sub-base of 0/31.5 mm crushed stone onto rolled subgrade accepted by the Engineer. Rolling shall be performed until even surface is achieved according to designed gradients and crossfalls with tolerance of ± 1 cm. Thickness: d=10 cm	m ²	52,228.00		
		Thickness: d=30 cm	m ²	47,758.00		
		Thickness: d=38 cm	m ²	17,566.00		
TOTAL SUB-BASES:						
01.01.05.		SUPERSTRUCTURE				
01.01.05.01	7.1.	Procurement and placing of 18/24 cm curbs	m'	325.00		
01.01.05.02	7.2.	Procurement and installation of 90 cm concrete gutters	m'	2,265.00		
TOTAL SUPERSTRUCTURE:						
01.01.06.		ASPHALT PAVEMENT				
01.01.06.01.	9.3.	Placing of bituminous base course BNS 22sA (Bit 60) consisting of stone aggregate d= 8 cm	m ²	17,719.00		
		d= 8+8= 16 cm	m ²	53,509.00		
01.01.06.03.	9.5.	Placing of 4 cm thick wearing course made of skeleton mastic asphalt SMA 11s	m ²	71,227.00		
01.01.06.04.	9.6.	Placing of 4 cm thick wearing course made of asphalt concrete AB 11. Shoulder shall be stabilized at lower pavement side d=6 cm	m ²	842.00		
TOTAL ASPHALT PAVEMENT:						
01.01.08.		ROAD EQUIPMENT				
01.01.07.01.	12.6.7.	Procurement and installation of 1.5 m high road fence made of galvanized mesh on poles of 40x40 mm steel boxes	m'	9,000.00		
TOTAL ROAD EQUIPMENT:						

01.01. SUMMARY - HIGHWAY ALIGNMENT		
01.01.01. PRELIMINARY WORKS		
01.01.02. EARTH WORKS		
01.01.03. DRAINAGE AND DEWATERING		
01.01.04. SUB-BASES		
01.01.05. SUPERSTRUCTURE		
01.01.06. ASPHALT PAVEMENT		
01.01.08. ROAD EQUIPMENT		
SUB-TOTAL		
Unforeseen work (5% of sub-total)		
TOTAL HIGHWAY ALIGNMENT (01.01.):		

01.02. "PREDEJANE" GRADE-SEPARATED JUNCTION

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.02.01.		PRELIMINARY WORKS				
01.02.01.01.	2.1.	Geotechnical investigations				
01.02.01.02.	2.4.	Removal of bushes and trees a) cutting bushes up to Ø10 cm: 11720 m² b) cutting bushes Ø10 - Ø25 cm: 17570 m² c) cutting trees Ø10 - Ø20 cm: 3405 pcs. d) cutting trees Ø20 - Ø40 cm: 1702 pcs. e) uprooting stumps Ø10 - Ø20 cm: 3405 pcs. f) uprooting stumps Ø20 - Ø40 cm: 1702 pcs.	km'	3.35		
01.02.01.03.	2.5.	Demolition of buildings	m²	956.00		
01.02.01.04.	2.6.	Finishing of the existing pavement	m²	508.00		
01.02.01.05.	2.7.	Demolition of the existing pavement	m²	95.00		
TOTAL PRELIMINARY WORKS:						
01.02.02.		EARTH WORKS				
01.02.02.01.	3.2.	Bulk excavation and transport (including topsoil stripping and stockpiling, excavation of soil of low bearing capacity, topsoiling and grassing) - Excavation in III and IV category soil with loading, transport and unloading of material from the excavation or borrow pit - up to 60 m	m³	1,003.00		
		- up to 500 m	m³	3,984.00		
		- 1000 m - 3000 m	m³	99,503.00		
01.02.02.02.	3.3.	Subsoil finishing	m²	43,820.00		
01.02.02.03.	3.4.	Construction of embankment (including topsoil stripping, construction of stepped side cuts, shoulder central part, leveling, topsoiling and grassing of embankment slopes) a) topsoil stripping: 10642 m³ b) surplus topsoil: 4653 m³ c) stepped side cuts: 656 m³ d) shoulder central part: 915 m³ e) topsoiling of slopes: 23500 m² f) topsoiling and grassing of shoulders: 6433 m² g) lining with stone the embankment slopes: 803 m³	m³	104,490.00		
01.02.02.04.	3.5.	Wedges next to structures	m³	938.00		
01.02.02.05.	3.8.	Monitoring instruments (soil settlement gauges, inclinometers, piezometers)				
TOTAL EARTH WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.02.03.		DRAINAGE AND DEWATERING				
01.02.03.01.	4.1.	Drainage and dewatering of road base - Excavation	m ³	14.00		
		- Procurement and laying of plastic half-perforated drain pipes for drainage of subgrade and central reserve. Pipes shall be laid onto 5-10 cm thick layer of clay or lean concrete. - Ø 150	m'	149.00		
		- Filling of drainage channels with filter material - sandy gravel material or chippings of 1-6 cm in size, including fitting of fat clay plug in the drain pipe.	m ³	14.00		
01.02.03.02.	4.3.	Drainage channels - Excavation	m ³	528.00		
		- Procurement and installation of drain channels for controlled water drainage down the embankment slope	m'	246.00		
TOTAL DRAINAGE AND DEWATERING:						
01.02.04.		SUB-BASES				
01.02.04.01.	6.1	Sandy gravel materials - placing subgrade layer	m ²	23,713.00		
01.02.04.02.	6.2	Procurement and placing of 0/63 mm crushed stone as rolled sub-base of pavement structure. Broken stone layer shall be placed onto finished subgrade accepted by the Engineer. Stone of this size shall meet requirements of SRPS U.E9.020.				
		• d=15 cm	m ²	227.00		
		• d=30 cm	m ²	804.00		
01.02.04.03.	6.2	Placing and rolling the sub-base of 0/31.5 mm crushed stone onto rolled subgrade accepted by the Engineer. Rolling shall be performed until even surface is achieved according to designed gradients and crossfalls with tolerance of ± 1 cm.				
		• d=18 cm	m ²	2,583.00		
		• d=20 cm	m ²	880.00		
		• d=30 cm	m ²	17,265.00		
		• d=34 cm	m ²	333.00		
TOTAL SUB-BASES:						
01.02.05.		SUPERSTRUCTURE				
01.02.05.01.	7.1.	Verges, curbs and prefabricated elements				
		• curbs 18/24	m'	900.00		
		• curbs 20/30	m'	288.00		
01.02.05.02.	7.2.	Gutters 90 cm	m	418.00		
TOTAL SUPERSTRUCTURE:						
01.02.06.		ASPHALT PAVEMENT				
01.02.06.01.	9.3.	Placing of bituminous base course BNS 22sA (Bit 60) consisting of stone aggregate • d=8 cm	m ²	508.00		
		• d=10 cm	m ²	9,247.00		
01.02.06.02.	9.3.	Placing of bituminous base course BNS 22A (Bit 60) consisting of stone aggregate • d=6 cm	m ²	2,250.00		
01.02.06.03.	9.3.	Placing of bituminous base course BNHS 16 consisting of stone aggregate • d=6 cm	m ²	227.00		
01.02.06.04.	9.6.	Placing of wearing course made of asphalt concrete AB 11s (Bit 60) • d=4 cm	m ²	508.00		
		• d=6 cm	m ²	9,247.00		
TOTAL ASPHALT PAVEMENT:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.02.07.		CONCRETE PAVEMENT				
01.02.07.01.	10.1.	Pavement made of MB 40 concrete, 22 cm thick	m ²	2,250.00		
TOTAL CONCRETE PAVEMENT:						
01.02.08.		STRUCTURES, CULVERTS				
01.02.08.01.	11.3.	Small slab-top and pipe culverts				
01.02.08.02.	11.3	- Excavation	m ³	829.00		
01.02.08.03.	11.3	- Bed of sandy gravel materials, 20 cm thick - price includes procurement and placing of sandy gravel material under the pipes.	m ³	80.00		
01.02.08.04.	11.3	- Concrete work, MB 30	m ³	294.00		
01.02.08.05.	11.3	Prefabricated concrete pipe culverts:				
		- Ø1000 mm	m'	48.00		
		- Ø1600 mm	m'	45.00		
		- Ø2000 mm	m'	47.00		
01.02.08.06.	11.3	- Waterproofing of top surfaces of pipe culverts with two paper layers and three coats of bitumen solution over bituminized paper. Payment per 1 m ² of unfolded area.	m ²	758.00		
01.02.08.07.	11.3	- Construction of 20 cm thick paving made of broken stone onto 10 cm thick sand layer with infill of 1:3 cement mortar mix near culverts. Payment per 1 m ² of finished paving.	m ²	49.00		
TOTAL STRUCTURES, CULVERTS:						
01.02.09.		ROAD EQUIPMENT				
01.02.09.01.	12.6.7.	Procurement and installation of 1.5 m high road fence made of galvanized mesh on poles of 40x40 mm steel boxes	m'	2,265.00		
TOTAL ROAD EQUIPMENT:						

<u>01.02. SUMMARY - "PREDEJANE" GRADE-SEPARATED JUNCTION</u>		
01.02.01. PRELIMINARY WORKS		
01.02.02. EARTH WORKS		
01.02.03. DRAINAGE AND DEWATERING		
01.01.04. SUB-BASES		
01.02.05. SUPERSTRUCTURE		
01.02.06. ASPHALT PAVEMENT		
01.02.07. CONCRETE PAVEMENT		
01.02.08. STRUCTURES, CULVERTS		
01.02.09. ROAD EQUIPMENT		
SUB-TOTAL		
Unforeseen work (5% of sub-total)		
<u>TOTAL "PREDEJANE" GRADE-SEPARATED JUNCTION (01.02.):</u>		

01.03.05. Detour of M1 road

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.03.05.01.		PRELIMINARY WORKS				
01.03.05.01.01.	2.1.	Geotechnical investigations				
01.03.05.01.02.	2.4.	Removal of bushes and trees				
		a) cutting bushes up to Ø10 cm: 2025 m ²				
		b) cutting bushes Ø10 - Ø25 cm: 2475 m ²				
		c) cutting trees Ø10 - Ø20 cm: 495 pcs.				
		d) cutting trees Ø20 - Ø40 cm: 248 pcs.				
		e) uprooting stumps Ø10 - Ø20 cm: 495 pcs.				
		f) uprooting stumps Ø20 - Ø40 cm: 248 pcs.				
01.03.05.01.03.	2.6.	Finishing of the existing pavement	m ²	760.00		
01.03.05.01.04.	2.7	Demolition of the existing pavement	m ²	4,525.00		
TOTAL PRELIMINARY WORKS:						1-168

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.03.05.02.		EARTH WORKS				
01.03.05.02.01.	3.2.	Bulk excavation and transport (including topsoil stripping and stockpiling, excavation of soil of low bearing capacity, topsoiling and grassing) - Excavation in III and IV category soil with loading, transport and unloading of material from the excavation or borrow pit - up to 500 m a) topsoil stripping: 3291 m ³ b) surplus topsoil: 1391 m ³	m ³	10,301.00		
		-3000m - 5000m	m ³	6,355.00		
		- Excavation in V and VI category soil with loading, transport and unloading of material from the excavation or borrow pit - 3000 - 5000 m	m ³	19,912.00		
01.03.05.02.02.	3.3.	Subsoil finishing	m ²	4,781.00		
01.03.05.02.03.	3.4.	Construction of embankment (including topsoil stripping, construction of stepped side cuts, shoulder central part, leveling, topsoiling and grassing of embankment slopes) b) shoulder central part: 388 m ³ c) topsoiling of slopes: 7094 m ² d) topsoiling and grassing of shoulders: 2403 m ² e) lining with stone the embankment slopes: 2137 m ³	m ³	10,301.00		
01.03.05.02.04.	3.5.	Wedges next to structures	m ³	1,004.00		
TOTAL EARTH WORKS:						
01.03.05.03.		DRAINAGE AND DEWATERING				
01.03.05.03.01	4.3.	Drainage channels - Excavation	m ³	690.00		
TOTAL DRAINAGE AND DEWATERING:						
01.03.05.04.		SUB-BASES				
01.03.05.04.01.	6.1	Sandy gravel materials - placing subgrade layer	m ²	13,121.00		
01.03.05.04.02	6.2	Procurement and placing of 0/63 mm crushed stone as rolled sub-base of pavement structure. Broken stone layer shall be placed onto finished subgrade accepted by the Engineer. Stone of this size shall meet requirements of SRPS U.E9.020. • d=30 cm	m ²	16,130.00		
01.03.05.04.03.	6.2	Placing and rolling the sub-base of 0/31.5 mm crushed stone onto rolled subgrade accepted by the Engineer. Rolling shall be performed until even surface is achieved according to designed gradients and crossfalls with tolerance of ± 1 cm. • d=20 cm	m ²	10,175.00		
TOTAL SUB-BASES:						
01.03.05.05.		SUPERSTRUCTURE				
01.03.05.05.01	7.2.	Procurement and placing of 70 cm concrete gutters 90 cm	m'	989.00		
TOTAL SUPERSTRUCTURE:						
01.03.05.06		ASPHALT PAVEMENT				
01.03.05.06.01	9.3.	Placing of bituminous base course BNS 22A (Bit 60) consisting of stone aggregate • d=8 cm	m ²	9,240.00		
01.03.05.06.02	9.6.	Placing of wearing course made of asphalt concrete AB 11s (Bit 60) • d=4 cm	m ²	10,186.00		
TOTAL ASPHALT PAVEMENT:						
01.03.05.07.		STRUCTURES, CULVERTS				
01.03.05.07.01.	11.3.	Small slab-top and pipe culverts				
	11.3	- Excavation	m ³	2,828.00		
01.03.05.07.02.	11.3	- Bed of sandy gravel materials, 20 cm thick - price includes procurement and placing of sandy gravel material under the pipes.	m ³	66.00		
01.03.05.07.03.	11.3	Concrete work, MB 30	m ³	282.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.03.05.07.04.	11.3	Prefabricated concrete pipe culverts: - Ø1600 mm	m'	145.00		
01.03.05.07.05.	11.3	- Waterproofing of top surfaces of pipe culverts	m²	831.00		
TOTAL STRUCTURES, CULVERTS:						

01.03.05. Detour of M1 road						
01.03.05.01. PRELIMINARY WORKS						
01.03.05.02. EARTH WORKS						
01.03.05.03. DRAINAGE AND DEWATERING						
01.03.05.04. SUB-BASES						
01.03.05.05. SUPERSTRUCTURE						
01.03.05.06. ASPHALT PAVEMENT						
01.03.05.07. STRUCTURES, CULVERTS						
TOTAL Detour of M1 road (01.03.05.):						

01.03.06. Detour of local road No.4

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.03.06.01.		PRELIMINARY WORKS				
01.03.06.01.01.	2.1.	Geotechnical investigations				
01.03.06.01.02.	2.4.	Removal of bushes and trees a) cutting bushes up to Ø10 cm: 382 m² b) cutting bushes Ø10 - Ø25 cm: 468 m² c) cutting trees Ø10 - Ø20 cm: 93 pcs. d) cutting trees Ø20 - Ø40 cm: 46 pcs. e) uprooting stumps Ø10 - Ø20 cm: 93 pcs. f) uprooting stumps Ø20 - Ø40 cm: 46 pcs.	km'	0.30		
TOTAL PRELIMINARY WORKS:						
01.03.06.02.		EARTH WORKS				
01.03.06.02.01.	3.2.	Bulk excavation and transport (including topsoil stripping and stockpiling, excavation of soil of low bearing capacity, topsoiling and grassing) - Excavation in III and IV category soil with loading, transport and unloading of material from the excavation or borrow pit - up to 60 m a) topsoil stripping: 513 m³	m³	444.00		
		- 500 m - 1000 m a) surplus topsoil: 319 m³	m³	1,583.00		
01.03.06.02.02.	3.3.	Subsoil finishing	m²	1,524.00		
01.03.06.02.03.	3.4.	Construction of embankment (including topsoil stripping, excavation of stepped side cuts, shoulder central part, leveling, topsoiling and grassing of embankment slopes) b) shoulder central part: 22 m³ c) topsoiling of slopes: 675 m² d) topsoiling and grassing of shoulders: 295 m²	m³	2,027.00		
01.03.06.02.04.	3.5.	Wedges next to structures	m³	41.00		
TOTAL EARTH WORKS:						
01.03.06.03.		DRAINAGE AND DEWATERING				
01.03.06.03.01.	4.3.	Drainage channels - Excavation	m³	13.00		
		- Lining of channels with prefabricated elements of MB 30 concrete onto 5 cm thick sandy gravel bed.	m²	50.00		
TOTAL DRAINAGE AND DEWATERING:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.03.06.04.		SUB-BASES				
01.03.06.04.01.	6.1	Sandy gravel materials - placing subgrade layer	m ²	1,697.00		
01.03.06.04.02.	6.2	Procurement and placing of 0/63 mm crushed stone as rolled sub-base of pavement structure. Broken stone layer shall be placed onto finished subgrade accepted by the Engineer. Stone of this size shall meet requirements of SRPS U.E9.020.				
		• d=20 cm	m ²	1,340.00		
01.03.06.04.03.	6.2	Placing and rolling the sub-base of 0/31.5 mm crushed stone onto rolled subgrade accepted by the Engineer. Rolling shall be performed until even surface is achieved according to designed gradients and crossfalls with tolerance of ± 1 cm.				
		• d=15 cm	m ²	1,040.00		
TOTAL SUB-BASES:						
01.03.06.05.		SUPERSTRUCTURE				
01.03.06.05.01.	7.2.	Procurement and placing of 70 cm concrete gutters 70 cm	m'	180.00		
TOTAL SUPERSTRUCTURE:						
01.03.06.06.		STRUCTURES, CULVERTS				
		Small slab-top and pipe culverts				
01.03.06.06.01.	11.3	- Excavation	m ³	35.00		
01.03.06.06.02.	11.3	- Bed of sandy gravel materials, 20 cm thick - price includes procurement and placing of sandy gravel material under the pipes.	m ³	4.00		
01.03.06.06.03.	11.3	Concrete work, MB 30	m ³	13.00		
01.03.06.06.04.	11.3	Prefabricated concrete pipe culverts: - Ø400 mm	m'	10.00		
		- Ø1000 mm	m'	8.00		
01.03.06.06.05.	11.3	- Waterproofing of top surfaces of pipe culverts	m ²	30.00		
TOTAL STRUCTURES, CULVERTS:						

01.03.06. SUMMARY - Detour of local road No.4						
01.03.06.01. PRELIMINARY WORKS						
01.03.06.02. EARTH WORKS						
01.03.06.03. DRAINAGE AND DEWATERING						
01.03.06.04. SUB-BASES						
01.03.06.05. SUPERSTRUCTURE						
01.03.06.06. STRUCTURES, CULVERTS						
TOTAL Detour of local road No.4 (01.03.06.):						

01.03.07. Detour of local road No.5

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.03.07.01.		PRELIMINARY WORKS				
01.03.07.01.01.	2.1.	Geotechnical investigations				
				lump sum		
01.03.07.01.02.	2.4.	Removal of bushes and trees a) cutting bushes up to Ø10 cm: 90 m ² b) cutting bushes Ø10 - Ø25 cm: 110 m ² c) cutting trees Ø10 - Ø20 cm: 22 pcs. d) cutting trees Ø20 - Ø40 cm: 11 pcs. e) uprooting stumps Ø10 - Ø20 cm: 22 pcs. f) uprooting stumps Ø20 - Ø40 cm: 11 pcs.	km'	0.20		
TOTAL PRELIMINARY WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.03.07.02.		EARTH WORKS				
01.03.07.02.01.	3.2.	Bulk excavation and transport (including topsoil stripping and stockpiling, excavation of soil of low bearing capacity, topsoiling and grassing) - Excavation in III and IV category soil with loading, transport and unloading of material from the excavation or borrow pit - 500 m - 1000 m a) topsoil stripping: 318 m ³ b) surplus topsoil: 261 m ³ c) topsoiling and grassing of shoulders: 286 m ²	m ³	346.00		
01.03.07.02.02.	3.3.	Subsoil finishing	m ²	113.00		
01.03.07.02.03.	3.4.	Construction of embankment (including topsoil stripping, excavation of stepped side cuts, shoulder central part, leveling, topsoiling and grassing of embankment slopes) b) shoulder central part: 36 m ³	m ³	1.00		
TOTAL EARTH WORKS:						
01.03.07.03.		DRAINAGE AND DEWATERING				
01.03.07.03.01.	4.3.	Drainage channels - Excavation	m ³	49.00		
TOTAL DRAINAGE AND DEWATERING:						
01.03.07.04.		SUB-BASES				
01.03.07.04.01.	6.1	Sandy gravel materials - placing subgrade layer	m ²	833.00		
01.03.07.04.02.	6.2	Procurement and placing of 0/63 mm crushed stone as rolled sub-base of pavement structure. Broken stone layer shall be placed onto finished subgrade accepted by the Engineer. Stone of this size shall meet requirements of SRPS U.E9.020. • d=20 cm	m ²	770.00		
01.03.07.04.03.	6.2	Placing and rolling the sub-base of 0/31.5 mm crushed stone onto rolled subgrade accepted by the Engineer. Rolling shall be performed until even surface is achieved according to designed gradients and crossfalls with tolerance of ± 1 cm. • d=15 cm	m ²	574.00		
TOTAL SUB-BASES:						
01.03.07.05.		STRUCTURES, CULVERTS				
01.03.07.05.01.	11.3.	Small slab-top and pipe culverts				
	11.3	Prefabricated concrete pipe culverts: - Ø400 mm	m'	23.00		
TOTAL STRUCTURES, CULVERTS:						

01.03.07. SUMMARY - Detour of local road No.5						
01.03.07.01. PRELIMINARY WORKS						
01.03.07.02. EARTH WORKS						
01.03.07.03. DRAINAGE AND DEWATERING						
01.03.07.04. SUB-BASES						
01.03.07.05. STRUCTURES, CULVERTS						
TOTAL Detour of local road No.5 (01.03.07.):						

01.03.08. Detour of local road No.6

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.03.08.01.		PRELIMINARY WORKS				
01.03.08.01.01.	2.1.	Geotechnical investigations				
01.03.08.01.02.	2.4.	Removal of bushes and trees a) cutting bushes up to Ø10 cm: 54 m ² b) cutting bushes Ø10 - Ø25 cm: 66 m ² c) cutting trees Ø10 - Ø20 cm: 13 pcs. d) cutting trees Ø20 - Ø40 cm: 6 pcs. e) uprooting stumps Ø10 - Ø20 cm: 13 pcs. f) uprooting stumps Ø20 - Ø40 cm: 6 pcs.	km'	0.20		
TOTAL PRELIMINARY WORKS:						
01.03.08.02.		EARTH WORKS				
01.03.08.02.01.	3.2.	Bulk excavation and transport (including topsoil stripping and stockpiling, excavation of soil of low bearing capacity, topsoiling and grassing) - Excavation in III and IV category soil with loading, transport and unloading of material from the excavation or borrow pit - up to 60 m a) topsoil stripping: 240 m ³ - 500 m - 1000 m a) surplus topsoil: 199 m ³	m ³	81.00		
01.03.08.02.02.	3.3.	Subsoil finishing	m ²	598.00		
01.03.08.02.03.	3.4.	Construction of embankment (including topsoil stripping, excavation of stepped side cuts, shoulder central part, leveling, topsoiling and grassing of embankment slopes) b) shoulder central part: 12 m ³ c) topsoiling of slopes: 10 m ² d) topsoiling and grassing of shoulders: 194 m ²	m ³	363.00		
01.03.08.02.04.	3.5.	Wedges next to structures	m ³	41.00		
TOTAL EARTH WORKS:						
01.03.08.03.		DRAINAGE AND DEWATERING				
01.03.08.03.01.	4.3.	Drainage channels - Excavation	m ³	26.00		
TOTAL DRAINAGE AND DEWATERING:						
01.03.08.04.		SUB-BASES				
01.03.08.04.01.	6.1	Sandy gravel materials - placing subgrade layer	m ²	1,311.00		
01.03.08.04.02.	6.2	Procurement and placing of 0/63 mm crushed stone as rolled sub-base of pavement structure. Broken stone layer shall be placed onto finished subgrade accepted by the Engineer. Stone of this size shall meet requirements of SRPS U.E9.020. • d=20 cm	m ²	645.00		
01.03.08.04.03.	6.2	Placing and rolling the sub-base of 0/31.5 mm crushed stone onto rolled subgrade accepted by the Engineer. Rolling shall be performed until even surface is achieved according to designed gradients and crossfalls with tolerance of ± 1 cm. • d=15 cm	m ²	540.00		
TOTAL SUB-BASES:						
01.03.08.05.		STRUCTURES, CULVERTS				
01.03.08.05.01.	11.3.	Small slab-top and pipe culverts				
01.03.08.05.02.	11.3	- Excavation	m ³	20.00		
01.03.08.05.03.	11.3	- Bed of sandy gravel materials, 20 cm thick - price includes procurement and placing of sandy gravel material under the pipes.	m ³	4.00		
01.03.08.05.04.	11.3	Concrete work, MB 30	m ³	14.00		
01.03.08.05.05.	11.3	Prefabricated concrete pipe culverts: - Ø1000 mm	m'	8.00		
01.03.08.05.05.	11.3	- Waterproofing of top surfaces of pipe culverts	m ²	30.00		
TOTAL STRUCTURES, CULVERTS:						

01.03.08. SUMMARY - Detour of local road No. 6	
01.03.08.01. PRELIMINARY WORKS	
01.03.08.02. EARTH WORKS	
01.03.08.03. DRAINAGE AND DEWATERING	
01.03.08.04. SUB-BASES	
01.03.08.05. STRUCTURES, CULVERTS	
TOTAL Detour of local road No. 6 (01.03.08.):	

01.03. SUMMARY - LOCAL ROADS	
01.03.05. DETOUR OF M1 ROAD	
01.03.06. DETOUR OF LOCAL ROAD NO. 4	
01.03.07. DETOUR OF LOCAL ROAD NO. 5	
01.03.08. DETOUR OF LOCAL ROAD NO. 6	
SUB-TOTAL	
Unforeseen work (5% of sub-total)	
TOTAL LOCAL ROADS (01.03.):	

01.04. PIPE CULVERTS

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.04.01.		EARTH WORKS				
01.04.01.01.	3.5.	Wedges next to structures	m ³	3,319.00		
TOTAL EARTH WORKS:						
01.04.02.		STRUCTURES, CULVERTS				
01.04.02.01.	11.3.	Small slab-top and pipe culverts				
01.04.02.02.	11.3	- Excavation in III and IV category soil for culverts				
		a) 30% hand excavation	m ³	2,908.00		
		b) 70% mechanical excavation	m ³	6,785.00		
		a) demolition of the existing pipes/structure:	m ³	222.00		
01.04.02.03.	11.3	- Bed of sandy gravel materials, 20 cm thick - price includes procurement and placing of sandy gravel material under the pipes.	m ³	267.00		
01.04.02.04.	11.3	- Concrete work, MB 30	m ³	983.00		
01.04.02.05.	11.3	Prefabricated concrete pipe culverts:				
		- Ø1000 mm	m'	30.50		
		- Ø1600 mm	m'	412.50		
		- Ø2000 mm	m'	77.00		
01.04.02.06.	11.3	- Waterproofing of top surfaces of pipe culverts with two paper layers and three coats of bitumen solution over bituminized paper. Payment per 1 m ² of unfolded area.	m ²	3,004.00		
01.04.02.07.	11.3	- Construction of 20 cm thick paving made of broken stone onto 10 cm thick sand layer with infill of 1:3 cement mortar mix near culverts. Payment per 1 m ² of finished paving.	m ²	103.00		
01.04.02.08.	11.3	- Procurement and fitting of metallic gratings on manholes	pcs.	3.00		
TOTAL STRUCTURES, CULVERTS:						

01.04. SUMMARY - PIPE CULVERTS	
01.04.01. EARTH WORKS	
01.04.02. STRUCTURES, CULVERTS	
SUB-TOTAL	
Unforeseen work (5% of sub-total)	
<i>TOTAL PIPE CULVERTS (01.04.):</i>	

01. SUMMARY - CIVIL ENGINEERING DESIGN	
01.01. HIGHWAY ALIGNMENT	
01.02. "PREDEJANE" GRADE-SEPARATED JUNCTION	
01.03. LOCAL ROADS	
01.04. PIPE CULVERTS	
<i>TOTAL CIVIL ENGINEERING DESIGN (01.):</i>	

02.01. Stormwater sewage system

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
8.5.1/2.01.	4.4.1.	Mechanical and hand trench excavation in II and III category soil for placing of sewers in the road structure.				
		0-2 m				
		mechanical excavation (90%)	m ³	2,525.16		
		hand excavation (10%)	m ³	280.57		
8.5.1/2.01.01	4.4.1.	-Procurement and laying of plastic half-perforated drain pipes for subgrade and median drainage				
		-Ø110 mm	m ¹	1822.00		
8.5.1/2.01.02	4.1.2.	Filling of drainage channels with filter material	m ³	911.00		
8.5.1/2.01.03	8.5.1/2.01.03	Procurement and laying of rubber mat below the pave road	m ²	8746.00		
8.5.1/2.02.	4.4.6.	Procurement, transport, distribution along the trench and assembly of sewer pipes in the trench.				
		Ø160 mm PVC SN8 (gully connections)	m ¹	3.00		
8.5.1/2.03.	4.4.7.	Procurement, transport, distribution along the trench and assembly of sewer pipes in the trench.				
		Ø 300 mm PEHD SN8 class	m ¹	1,608.74		
		Ø 400 mm PEHD SN8 class	m ¹	257.44		
		Ø 500 mm PEHD SN8 class	m ¹			
8.5.1/2.04.	4.4.4.	Construction of Ø 100cm round manholes by using prefabricated elements of impervious reinforced concrete MB 40.	m ¹	118.19		
8.5.1/2.05.	4.4.4.	Placing of lean concrete under the drainage pipes	m ³	1,094.00		
8.5.1/2.06.	8.5.1/2.06.	Cast iron covers	pcs.	5		
8.5.1/2.07.	8.5.1/2.07.	Cast iron rungs	pcs.	473		
8.5.1/2.08.	8.5.1/2.08.	Street gutters with grating	pcs.	3		
8.5.1/2.09.	8.5.1/2.09.	Ø600 mm gutter grating	pcs.	82		
8.5.1/2.10.	8.5.1/2.10.	Geodetic survey of stormwater sewage system including report preparation.	m ¹	1,866.2		
<u>SUB-TOTAL</u>						
Unforeseen work (5% of sub-total)						
<u>TOTAL STORMWATER SEWAGE SYSTEM (02.01.):</u>						

Regulation of water streams
06.09. Regulation of the Juzna Morava River at km 881+002.79

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
06.09.01.		PRELIMINARY WORKS				
06.09.01.01.	2.4.	For river bed regulation: clear ground from brushwood, cut trees up to 10 cm thick and uproot stumps and transport them to dump area specified by the Investor and/or the Engineer. The price includes loading into vehicles, transport to distance of 5 km, unloading and leveling of dump area. Prior to commencement of works, the Contractor in cooperation with the Engineer shall measure quantities and make record into the book. Payment per m ² of cleared area.	m ²	7,644.00		
06.09.01.02.	2.2.	Geodetic surveying. Recovery of apex and traverse in length of river regulated section prior to start of works.	m'	182.00		
TOTAL PRELIMINARY WORKS:						
06.09.02.		EARTH WORKS				
06.09.02.01.	3.1.	Stripping topsoil to depth of 25 cm with clearing weeds and other plants. Topsoil shall be stockpiled at distance up to 5 km. Payment per m ³ of transported material.	m ³	360.25		
06.09.02.02.	11.7.1.	For new river bed regulation: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).				
		a) Work in naturally moist earth (70 %)	m ³	2,836.66		
		b) Work in wet earth (30%)	m ³	1,215.71		
06.09.02.03.	11.7.1.	For construction of supporting structure: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).				
		a) Work in naturally moist earth (70 %)	m ³	30.84		
		b) Work in wet earth (30%)	m ³	13.22		
06.09.02.04.	11.7.1.4.	Hand excavation in earth of II and III category for supporting structures. Material shall be transported to stockpiling area specified by the Engineer. Measurement includes any dewatering operation during works. Payment per m ³ of excavated earth.	m ³	138.40		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
06.09.02.05.	11.7.1.4.	Additional excavation by hand including fine and rough leveling of bed. After mechanical excavation bed bottom and slopes shall be additionally excavated by hand. Excavated material shall be transported to the stockpiling area or used for embankment construction. Leveling shall be performed to accuracy of 2 cm in relation to designed levels. Price includes any dewatering operation during works. Measurement per m ³ .				
		a) Work in naturally moist earth (70 %)	m ³	407.94		
		b) Work in wet earth (30%)	m ³	174.83		
06.09.02.06.	11.7.3.2.	Procurement and spreading of 15 cm thick sandy gravel layer under the regulated bed. Payment per m ³ of spread gravel.	m ³	408.40		
06.09.02.07.	11.7.2.2.	Filling of bank slopes prior to making stone revetment according to cross sections from the design. Slopes shall be filled with excavated material along with spreading and leveling in 30 cm thick layers and mechanical compaction to the required compactness. Payment per m ³ of filled material.	m ³	2,886.73		
		NOTE: Use excavated earth to fill ground and backfill the old river bed.				
06.09.02.08.	3.4.1.5.4.	Protection of slope section from the end point of stone revetment to the existing ground by topsoiling and grassing. Measurement per m ² of topsoiled and grassed area.	m ²	1,498.76		
06.09.02.09.	11.7.1.7.	All material remained from excavation not used for filling shall be transported to the stockpiling area specified by the Engineer. Price includes loading, transport, unloading and rough spreading of material. Payment per m ³ of transported material.	m ³	1,930.86		
TOTAL EARTH WORKS:						
06.09.03.		STONE WORKS				
06.09.03.01.	11.7.3.4.	Formation of slope bases and slopes of regulated river bed section by using d=30 cm hammer-dressed stone embedded in 1:3 cement mortar. For formation of slope bases (2.00x1.00 m) and river bed slopes use only high-quality limestone so that front side edges are parallel. Joints shall be filled with 1 : 2 cement mortar. Payment per m ³ of placed stone.	m ³	938.51		
06.09.03.02.	11.7.3.5.	Construction of supporting structures of d=30 cm stone embedded in cement mortar according to the enclosed design drawings. Payment per m ³ of placed stone.	m ³	176.65		
TOTAL STONE WORKS:						

<u>06.09.SUMMARY - REGULATION OF THE JUZNA MORAVA RIVER AT KM 881+002.79</u>		
06.09.01.	PRELIMINARY WORKS	
06.09.02.	EARTH WORKS	
06.09.03.	STONE WORKS	
<u>TOTAL REGULATION OF THE JUZNA MORAVA RIVER AT KM 881+002.79 (06.09.):</u>		

06.10. Regulation of the Juzna Morava River at km 881+763.53

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
PRELIMINARY WORKS						
06.10.01.	2.4.	For river bed regulation: clear ground from brushwood, cut trees up to 10 cm thick and uproot stumps and transport them to dump area specified by the Investor and/or the Engineer. The price includes loading into vehicles, transport to distance of 5 km, unloading and leveling of dump area. Prior to commencement of works, the Contractor in cooperation with the Engineer shall measure quantities and make record into the book. Payment per m ² of cleared area.	m ²	23,940.00		
06.10.01.02.	2.2.	Geodetic surveying. Recovery of apex and traverse in length of river regulated section prior to start of works.	m'	570.00		
TOTAL PRELIMINARY WORKS:						
EARTH WORKS						
06.10.02.01.	3.1.	Stripping topsoil to depth of 25 cm with clearing weeds and other plants. Topsoil shall be stockpiled at distance up to 5 km. Payment per m ³ of transported material.	m ³	1,200.00		
06.10.02.02.	11.7.1.	For new river bed regulation: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).	m ³	44,488.49		
06.10.02.03.	11.7.1.	a) Work in naturally moist earth (70 %)	m ³	19,066.50		
		b) Work in wet earth (30%)	m ³			
06.10.02.04.	11.7.1.4.	For construction of supporting structure: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).	m ³	651.66		
		a) Work in naturally moist earth (70 %)	m ³	279.28		
		b) Work in wet earth (30%)	m ³			
06.10.02.04.	11.7.1.4.	Hand excavation in earth of II and III category for supporting structures. Material shall be transported to stockpiling area specified by the Engineer. Measurement includes any dewatering operation during works. Payment per m ³ of excavated earth.	m ³	311.40		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
06.10.02.05.	11.7.1.4.	Additional excavation by hand including fine and rough leveling of bed. After mechanical excavation bed bottom and slopes shall be additionally excavated by hand. Excavated material shall be transported to the stockpiling area or used for embankment construction. Leveling shall be performed to accuracy of 2 cm in relation to designed levels. Price includes any dewatering operation during works. Measurement per m ³ .				
		a) Work in naturally moist earth (70 %)	m ³	1,797.63		
		b) Work in wet earth (30%)	m ³	770.41		
06.10.02.06.	11.7.3.2.	Procurement and spreading of 15 cm thick sandy gravel layer under the regulated bed. Payment per m ³ of spread gravel.	m ³	1,831.81		
06.10.02.07.	11.7.2.2.	Filling of bank slopes prior to making stone revetment according to cross sections from the design. Slopes shall be filled with excavated material along with spreading and leveling in 30 cm thick layers and mechanical compaction to the required compactness. Payment per m ³ of filled material.	m ³	6,611.66		
		NOTE: Use excavated earth to fill ground and backfill the old river bed.				
06.10.02.08.	3.4.1.5.4.	Protection of slope section from the end point of stone revetment to the existing ground by topsoiling and grassing. Measurement per m ² of topsoiled and grassed area.	m ²	2,183.58		
06.10.02.09.	11.7.1.7.	All material remained from excavation not used for filling shall be transported to the stockpiling area specified by the Engineer. Price includes loading, transport, unloading and rough spreading of material. Payment per m ³ of transported material.	m ³	60,753.72		
TOTAL EARTH WORKS:						
06.10.03.		STONE WORKS				
06.10.03.01.	11.7.3.4.	Formation of slope bases and slopes of regulated river bed section by using d=30 cm hammer-dressed stone embedded in 1:3 cement mortar. For formation of slope bases (2.00x1.00 m) and river bed slopes use only high-quality limestone so that front side edges are parallel. Joints shall be filled with 1 : 2 cement mortar. Payment per m ³ of placed stone.	m ³	5,348.05		
06.10.03.02.	11.7.3.5.	Construction of supporting structures of d=30 cm stone embedded in cement mortar according to the enclosed design drawings. Payment per m ³ of placed stone.	m ³	471.33		
TOTAL STONE WORKS:						

<u>06.10.SUMMARY - REGULATION OF THE JUZNA MORAVA RIVER AT KM 881+763.53</u>		
06.10.01.	PRELIMINARY WORKS	
06.10.02.	EARTH WORKS	
06.10.03.	STONE WORKS	
<u>TOTAL REGULATION OF THE JUZNA MORAVA RIVER AT KM 881+763.53 (06.10.):</u>		

06.11. Regulation of Caricin brook at km 885+445.07

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
PRELIMINARY WORKS						
06.11.01.	2.4.	For river bed regulation: clear ground from brushwood, cut trees up to 10 cm thick and uproot stumps and transport them to dump area specified by the Investor and/or the Engineer. The price includes loading into vehicles, transport to distance of 5 km, unloading and leveling of dump area. Prior to commencement of works, the Contractor in cooperation with the Engineer shall measure quantities and make record into the book. Payment per m ² of cleared area.	m ²	725.00		
06.11.01.02.	2.2.	Geodetic surveying. Recovery of apex and traverse in length of river regulation prior to starting of works.	m'	73.00		
TOTAL PRELIMINARY WORKS:						
EARTH WORKS						
06.11.02.	11.7.1.	For new river bed regulation: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).				
		a) Work in naturally moist earth (70 %)	m ³	841.00		
		b) Work in wet earth (30%)	m ³	360.43		
06.11.02.03.	11.7.1.	For construction of supporting structure: mechanical excavation in dry and moist earth of II and III category by dredgers or other suitable machines with direct loading into vehicles. Measurement includes excavation, loading, transport, unloading and leveling of stockpiling area after completion of works. Price includes any dewatering operations during works. Excavation shall be performed to accuracy of 10 cm in relation to designed levels. Measurement will be made per cross sections surveyed before and after excavation, transport included (excavation table).				
		a) Work in naturally moist earth (70 %)	m ³	76.66		
		b) Work in wet earth (30%)	m ³	32.86		
06.11.02.04.	11.7.1.4.	Hand excavation in earth of II and III category for supporting structures. Material shall be transported to stockpiling area specified by the Engineer. Measurement includes any dewatering operation during works. Payment per m ³ of excavated earth.	m ³	27.38		
06.11.02.05.	11.7.1.4.	Additional excavation by hand including fine and rough leveling of bed. After mechanical excavation bed bottom and slopes shall be additionally excavated by hand. Excavated material shall be transported to the stockpiling area or used for embankment construction. Leveling shall be performed to accuracy of 2 cm in relation to designed levels. Price includes any dewatering operation during works. Measurement per m ³ .				
		a) Work in naturally moist earth (70 %)	m ³	210.25		
		b) Work in wet earth (30%)	m ³	90.11		
06.11.02.06.	11.7.3.2.	Procurement and spreading of 15 cm thick sandy gravel layer under the regulated bed. Payment per m ³ of spread gravel.	m ³	69.57		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
06.11.02.07.	11.7.2.2.	Filling of bank slopes prior to making stone revetment according to cross sections from the design. Slopes shall be filled with excavated material along with spreading and leveling in 30 cm thick layers and mechanical compaction to the required compactness. Payment per m ³ of filled material.	m ³	189.78		
		NOTE: Use excavated earth to fill ground and backfill the old river bed.				
06.11.02.08.	3.4.1.5.4.	Protection of slope section from the end point of stone revetment to the existing ground by topsoiling and grassing. Measurement per m ² of topsoiled and grassed area.	m ²	99.89		
06.11.02.09.	11.7.1.7.	All material remained from excavation not used for filling shall be transported to the stockpiling area specified by the Engineer. Price includes loading, transport, unloading and rough spreading of material. Payment per m ³ of transported material.	m ³	1,448.90		
TOTAL EARTH WORKS:						
06.11.03.		STONE WORKS				
06.11.03.01.	11.7.3.4.	Lining of regulated river bed section by using d=30 cm hammer-dressed stone embedded in 1:3 cement mortar. For formation of slope bases (2.00x1.00 m) and river bed slopes use only high-quality limestone so that front side edges are parallel. Joints shall be filled with 1 : 2 cement mortar. Payment per m ³ of placed stone.	m ³	179.26		
06.11.03.02.	11.7.3.5.	Construction of supporting structures of d=30 cm stone embedded in cement mortar according to the enclosed design drawings. Payment per m ³ of placed stone.	m ³	58.59		
06.11.03.03	11.7.3.3.	Rip-rap over the existing river bed, upstream (l=5.0+5.0 m) from the regulated bed. Payment per m ³ of placed stone.	m ³	10.00		
TOTAL STONE WORKS:						

06.11.SUMMARY - PREGULATION OF CARICIN BROOK AT KM 885+445.07						
06.11.01. PRELIMINARY WORKS						
06.11.02. EARTH WORKS						
06.11.03. STONE WORKS						
<u>TOTAL REGULATION OF CARICIN BROOK AT KM 885+445.07 (06.11.):</u>						

06. REGULATION OF WATER STREAMS - SUMMARY						
06.09. REGULATION OF THE JUZNA MORAVA RIVER AT km 881+002.79						
06.10. REGULATION OF THE JUZNA MORAVA RIVER AT km 881+763.53						
06.11. REGULATION OF CARICIN BROOK AT km 885+445.07						
SUB-TOTAL						
Unforeseen work (5% of sub-total)						
<u>TOTAL REGULATION OF WATER STREAMS (06.):</u>						

**07.16. Supporting structure of reinforced earth 16 leftwards,
from km 881+332,32 to km 881+450 L=114,81 m**

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.16.06.		PRELIMINARY WORKS				
07.16.06.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.16.07.		EARTH WORKS				
07.16.07.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m ² . Measurement is made in the LOT 2 Civil engineering design.	m ²			
07.16.07.02.	11.1.1	Excavation of earth Price includes excavation of II and III category earth, loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m ³ . Measurement is made in the LOT 2 Civil engineering design.	m ³			
07.16.07.03.	07.16.07.03	Construction of embankment This item includes construction of earth embankment with min. 30% of 0-125 mm stone fractions. Measurement unit is m ³ .	m ³	21,852.94		
TOTAL EARTH WORKS:						
07.16.08.		CONCRETE WORKS				
07.16.08.01.	11.1.2	Construction of foundation with MB20 plain concrete This item includes procurement, transport of necessary material, work on concrete mixing and placing, quality proof and other related works. Measurement unit is m ³	m ³	14.47		
07.16.08.02.	11.1.2	Construction of top section of retaining wall This item includes concreting of top section of retaining wall with MB 30 concrete, fully in accordance with designed detail. Measurement unit is m ³ .	m ³	6.43		
TOTAL CONCRETE WORKS:						
07.16.09.		REINFORCEMENT WORKS				
07.16.09.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg	kg	377.72		
TOTAL REINFORCEMENT WORKS:						
07.16.10.		WORKS WITH GEOSYNTHETIC MATERIALS				
07.16.10.01.	07.16.10.01.	Placing of geogrids This item includes procurement, cutting and placing of geogrids as designed. Measurement unit is m ² a) geogrid M1 with Tdop= 8,21KN/m	m ²	2,040.00		
		a) geogrid M2 with Tdop= 18,14KN/m	m ²	2,735.00		
07.16.10.02.	07.16.10.02.	Procurement and installation of connectors This item includes procurement and installation of polyethylene connectors to connect geogrids and concrete blocks. Measurement unit is m`	m`	1,299.00		
TOTAL WORKS WITH GEOSYNTHETIC MATERIALS :						
07.16.11.		MASONRY WORKS				
07.16.11.01.	8.3.6	Building wall face of concrete blocks This item includes procurement, transport and building wall face of concrete blocks MB30, V4, M150, 40x 15x22 in size. Measurement unit is piece.	pcs	7,913.00		
TOTAL MASONRY WORKS:						

07.16. SUMMARY Supporting structure of reinforced earth 16 -leftwards, from km 881+332,32 to km 881+450, L=114,81m	
07.16.06. PRELIMINARY WORKS	
07.16.07. EARTH WORKS	
07.16.08. CONCRETE WORKS	
07.16.09. REINFORCEMENT WORKS	
07.16.10. WORKS WITH GEOSYNTHETIC MATERIALS	
07.16.11. MASONRY WORKS	
<u>TOTAL Supporting structure of reinforced earth 16 -leftwards, from km 881+332,32 to km 881+450, L=114,81m(07.16.):</u>	

07.17. Retaining wall 17 in the central reserve
from km 882+203 to km 882+675 L=472,71 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.17.01.		PRELIMINARY WORKS				
07.17.01.01.	2.4.1	PRELIMINARY WORKS				
		Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.17.02.		EARTH WORKS				
07.17.02.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m ² . Measurement is made in the LOT 2 Civil engineering design.	m ²			
07.17.02.02.	11.1.1	Excavation of earth for walls Price includes excavation of III and IV category earth, loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m ³ . Measurement is made in the LOT 2 Civil engineering design.	m ³			
TOTAL EARTH WORKS:						
07.17.03.		CONCRETE WORKS				
07.17.03.01.	11.1.2	Construction of concrete cap Price includes construction of reinforced concrete cap ring by ring, fully in accordance with designed details. Measurement unit is m ³	m ³	184.36		
07.17.03.02.	11.1.2	Construction of concrete wall foundation This item includes concreting of wall foundation with MB 30 plain concrete, d=50 cm. Measurement unit is m ³ .	m ³	366.35		
TOTAL CONCRETE WORKS:						
07.17.04.		MASONRY WORKS				
07.17.04.01.	07.17.04.01.	Construction of stone wall Price includes construction of stone wall of 20-40 cm fractions in cement mortar, fully in accordance with designed details. Measurement unit is m ³ .	m ³	2,736.99		
TOTAL MASONRY WORKS:						
07.17.05.		REINFORCEMENT WORKS				
07.17.05.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg.	kg	8,944.32		
TOTAL REINFORCEMENT WORKS:						
07.17.06.		SUNDRIES				
07.17.06.01.	11.1	Plastic pipes f100 mm for weepholes Price includes procurement and laying of φ100 mm plastic pipes for weepholes including all related works. Measurement unit is m ¹ .	m ¹	228.00		
TOTAL SUNDRIES:						

07.17. SUMMARY Retaining wall 17-in the central reserve from km 882+203 to km 882+675, L=472m	
07.17.01. PRELIMINARY WORKS	
07.17.02. EARTH WORKS	
07.17.03. CONCRETE WORKS	
07.17.04. MASONRY WORKS	
07.17.05. REINFORCEMENT WORKS	
07.17.06. SUNDRIES	
<i>TOTAL Retaining wall 17-in the central reserve from km 882+203 to km 882+675, L=472,71m(07.17.):</i>	

**07.18. Supporting structure of reinforced earth 18 leftwards,
from km 882+320 to km 882+480 L=160 m**

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.18.06.		PRELIMINARY WORKS				
07.18.06.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.18.07.		EARTH WORKS				
07.18.07.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m ² . Measurement is made in the LOT 2 Civil engineering design.	m ²			
07.18.07.02.	11.1.1	Excavation of earth Price includes excavation of II and III category earth, loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m ³ . Measurement is made in the LOT 2 Civil engineering design.	m ³			
07.18.07.03.		Construction of embankment This item includes construction of earth embankment with min. 30% of 0-125 mm stone fractions. Measurement unit is m ³ .	m ³	4,486.17		
TOTAL EARTH WORKS:						
07.18.08.		CONCRETE WORKS				
07.18.08.01.	11.1.2	Construction of foundation with MB20 plain concrete This item includes procurement, transport of necessary material, work on concrete mixing and placing, quality proof and other related works. Measurement unit is m ³	m ³	20.16		
07.18.08.02.	11.1.2	Construction of top section of retaining wall This item includes concreting of top section of retaining wall with MB 30 concrete, fully in accordance with designed detail. Measurement unit is m ³ .	m ³	8.96		
TOTAL CONCRETE WORKS:						
07.18.09.		REINFORCEMENT WORKS				
07.18.09.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg	kg	526.40		
TOTAL REINFORCEMENT WORKS:						
07.18.10.		WORKS WITH GEOSYNTHETIC MATERIALS				
07.18.10.01.	07.18.10.01.	Placing of geogrids This item includes procurement, cutting and placing of geogrids as designed. Measurement unit is m ² a) geogrid M1 with T _{dop} = 8,21KN/m	m ²	4,666.00		
		a) geogrid M2 with T _{dop} = 18,14KN/m	m ²	5,611.00		
07.18.10.02.	07.18.10.02.	Procurement and installation of connectors This item includes procurement and installation of polyethylene connectors to connect geogrids and concrete blocks. Measurement unit is m [`]	m [`]	2,423.00		
TOTAL WORKS WITH GEOSYNTHETIC MATERIALS :						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.18.11.		MASONRY WORKS				
07.18.11.01.	8.3.6	Building wall face of concrete blocks This item includes procurement, transport and building wall face of concrete blocks MB30, V4, M150, 40x 15x22 in size. Measurement unit is piece.	pcs	14,602.00		
TOTAL MASONRY WORKS:						

07.18. SUMMARY Supporting structure of reinforced earth 18 -leftwards, from km 882+320 to km 882+480, L=160m						
07.18.06. PRELIMINARY WORKS						
07.18.07. EARTH WORKS						
07.18.08. CONCRETE WORKS						
07.18.09. REINFORCEMENT WORKS						
07.18.10. WORKS WITH GEOSYNTHETIC MATERIALS						
07.18.11. MASONRY WORKS						
TOTAL Supporting structure of reinforced earth 18 -leftwards, from km 882+320 to km 882+480, L=160m(07.18.):						

07.19. Retaining wall 19 leftwards, from km 883+250 to km 883+515 L=267 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.19.01.		PRELIMINARY WORKS				
07.19.01.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.19.02.		EARTH WORKS				
07.19.02.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m2. Measurement is made in the LOT 2 Civil engineering design.	m ²			
07.19.02.02.	11.1.1	Excavation of earth for walls Price includes excavation of III and IV category earth, loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m3. Measurement is made in the LOT 2 Civil engineering design.	m ³			
07.19.02.03.	3.4.1.4	Filling and compaction Price includes the following machine operations: filling and spreading, fine and rough leveling, wetting and compaction of locally excavated material. Measurement unit is m3.	m ³	1,110.72		
07.19.02.04.	3.4.1.1	Embankment slope topsoiling This item includes embankment topsoiling above the filter filling in 15 cm thick layer. Measurement unit is m2.	m ²	507.30		
TOTAL EARTH WORKS:						
07.19.03.		CONCRETE WORKS				
07.19.03.01.	11.1.2	Construction of retaining walls Price includes concreting of retaining walls ring by ring with MB30, V4, M150 reinforced concrete, fully in accordance with designed details. Measurement unit is m3	m ³	1,957.11		
07.19.03.02.	11.1.2	Construction of concrete cap on the wall This item includes construction of cap of MB 30 plain concrete, fully in accordance with designed detail. Measurement unit is m3.	m ³	72.09		
TOTAL CONCRETE WORKS:						
07.19.04.		REINFORCEMENT WORKS				
07.19.04.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg.	kg	64,694.39		
TOTAL REINFORCEMENT WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.19.05.		SUNDRIES				
07.19.05.01.	11.1.4	Placing of drainage filter This item includes placing of gravel filter behind the wall including procurement and transport, fully as designed.				
		Measurement unit is m3.	m ³	568.71		
07.19.05.02.	11.1	Plastic pipes f100 mm for weepholes Price includes procurement and laying of φ100 mm plastic pipes for weepholes including all related works.				
		Measurement unit is m`.	m`	107.00		
TOTAL SUNDRIES:						

07.19. SUMMARY Retaining wall 19-leftwards, from km 883+250 to km 883+515, L=267m						
07.19.01. PRELIMINARY WORKS						
07.19.02. EARTH WORKS						
07.19.03. CONCRETE WORKS						
07.19.04. REINFORCEMENT WORKS						
07.19.05. SUNDRIES						
TOTAL Retaining wall 19-leftwards, from km 883+250 to km 883+515, L=267m (07.19.):						

07.20. Supporting structure of reinforced earth 20
in the central reserve from km 883+582,42 to km 883+685,14 L=102,60 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.20.06.		PRELIMINARY WORKS				
07.20.06.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.20.07.		EARTH WORKS				
07.20.07.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m2. Measurement is made in the LOT 2 Civil engineering design.	m ²			
07.20.07.02.	11.1.1	Excavation of earth Price includes excavation of II and III category earth, loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m3. Measurement is made in the LOT 2 Civil engineering design..	m ³			
TOTAL EARTH WORKS:						
07.20.08.		CONCRETE WORKS				
07.20.08.01.	11.1.2	Construction of foundation with MB20 plain concrete This item includes procurement, transport of necessary material, work on concrete mixing and placing, quality proof and other related works. Measurement unit is m3	m ³	12.93		
07.20.08.02.	11.1.2	Construction of top section of retaining wall This item includes concreting of top section of retaining wall with MB 30 concrete, fully in accordance with designed detail. Measurement unit is m3.	m ³	37.96		
TOTAL CONCRETE WORKS:						
07.20.09.		REINFORCEMENT WORKS				
07.20.09.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is m3	m ³	350.00		
TOTAL REINFORCEMENT WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.20.10.		WORKS WITH GEOSYNTHETIC MATERIALS				
07.20.10.01.	07.20.10.01.	Placing of geogrids This item includes procurement, cutting and placing of geogrids as designed. Measurement unit is m ² a) geogrid M1 with T _{dop} = 8,21KN/m	m ²	1,295.00		
07.20.10.02.	07.20.10.02.	a) geogrid M2 with T _{dop} = 18,14KN/m Procurement and installation of connectors This item includes procurement and installation of polyethylene connectors to connect geogrids and concrete blocks. Measurement unit is m ²	m ²	1,750.00		
			m ²	1,015.00		
TOTAL WORKS WITH GEOSYNTHETIC MATERIALS						
07.20.11.		MASONRY WORKS				
07.20.11.01.	8.3.6	Building wall face of concrete blocks This item includes procurement, transport and building wall face of concrete blocks MB30, V4, M150, 40x 15x22 in size. Measurement unit is piece ² .	pcs	6,325.00		
TOTAL MASONRY WORKS:						

07.20. SUMMARY Supporting structure of reinforced earth 20 -in the central reserve, from km 883+582,42 to km 883+685,14, L=102,60m						
07.20.06.	PRELIMINARY WORKS					
07.20.07.	EARTH WORKS					
07.20.08.	CONCRETE WORKS					
07.20.09.	REINFORCEMENT WORKS					
07.20.10.	WORKS WITH GEOSYNTHETIC MATERIALS					
07.20.11.	MASONRY WORKS					
TOTAL Supporting structure of reinforced earth 20 -in the central reserve, from km 883+582,42 to km 883+685,14, L=102,60m(07.20.):						

07.21. Supporting structure of reinforced earth 21 rightwards, from km 883+591,72 to km 883+810 L=220 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.21.06.		PRELIMINARY WORKS				
07.21.06.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.18.07.		EARTH WORKS				
07.21.07.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m ² . Measurement is made in the LOT 2 Civil engineering design.	m ²			
07.21.07.02.	11.1.1	Excavation of earth Price includes excavation of II and III category earth, loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m ³ . Measurement is made in the LOT 2 Civil engineering design.	m ³			
07.21.07.03.	07.21.07.03.	Construction of embankment This item includes construction of earth embankment with min. 30% of 0-125 mm stone fractions. Measurement unit is m ³ .	m ³	26,850.00		
TOTAL EARTH WORKS:						
07.21.08.		CONCRETE WORKS				
07.21.08.01.	11.1.2	Construction of foundation with MB20 plain concrete This item includes procurement, transport of necessary material, work on concrete mixing and placing, quality proof and other related works. Measurement unit is m ³	m ³	27.72		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.21.08.02.	11.1.2	Construction of top section of retaining wall This item includes concreting of top section of retaining wall with MB 30 concrete, fully in accordance with designed detail. Measurement unit is m3.	m ³	13.20		
TOTAL CONCRETE WORKS:						
07.21.09.		REINFORCEMENT WORKS				
07.21.09.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg	kg	760.00		
TOTAL REINFORCEMENT WORKS:						
07.21.10.		WORKS WITH GEOSYNTHETIC MATERIALS				
07.21.10.01.	07.21.10.01.	Placing of geogrids This item includes procurement, cutting and placing of geogrids as designed. Measurement unit is m2 a) geogrid M1 with Tdop= 8,21KN/m	m ²	6,480.00		
		a) geogrid M2 with Tdop= 18,14KN/m	m ²	7,840.00		
07.21.10.02.	07.21.10.02.	Procurement and installation of connectors This item includes procurement and installation of polyethylene connectors to connect geogrids and concrete blocks. Measurement unit is m`	m`	3,300.00		
TOTAL SUNDRIES:						
07.21.11.		MASONRY WORKS				
07.21.11.01.	8.3.6	Building wall face of concrete blocks This item includes procurement, transport and building wall face of concrete blocks MB30, V4, M150, 40x 15x22 in size. Measurement unit is piece.	pcs	18,270.00		
TOTAL MASONRY WORKS:						
07.21. SUMMARY Supporting structure of reinforced earth 21 -rightwards, from km 883+591,72 to km 883+810, L=220m						
07.21.06.	PRELIMINARY WORKS					
07.21.07.	EARTH WORKS					
07.21.08.	CONCRETE WORKS					
07.21.09.	REINFORCEMENT WORKS					
07.21.10.	WORKS WITH GEOSYNTHETIC MATERIALS					
07.21.11.	MASONRY WORKS					
TOTAL Supporting structure of reinforced earth 21 -rightwards, from km 883+591,72 to km 883+810, L=220m(07.21.):						
07.22. Supporting structure made of walls and piles - 22 leftwards, stone walls- from km 883+630 to km 883+725 and from km 883+868,74 to km 883+896,59 L=95,21+28,55 =123,76 m						
Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.22.01.		PRELIMINARY WORKS				
07.22.01.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.22.02.		EARTH WORKS				
07.22.02.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m2. Measurement is made in the LOT 2 Civil engineering design.	m ²			
07.22.02.02.	11.1.1	Excavation of earth for walls Price includes excavation of III and IV category earth,loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m3. Measurement is made in the LOT 2 Civil engineering design.	m ³			
TOTAL EARTH WORKS						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.22.03.		CONCRETE WORKS				
07.22.03.01.	11.1.2	Construction of concrete cap Price includes construction of reinforced concrete cap ring by ring, fully in accordance with designed details.				
		Measurement unit is m ³	m ³	48.27		
07.22.03.02.	11.1.2	Construction of concrete wall foundation This item includes concreting of wall foundation with MB 30 plain concrete, d=50 cm. Measurement unit is m ³ .	m ³	103.96		
TOTAL CONCRETE WORKS						
07.22.04.		MASONRY WORKS				
07.22.04.01.	07.22.04.01.	Construction of stone wall Price includes construction of stone wall of 20-40 cm fractions in cement mortar, fully in accordance with designed details. Measurement unit is m ³ .	m ³	650.00		
TOTAL MASONRY WORKS						
07.22.05.		REINFORCEMENT WORKS				
07.22.05.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg.	kg	2,345.00		
TOTAL REINFORCEMENT WORKS						
07.22.06.		SUNDRIES				
07.22.06.01.	11.1	Plastic pipes f100 mm for weepholes Price includes procurement and laying of ϕ100 mm plastic pipes for weepholes including all related works. Measurement unit is m`.	m`	60.00		
TOTAL SUNDRIES						

07.22. SUMMARY Supporting structure made of walls and piles 22, stone walls from km 883+630 to km 883+725 and from km 883+868,74 to km 883+896,59, L=95,21+28,55=123,76m						
07.22.01.	PRELIMINARY WORKS					
07.22.02.	EARTH WORKS					
07.22.03.	CONCRETE WORKS					
07.22.04.	MASONRY WORKS					
07.22.05.	REINFORCEMENT WORKS					
07.22.06.	SUNDRIES					
TOTAL Supporting structure of walls and piles 22, stone walls from km 883+630 to km 883+725 and from km 883+868,74 to km 883+896,59, L=95,21+28,55=123,76m (07.22.):						

07.22. Supporting structure made of walls and piles - 22
and piles from km 883+725 to km 883+868,74 L=146,70 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.22.12.		PRELIMINARY WORKS				
07.22.12.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
Supporting structure MADE OF PILES						
07.22.13.		CONCRETE WORKS				
07.22.13.01.	11.1.7.	Casting Ø 100 cm piles of MB30 reinforced concrete, RA 400/500 - 2 Price includes all works and materials required for concreting of piles. Reinforcement shall be paid separately.				
		a) long piles l=11m, (12pcs.)	m ³	103.62		
		b) long piles l=10m, (54pcs.)	m ³	423.90		
		c) long piles l=9,5m, (1pcs.)	m ³	7.46		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.22.13.02.	11.1.8	d) long piles l=9m, (1pcs.)	m ³	7.06		
		e) long piles l=8,5m, (2pcs.)	m ³	6.67		
		f) long piles l=8m, (1pcs.)	m ³	6.28		
		g) long piles l=7,5m, (1pcs.)	m ³	5.89		
		h) long piles l=7m, (1pcs.)	m ³	5.50		
		Measurement unit is m3.				
07.22.13.03.	11.2	Casting pile cap of MB30 reinforced concrete Price includes all works and materials required for concreting of pile cap. Reinforcement shall be paid separately. Measurement unit is m3.	m ³	125.87		
07.22.13.04.	11.1.2	Making drainage filling of single-size aggregate concrete Measurement unit is m3.	m ³	273.00		
		Casting reinforced concrete carcass of MB30 and MA 500/560 concrete Measurement unit is m3.	m ³	153.92		

TOTAL CONCRETE WORKS:

07.22.14.		REINFORCEMENT WORKS				
07.22.14.01.	11.1.7	Pile reinforcement a)RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg	kg	69,346.00		
07.22.14.02.	11.1.8	Pile cap reinforcement a)RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg	kg	5,478.00		
07.22.14.03.	11.1.3	RC carcass reinforcement a)MAG 500/560 mesh reinforcement Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg	kg	1,916.00		
07.22.14.04.	11.1.3	a)RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg	kg	1,443.00		

TOTAL REINFORCEMENT WORKS:

07.22.15.		SUNDRIES				
07.22.15.01.	11.1.5	Installation of active prestressed anchors, la=17.0 m. Anchors consist of Ø16 mm three-wire cables. Strength of one anchor: Srač=442 kN. Price includes cable formation, drilling Ø116 mm holes, installation of anchors, grouting all phases, prestressing of anchors and formation of protection cap. Price also includes manufacture of experimental anchors which quantity shall be 3% of the total number of Measurement unit is piece	piece	37.00		

TOTAL SUNDRIES:

07.22. SUMMARY Supporting structure made of walls and piles - 22 -leftwards, piles from km 883+725 to km 883+868,74, L=146,70m						
07.05.12. PRELIMINARY WORKS						
07.05.13. CONCRETE WORKS						
07.05.14. REINFORCEMENT WORKS						
07.05.15. SUNDRIES						
TOTAL Supporting structure made of walls and piles - 22 -leftwards, uunogand from km 883+725 to km 883+868,74, L=146,70m(07.22.):						

07.23. Retaining wall 23 in the central reserve
from km 883+685,14 to km 884+570,00 L=886 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.23.01.		PRELIMINARY WORKS				
07.23.01.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.23.02.		EARTH WORKS				
07.23.02.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m ² . Measurement is made in the LOT 2 Civil engineering design.	m ²			
07.23.02.02.	11.1.1	Excavation of earth for walls Price includes excavation of III and IV category earth, loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m ³ . Measurement is made in the LOT 2 Civil engineering design.	m ³			
TOTAL EARTH WORKS:						
07.23.03.		CONCRETE WORKS				
07.23.03.01.	11.1.2	Construction of concrete cap Price includes construction of reinforced concrete cap ring by ring, fully in accordance with designed details. Measurement unit is m ³	m ³	345.54		
07.23.03.02.	11.1.2	Construction of concrete wall foundation This item includes concreting of wall foundation with MB 30 plain concrete, d=50 cm. Measurement unit is m ³ .	m ³	762.00		
TOTAL CONCRETE WORKS:						
07.23.04.		MASONRY WORKS				
07.23.04.01.	07.23.04.01.	Construction of stone wall Price includes construction of stone wall of 20-40 cm fractions in cement mortar, fully in accordance with designed details. Measurement unit is m ³ .	m ³	3,800.00		
TOTAL MASONRY WORKS:						
07.23.05.		REINFORCEMENT WORKS				
07.23.05.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg.	kg	16,700.00		
TOTAL REINFORCEMENT WORKS:						
07.23.06.		SUNDRIES				
07.23.06.01.	11.1	Plastic pipes f100 mm for weepholes Price includes procurement and laying of φ100 mm plastic pipes for weepholes including all related works. Measurement unit is m`.	m`	420.00		
TOTAL SUNDRIES:						

07.23. SUMMARY Retaining wall 23-in the central reserve from km 883+685,14 to km 884+570,00, L=886m						
07.23.01. PRELIMINARY WORKS						
07.23.02. EARTH WORKS						
07.23.03. CONCRETE WORKS						
07.23.04. MASONRY WORKS						
07.23.05. REINFORCEMENT WORKS						
07.23.06. SUNDRIES						
TOTAL Retaining wall 23-in the central reserve from km 883+685,14 to km 884+570,00, L=886m(07.23.):						

07.24. Retaining wall 24 leftwards ,
from km 883+940 to km 884+030 L=92,23 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.24.01.		PRELIMINARY WORKS				
07.24.01.01.	2.4.1	PRELIMINARY WORKS				
		Works shall be paid in a lump sum..		lump sum		
TOTAL PRELIMINARY WORKS:						
07.24.02.		EARTH WORKS				
07.24.02.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m2.	m ²			
07.24.02.02.	11.1.1	Excavation of earth for walls Price includes excavation of III and IV category earth, loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m3. Measurement is made in the LOT 2 Civil engineering design.	m ³			
TOTAL EARTH WORKS:						
07.24.03.		CONCRETE WORKS				
07.24.03.01.	11.1.2	Construction of concrete cap Price includes construction of reinforced concrete cap ring by ring, fully in accordance with designed details. Measurement unit is m3	m ³	36.00		
07.24.03.02.	11.1.2	Construction of concrete wall foundation This item includes concreting of wall foundation with MB 30 plain concrete, d=50 cm. Measurement unit is m3.	m ³	79.50		
TOTAL CONCRETE WORKS:						
07.24.04.		MASONRY WORKS				
07.24.04.01.	07.24.04.01.	Construction of stone wall Price includes construction of stone wall of 20-40 cm fractions in cement mortar, fully in accordance with designed details. Measurement unit is m3.	m ³	700.00		
TOTAL MASONRY WORKS:						
07.24.05.		REINFORCEMENT WORKS				
07.24.05.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg.	kg	1,750.00		
TOTAL REINFORCEMENT WORKS:						
07.24.06.		SUNDRIES				
07.24.06.01.	11.1	Plastic pipes f100 mm for weepholes Price includes procurement and laying of ϕ100 mm plastic pipes for weepholes including all related works. Measurement unit is m`.	m`	45.00		
TOTAL SUNDRIES:						

07.24. SUMMARY Retaining wall 24-in the central reserve from km 883+940 to km 884+030, L=92,23m						
07.24.01. PRELIMINARY WORKS						
07.24.02. EARTH WORKS						
07.24.03. CONCRETE WORKS						
07.24.04. MASONRY WORKS						
07.24.05. REINFORCEMENT WORKS						
07.24.06. SUNDRIES						
TOTAL Retaining wall 24-in the central reserve from km 883+940 to km 884+030, L=92,23m (07.24.):						

07.25. Supporting structure 25 made of piles 25 leftwards
piles from KM 884+265 to km 884+390 L=125,22 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.25.12.		PRELIMINARY WORKS				
07.25.12.01.	2.4.1	PRELIMINARY WORKS				
		Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
Supporting structure MADE OF PILES						
07.25.13.		CONCRETE WORKS				
07.25.13.01.	11.1.7.	Casting Ø 100 cm piles of MB30 reinforced concrete, RA 400/500 - 2 Price includes all works and materials required for concreting of piles. Reinforcement shall be paid separately. a) long piles l=8m, (63pcs.) Measurement unit is m3.	m ³	395.64		
07.25.13.02.	11.1.8	Casting pile cap of MB30 reinforced concrete Price includes all works and materials required for concreting of pile cap. . Reinforcement shall be paid separately. Measurement unit is m3.	m ³	130.23		
07.25.13.03.	11.2	Making drainage filling of single-size aggregate concrete Measurement unit is m3.	m ³	220.00		
07.25.13.04.	11.1.2	Casting reinforced concrete carcass of MB30 and MA 500/560 concrete Measurement unit is m3.	m ³	96.86		
TOTAL CONCRETE WORKS:						
07.25.14.		REINFORCEMENT WORKS				
07.25.14.01.	11.1.7	Pile reinforcement a) RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg	kg	48,500.00		
07.25.14.02.	11.1.8	Pile cap reinforcement a) RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg	kg	4,310.00		
07.25.14.03.	11.1.3	RC carcass reinforcement a) MAG 500/560 mesh reinforcement Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg	kg	1,392.00		
07.25.14.04.	11.1.3	a) RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg	kg	1,245.00		
TOTAL REINFORCEMENT WORKS:						
07.25.15.		SUNDRIES				
07.25.15.01.	11.1.5	Installation of active prestressed anchors, la=17.0 m. Anchors consist of Ø16 mm three-wire cables. Strength of one anchor: Srač.=442 kN. Price includes cable formation, drilling Ø116 mm holes, installation of anchors, grouting all phases, prestressing of anchors and formation of protection cap. Price also includes manufacture of experimental anchors which quantity shall be 3% of the total number of Measurement unit is piece	piece	32.00		
TOTAL SUNDRIES:						

07.25. SUMMARY Supporting structure made of piles 25 -leftwards, piles from km 884+265 to km 884+390, L=125,22m	
07.25.12. PRELIMINARY WORKS	
07.25.13. CONCRETE WORKS	
07.25.14. REINFORCEMENT WORKS	
07.25.15. SUNDRIES	
TOTAL Supporting structure made of piles - 25 -leftwards, piles from km 884+265 to km 884+390, L=125,22m(07.25.):	

07.26. Retaining wall 26 leftwards, from km 884+725 to km 884+846 L=120,05 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.26.01.		PRELIMINARY WORKS				
07.26.01.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.26.02.		EARTH WORKS				
07.26.02.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m ² . Measurement is made in the LOT 2 Civil engineering design.	m ²			
07.26.02.02.	11.1.1	Excavation of earth for walls Price includes excavation of III and IV category earth, loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m ³ . Measurement is made in the LOT 2 Civil engineering design.	m ³			
07.26.02.03.	3.4.1.4	Filling and compaction Price includes the following machine operations: filling and spreading, fine and rough leveling, wetting and compaction of locally excavated material. Measurement unit is m ³ .	m ³	600.25		
07.26.02.04.	3.4.1.1	Embankment slope topsoiling This item includes embankment topsoiling above the filter filling in 15 cm thick layer. Measurement unit is m ² .	m ²	720.00		
TOTAL EARTH WORKS:						
07.26.03.		CONCRETE WORKS				
07.26.03.01.	11.1.2	Construction of retaining walls Price includes concreting of retaining walls ring by ring with MB30, V4, M150 reinforced concrete, fully in accordance with designed details. Measurement unit is m ³	m ³	1,075.00		
TOTAL CONCRETE WORKS:						
07.26.04.		REINFORCEMENT WORKS				
07.26.04.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg.	kg	38,079.00		
TOTAL REINFORCEMENT WORKS:						
07.26.05.		SUNDRIES				
07.26.05.01.	11.1.4	Placing of drainage filter This item includes placing of gravel filter behind the wall including procurement and transport, fully as designed. Measurement unit is m ³ .	m ³	370.00		
07.26.05.02.	11.1	Plastic pipes f100 mm for weepholes Price includes procurement and laying of f100 mm plastic pipes for weepholes including all related works. Measurement unit is m.	m	48.00		
TOTAL SUNDRIES:						

07.26. SUMMARY Retaining wall 26-leftwards, from km 884+725 to km 884+846, L=120,05m	
07.26.01. PRELIMINARY WORKS	
07.26.02. EARTH WORKS	
07.26.03. CONCRETE WORKS	
07.26.04. REINFORCEMENT WORKS	
07.26.05. SUNDRIES	
TOTAL Retaining wall 26-leftwards, from km 884+725 to km 884+846, L=120,05m(07.26.):	

07.M1. Retaining wall M1 leftwards, from km 0+414 to km 0+554 (following the M1 detour centerline)
L=140,87 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.M1.01.		PRELIMINARY WORKS				
07.M1.01.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.M1.02.		EARTH WORKS				
07.M1.02.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m ² . Measurement is made in the LOT 2 Civil engineering design.	m ²			
07.M1.02.02.	11.1.1	Excavation of earth for walls Price includes excavation of III and IV category earth, loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m ³ . Measurement is made in the LOT 2 Civil engineering design.	m ³			
07.M1.02.03.	3.4.1.4	Filling and compaction Price includes the following machine operations: filling and spreading, fine and rough leveling, wetting and compaction of locally excavated material. Measurement unit is m ³ .	m ³	565.00		
07.M1.02.04.	3.4.1.1	Embankment slope topsoiling This item includes embankment topsoiling above the filter filling in 15 cm thick layer. Measurement unit is m ² .	m ²	1,735.00		
TOTAL EARTH WORKS:						
07.M1.03.		CONCRETE WORKS				
07.M1.03.01.	11.1.2	Construction of retaining walls Price includes concreting of retaining walls ring by ring with MB30, V4, M150 reinforced concrete, fully in accordance with designed details. Measurement unit is m ³	m ³	1,183.00		
TOTAL CONCRETE WORKS:						
10.M1.04.		REINFORCEMENT WORKS				
10.M1.04.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg.	kg	39,755.00		
TOTAL REINFORCEMENT WORKS:						
07.M1.05.		SUNDRIES				
07.M1.05.01.	11.1.4	Placing of drainage filter This item includes placing of gravel filter behind the wall including procurement and transport, fully as designed. Measurement unit is m ³ .	m ³	435.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.M1.05.02.	11.1	Plastic pipes f100 mm for weepholes Price includes procurement and laying of ϕ 100 mm plastic pipes for weepholes including all related works. Measurement unit is m`.	m`	56.50		
TOTAL SUNDRIES:						

07.M1 SUMMARY Retaining wall M1-leftwards, from km 0+414 to km 0+554(following the M1 detour centerline), L=140,87m						
07.M1.01. PRELIMINARY WORKS						
07.M1.02. EARTH WORKS						
07.M1.03. CONCRETE WORKS						
07.M1.04. REINFORCEMENT WORKS						
07.M1.05. SUNDRIES						
TOTAL Retaining wall M1-leftwards, from km 0+414 to km 0+554(following the M1 detour centerline), L=140,87m(07.M1.):						

**07.M2. Supporting structure of reinforced earth M2 rightwards,
from km 0+565,38 to km 0+604,10 (following the M1 detour centerline) L=38,40 m**

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.M2.06.		PRELIMINARY WORKS				
07.M2.06.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.M2.07.		EARTH WORKS				
07.M2.07.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m2. Measurement is made in the LOT 2 Civil engineering design.	m ²			
07.M2.07.02.	11.1.1	Excavation of earth Price includes excavation of II and III category earth,loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m3. Measurement is made in the LOT 2 Civil engineering design.	m ³			
07.M2.07.03.	07.M2.07.03.	Construction of embankment This item includes construction of earth embankment with min. 30% of 0-125 mm stone fractions. Measurement unit is m3.	m ³	1,520.00		
TOTAL EARTH WORKS:						
07.M2.08.		CONCRETE WORKS				
07.M2.08.01.	11.1.2	Construction of foundation with MB20 plain concrete This item includes procurement, transport of necessary material, work on concrete mixing and placing, quality proof and other related works. Measurement unit is m3	m ³	4.88		
07.M2.08.02.	11.1.2	Construction of top section of retaining wall This item includes concreting of top section of retaining wall with MB 30 concrete, fully in accordance with designed detail. Measurement unit is m3.	m ³	2.30		
TOTAL CONCRETE WORKS:						
07.M2.09.		REINFORCEMENT WORKS				
07.M2.09.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg	kg	130.00		
TOTAL REINFORCEMENT WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.M2.10.		WORKS WITH GEOSYNTHETIC MATERIALS				
07.M2.10.01.	07.M2.10.01.	Placing of geogrids This item includes procurement, cutting and placing of geogrids as designed. Measurement unit is m ²				
		a) geogrid M1 with Tdop= 8,21KN/m	m ²	560.00		
		a) geogrid M2 with Tdop= 18,14KN/m	m ²	1,590.00		
07.M2.10.02.	07.M2.10.02.	Procurement and installation of connectors This item includes procurement and installation of polyethylene connectors to connect geogrids and concrete blocks. Measurement unit is m [`]				
			m [`]	540.00		
TOTAL WORKS WITH GEOSYNTHETIC MATERIALS :						
07.M2.11.		MASONRY WORKS				
07.M2.11.01.	8.3.6	Building wall face of concrete blocks This item includes procurement, transport and building wall face of concrete blocks MB30, V4, M150, 40x 15x22 in size. Measurement unit is piece.	pcs	4,180.00		
TOTAL MASONRY WORKS:						

<u>07.M2. SUMMARY Supporting structure of reinforced earth M2 -rightwarts, from km 0+565,38 to km 0+604,10(following the M1 detour centerline), L=38,40m</u>						
07.M2.06. PRELIMINARY WORKS						
07.M2.07. EARTH WORKS						
07.M2.08. CONCRETE WORKS						
07.M2.09. REINFORCEMENT WORKS						
07.M2.10. WORKS WITH GEOSYNTHETIC MATERIALS						
07.M2.11. MASONRY WORKS						
<u>TOTAL Supporting structure of reinforced earth M2 -rightwarts, from km 0+565,38 to km 0+604,10(following the M1 detour centerline), L=38,40m(07.M2.):</u>						

07.M3. Retaining wall M3 leftwards, from km 0+606 to km 0+635,72 (following the M1 detour centerline)
L=30 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.M3.01.		PRELIMINARY WORKS				
07.M3.01.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.M3.02.		EARTH WORKS				
07.M3.02.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m ² . Measurement is made in the LOT 2 Civil engineering design.	m ²			
07.M3.02.02.	11.1.1	Excavation of earth for walls Price includes excavation of III and IV category earth,loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m ³ . Measurement is made in the LOT 2 Civil engineering design.	m ³			
07.M3.02.03.	3.4.1.4	Filling and compaction Price includes the following machine operations:filling and spreading, fine and rough leveling, wetting and compaction of locally excavated material. Measurement unit is m ³ .	m ³	125.00		
07.M3.02.04.	3.4.1.1	Embankment slope topsoiling This item includes embankment topsoiling above the filter filling in 15 cm thick layer. Measurement unit is m ² .	m ²	310.00		
TOTAL EARTH WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.M3.03.		CONCRETE WORKS				
07.M3.03.01.	11.1.2	Construction of retaining walls Price includes concreting of retaining walls ring by ring with MB30, V4, M150 reinforced concrete, fully in accordance with designed details. Measurement unit is m3	m ³	158.70		
TOTAL CONCRETE WORKS:						
07.M3.04.		REINFORCEMENT WORKS				
07.M3.04.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg.	kg	5,118.00		
TOTAL REINFORCEMENT WORKS:						
07.M3.05.		SUNDRIES				
07.M3.05.01.	11.1.4	Placing of drainage filter This item includes placing of gravel filter behind the wall including procurement and transport, fully as designed. Measurement unit is m3.	m ³	0.00		
07.M3.05.02.	11.1	Plastic pipes f100 mm for weepholes Price includes procurement and laying of φ100 mm plastic pipes for weepholes including all related works. Measurement unit is m`.	m`	12.00		
TOTAL SUNDRIES:						

<u>07.M3 SUMMARY Retaining wall M3-leftwards, from km 0+606 to km 0+635,72(following the M1 detour centerline), L=30m</u>		
07.M3.01.	PRELIMINARY WORKS	
07.M3.02.	EARTH WORKS	
07.M3.03.	CONCRETE WORKS	
07.M3.04.	REINFORCEMENT WORKS	
07.M3.05.	SUNDRIES	
<u>TOTAL Retaining wall M3-leftwards, from km 0+606 to km 0+635,72(following the M1 detour centerline),</u>		
<u>L=30m(07.M3.):</u>		

07.M4. Retaining wall M4 leftwards, from km 0+675 to km 0+748 (following the M1 detour centerline) L=73,67 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.M4.01.		PRELIMINARY WORKS				
07.M4.01.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.M4.02.		EARTH WORKS				
07.M4.02.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m2 .Measurement is made in the LOT 2 Civil engineering design.	m ²			
07.M4.02.02.	11.1.1	Excavation of earth for walls Price includes excavation of III and IV category earth, loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m3. Measurement is made in the LOT 2 Civil engineering design.	m ³			
07.M4.02.03.	3.4.1.4	Filling and compaction Price includes the following machine operations: filling and spreading, fine and rough leveling, wetting and compaction Measurement unit is m3.	m ³	300.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.M4.02.04.	3.4.1.1	Embankment slope topsoiling This item includes embankment topsoiling above the filter filling in 15 cm thick layer. Measurement unit is m ² .	m ²	740.00		
TOTAL EARTH WORKS:						
07.M4.03.		CONCRETE WORKS				
07.M4.03.01.	11.1.2	Construction of retaining walls Price includes concreting of retaining walls ring by ring with MB30, V4, M150 reinforced concrete, fully in accordance with designed details. Measurement unit is m ³	m ³	585.00		
TOTAL CONCRETE WORKS:						
07.M4.04.		REINFORCEMENT WORKS				
07.M4.04.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg.	kg	15,948.00		
TOTAL REINFORCEMENT WORKS:						
07.M4.05.		SUNDRIES				
07.M4.05.02.	11.1	Plastic pipes f100 mm for weepholes Price includes procurement and laying of ϕ100 mm plastic pipes for weepholes including all related works. Measurement unit is m ¹ .	m ¹	29.60		
TOTAL SUNDRIES:						

07.M4 SUMMARY Retaining wall M4-leftwards, from km 0+675 to km 0+748(following the M1 detour centerline), L=73,67m						
07.M4.01. PRELIMINARY WORKS						
07.M4.02. EARTH WORKS						
07.M4.03. CONCRETE WORKS						
07.M4.04. REINFORCEMENT WORKS						
07.M4.05. SUNDRIES						
<i>TOTAL Retaining wall M4-leftwards, from km 0+675 to km 0+748(following the M1 detour centerline),</i>						
<i>L=73,67m(07.M4.);</i>						

07.M5. Retaining wall M5 leftwards, from km 0+875 to km 0+919,78 (following the M1 detour centerline) L=45,14 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.M5.01.		PRELIMINARY WORKS				
07.M5.01.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.M5.02.		EARTH WORKS				
07.M5.02.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m ² .Measurement is made in the LOT 2 Civil engineering design.	m ²			
07.M5.02.02.	11.1.1	Excavation of earth for walls Price includes excavation of III and IV category earth,loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m ³ .Measurement is made in the LOT 2 Civil engineering design.	m ³			

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.M5.02.03.	3.4.1.4	Filling and compaction Price includes the following machine operations:filling and spreading, fine and rough leveling, wetting and compaction of locally excavated material. Measurement unit is m3.	m ³	300.00		
07.M5.02.04.	3.4.1.1	Embankment slope topsoiling This item includes embankment topsoiling above the filter filling in 15 cm thick layer. Measurement unit is m2.	m ²	205.00		
TOTAL EARTH WORKS:						
07.M5.03.		CONCRETE WORKS				
07.M5.03.01.	11.1.2	Construction of retaining walls Price includes concreting of retaining walls ring by ring with MB30, V4, M150 reinforced concrete, fully in accordance with designed details. Measurement unit is m3	m ³	467.00		
TOTAL CONCRETE WORKS:						
07.M5.04.		REINFORCEMENT WORKS				
07.M5.04.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg.	kg	14,330.00		
TOTAL REINFORCEMENT WORKS:						
07.M5.05.		SUNDRIES				
07.M5.05.01.	11.1.4	Placing of drainage filter This item includes placing of gravel filter behind the wall including procurement and transport,fully as designed. Measurement unit is m3.	m ³	165.00		
07.M5.05.02.	11.1	Plastic pipes f100 mm for weepholes Price includes procurement and laying of ϕ100 mm plastic pipes for weepholes including all related works. Measurement unit is m`.	m`	18.50		
TOTAL SUNDRIES:						

<u>07.M5 SUMMARY Retaining wall M5-leftwards, from km 0+875 to km 0+919,78(following the M1 detour centerline), L=45,14m</u>		
07.M5.01.	PRELIMINARY WORKS	
07.M5.02.	EARTH WORKS	
07.M5.03.	CONCRETE WORKS	
07.M5.04.	REINFORCEMENT WORKS	
07.M5.05.	SUNDRIES	
<u>TOTAL Retaining wall M5-leftwards, from km 0+875 to km 0+919,78 (following the M1 detour centerline),</u>		
<u>L=45,14m(07.M5.):</u>		

**07.P1. Supporting structure of reinforced earth P1 rightwards,
from km 0+150 to km 0+283,81 (following the centerline of interchange 1) L=135,79 m**

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.P1.06.		PRELIMINARY WORKS				
07.P1.06.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.P1.07.		EARTH WORKS				
07.P1.07.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m2. Measurement is made in the LOT 2 Civil engineering design.	m ²			

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.P1.07.02.	11.1.1	Excavation of earth Price includes excavation of II and III category earth, loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m ³ . Measurement is made in the LOT 2 Civil engineering design.	m ³			
07.P1.07.03.	07.P1.07.03.	Construction of embankment This item includes construction of earth embankment with min. 30% of 0-125 mm stone fractions. Measurement unit is m ³ .	m ³	33,265.00		
TOTAL EARTH WORKS:						
07.P1.08.		CONCRETE WORKS				
07.P1.08.01.	11.1.2	Construction of foundation with MB20 plain concrete This item includes procurement, transport of necessary material, work on concrete mixing and placing, quality proof and other related works. Measurement unit is m ³	m ³	17.11		
07.P1.08.02.	11.1.2	Construction of top section of retaining wall This item includes concreting of top section of retaining wall with MB 30 concrete, fully in accordance with designed detail. Measurement unit is m ³ .	m ³	8.15		
TOTAL CONCRETE WORKS:						
07.P1.09.		REINFORCEMENT WORKS				
07.P1.09.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg	kg	450.00		
TOTAL REINFORCEMENT WORKS:						
07.P1.10.		WORKS WITH GEOSYNTHETIC MATERIALS				
07.P1.10.01.	07.P1.10.01.	Placing of geogrids This item includes procurement, cutting and placing of geogrids as designed. Measurement unit is m ² a) geogrid M1 with Tdop= 8,21KN/m	m ²	4,505.00		
		a) geogrid M2 with Tdop= 18,14KN/m	m ²	5,952.00		
07.P1.10.02.	07.P1.10.02.	Procurement and installation of connectors This item includes procurement and installation of polyethylene connectors to connect geogrids and concrete blocks. Measurement unit is m`	m`	2,175.00		
TOTAL WORKS WITH GEOSYNTHETIC MATERIALS :						
07.P1.11.		MASONRY WORKS				
07.P1.11.01.	8.3.6	Building wall face of concrete blocks This item includes procurement, transport and building wall face of concrete blocks MB30, V4, M150, 40x 15x22 Measurement unit is piece.	pc.	13,485.00		
TOTAL MASONRY WORKS:						

<u>07.P1. SUMMARY Supporting structure of reinforced earth P1 -rightwards, from km 0+150 to km 0+283,81(following the centerline of interchange I), L=135,79m</u>						
07.P1.06. PRELIMINARY WORKS						
07.P1.07. EARTH WORKS						
07.P1.08. CONCRETE WORKS						
07.P1.09. REINFORCEMENT WORKS						
07.P1.10. WORKS WITH GEOSYNTHETIC MATERIALS						
07.P1.11. MASONRY WORKS						
<u>TOTAL Supporting structure of reinforced earth P1 -rightwards, from km 0+150 to km 0+283,81(following the centerline of interchange I), L=135,79m(07.P1.):</u>						

07.P2. Supporting structure of reinforced earth P2 rightwards,

from km 0+300,63 (following the centerline of interchange 1) to km 0+125 (following the centerline of the leg3) L=165,20 m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.P2.06.		PRELIMINARY WORKS				
07.P2.06.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.P2.07.		EARTH WORKS				
07PP2.07.01.	3.1.1.	Topsoil stripping This item includes stripping of 20 cm thick topsoil layer and stockpiling of material on the site. Measurement unit is m2. Measurement is made in the LOT 2 Civil engineering design.	m ²			
07.P2.07.02.	11.1.1	Excavation of earth Price includes excavation of II and III category earth, loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m3. Measurement is made in the LOT 2 Civil engineering design.	m ³			
07.P2.07.03.	07.P2.07.03.	Construction of embankment This item includes construction of earth embankment with min. 30% of 0-125 mm stone fractions. Measurement unit is m3.	m ³	10,615.00		
TOTAL EARTH WORKS:						
07.P2.08.		CONCRETE WORKS				
07.P2.08.01.	11.1.2	Construction of foundation with MB20 plain concrete This item includes procurement, transport of necessary material, work on concrete mixing and placing, quality proof and other related works. Measurement unit is m3	m ³	20.82		
07.P2.08.02.	11.1.2	Construction of top section of retaining wall This item includes concreting of top section of retaining wall with MB 30 concrete, fully in accordance with designed detail. Measurement unit is m3.	m ³	9.91		
TOTAL CONCRETE WORKS:						
07.P2.09.		REINFORCEMENT WORKS				
07.P2.09.01.	11.1.3	RA 400/500-2 ribbed bars Price includes procurement, cutting, bending and fixing of all necessary material including all related works. Measurement unit is kg	kg	545.00		
TOTAL REINFORCEMENT WORKS:						
07.P2.10.		WORKS WITH GEOSYNTHETIC MATERIALS				
07.P2.10.01.	07.P2.10.01.	Placing of geogrids This item includes procurement, cutting and placing of geogrids as designed. Measurement unit is m2 a) geogrid M1 with Tdop= 8,21KN/m	m ²	4,765.00		
		a) geogrid M2 with Tdop= 18,14KN/m	m ²	5,085.00		
07.P2.10.02.	07.P2.10.02.	Procurement and installation of connectors This item includes procurement and installation of polyethylene connectors to connect geogrids and concrete blocks. Measurement unit is m`	m`	2,586.00		
TOTAL WORKS WITH GEOSYNTHETIC MATERIALS :						
07.P2.11.		MASONRY WORKS				
07.P2.11.01.	8.3.6	Building wall face of concrete blocks This item includes procurement, transport and building wall face of concrete blocks MB30, V4, M150, 40x 15x22 in size. Measurement unit is piece.	pc.	15,960.00		
TOTAL MASONRY WORKS:						

07.P2. SUMMARY Supporting structure of reinforced earth P2 -rightwards, from km 0+300,63 (following the centerline of interchange 1)to km 0+125(following the centerline of the leg3), L=165,20m	
07.P2.06. PRELIMINARY WORKS	
07.P2.07. EARTH WORKS	
07.P2.08. CONCRETE WORKS	
07.P2.09. REINFORCEMENT WORKS	
07.P2.10. WORKS WITH GEOSYNTHETIC MATERIALS	
07.P2.11. MASONRY WORKS	
TOTAL Supporting structure of reinforced earth P2 -rightwards, from km 0+300,63 (following the centerline of interchange 1)to km 0+125(following the centerline of the leg 3), L=165,20m(07.P2.):	

07.K6. Slope K6 rightwards from KM 882+200 to km 882+720

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
07.K6.01.		PRELIMINARY WORKS				
07.K6.01.01.	2.4.1	PRELIMINARY WORKS Works shall be paid in a lump sum.		lump sum		
TOTAL PRELIMINARY WORKS:						
07.K6.02.		WORKS ON SLOPE PROTECTION				
07.K6.02.01.	5.1.	Drilling and installation of SN anchor RØ25 This item includes drilling of f42-44 mm holes,procurement, treatment, installation and grouting of 5 m long SN anchor Rf25,placing the concrete base, installation of steel base plate and tightening the nut. Measurement unit is piece	pc.	1,288.00		
07.K6.02.02.	5.2.	Reinforcement mesh This item includes procurement, transport, cutting and fixing of Q138 reinforcement mesh. Measurement unit is kg	kg	10,325.00		
07.K6.02.03.	5.3.	Placing 5-10 cm thick layer of MMB30 jet concrete This item includes procurement, transport and placing of jet concrete in two layers. Measurement unit is m2	m ²	9,830.00		
07.K6.02.04.	8.3.6.	Installation of prefabricated berm perimeter channel maid of MB30 reinforced concrete This item includes procurement, transport and installation of prefabricated perimeter channel. Measurement unit is m`	m`	920.00		
07.K6.02.05.	4.4.6	Laying of drainage half-pipes This item includes procurement, preparation, laying and protection of half-pipes against clogging during jet concreting. Measurement unit is m`	m`	175.00		
TOTAL WORKS ON SLOPE PROTECTION:						

07.K6. SUMMARY Slope 6 rightwards from km 882+200 to km 882+720	
07.K6.01.	PRELIMINARY WORKS
07.K6.02.	WORKS ON SLOPE PROTECTION
TOTAL Slope 6 rightwards from km 882+200 to km 882+720(07.K6.):	

07. SUMMARY –Final design of engineering structures

7.16 Supporting structure of reinforced earth 16 -leftwards, from km 881+332,32 to km 881+450, L=114,81m	
7.17 Retaining wall 17 -in the central reserve from km 882+203 to km 882+675, L=472m	
7.18 Supporting structure of reinforced earth 18 -leftwards, from km 882+320 to km 882+480, L=160m	
7.19 Retaining wall 19-leftwards, from km 883+250 to km 883+515,L=267m	
7.20 Supporting structure of reinforced earth 20 -in the central reserve from km 883+582,42 to km 883+685,14, L=102,60m	
7.21 Supporting structure of reinforced earth 21 -rightwards, from km 883+591,72 to km 883+810, L=220m	
7.22 Supporting structure made of walls and piles - 22, stone walls from km 883+630 to km 883+725 and from km 883+868,74 to km 883+896,59, L=95,21+28,55=123,76m	
7.22 Supporting structure made of walls and piles - 22 -leftwards, piles from km 883+725 to km 883+868,74, L=146,70m	
7.23 Retaining wall 23-in the central reserve ,from km 883+685,14 to km 884+570,00, L=886m	
7.24 Retaining wall 24-in the central reserve from km 883+940 to km 884+030, L=92,23m	
7.25 Supporting structure made of piles 25 -leftwards, piles from km 884+265 to km 884+390, L=125,22m	
7.26 Retaining wall 26-leftwards, from km 884+725 to km 884+846, L=120,05m	
7.M1 Retaining wall M1-leftwards, from km 0+414 to km 0+554(following the M1 detour centerline), L=140,87m	
7.M2 Supporting structure of reinforced earth M2 -rightwards, from km 0+565,38 to km 0+604,10 (following the M1 detour centerline), L=38,40m	
7.M3 Retaining wall M3-leftwards, from km 0+606 to km 0+635,72(following the M1 detour centerline), L=30m	
7.M4 Retaining wall M4-leftwards, from km 0+675 to km 0+748(following the M1 detour centerline), L=73,67m	
7.M5 Retaining wall M5-leftwards, from km 0+875 to km 0+919,78(following the M1 detour centerline), L=45,14m	
7.P1 Supporting structure of reinforced earth P1 -rightwards, from km 0+150 to km 0+283,81(following the centerline of interchange 1), L=135,79m	
7.P2 Supporting structure of reinforced earth P2 -rightwards from km 0+300,63 (following the centerline of interchange 1) to km 0+125 (following the centerline of leg 3), L=165,20m	
7.K6 Slope 6 rightwards from km 882+200 to km 882+720	
SUB-TOTAL	
Unforeseen work (5% of sub-total)	
<u>TOTAL ENGINEERING STRUCTURES (7.):</u>	

08.09. BRIDGE AT km 881+101.843

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.09.01	13.2	EARTH WORKS				
		Excavation for foundations				
08.09.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	5,378.80		
		- at depth of 2-4 m	m ³	2,192.20		
		- at depth of 4-6 m	m ³	2,110.90		
		- at depth over 6 m	m ³	1,920.70		
08.09.01.02	13.2.1	Excavation of foundations in IV category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 4-6 m	m ³	783.70		
		- at depth over 6 m	m ³	6,132.20		
08.09.01.03	13.2.2	Extra for excavation of foundations with pumping of 30 lit/min - 120 lit/min water.	m ³	9,259.25		
08.09.01.04	13.2.3	Excavation of Trenches and Channels Less than 1.5 m Wide and Less than 2.0 m Deep	m ³	91.20		
08.09.01.05	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	5,707.80		
08.09.01.06	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	2,815.30		
08.09.01.07	13.2.7 additional specifications	Placing the sub-base made of gravel and sand in 30 cm thick layers under foundation including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted gravel.	m ³	164.50		
08.09.01.08	13.2.8 additional specifications	Construction of end slope of material from the cutting or borrow pit including mechanical compaction in 30 cm thick layers, fully as designed. Payment per m ³ of compacted material.	m ³	647.80		
08.09.01.09	13.2.9 additional specifications	Placing 80 cm thick cover protecting a gravel wedge made of gravel sand where top 30 cm shall be stabilized with cement and bottom 50 cm compacted in two layers to modulus of compressibility Ms=40 MPa. Payment per m ³ of compacted gravel.	m ³	353.40		
08.09.01.10	13.4.2	Construction of Ø120 cm piles with concrete, class MB 30, M-150, V-3. Payment per m' of completed pile.	m'	1,126.00		
TOTAL EARTH WORKS:						
08.09.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.09.02.01	13.4.1.1	Foundation of end slope wall made of concrete, class I MB25.	m ³	29.70		
08.09.02.02	13.4.1.2	Lining of end slopes with concrete plates (60'40'12 cm) MB 40, M-150, V-3	m ²	649.00		
08.09.02.03	13.4.1.3 additional specifications	Blinking layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	161.90		
08.09.02.04	13.1.4.4 additional specifications	Plain concrete for open caissons. Class I MB 20	m ³	116.60		
	13.4.3	Reinforced concrete constructions				
08.09.02.05	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	2,073.90		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.09.02.06	13.4.3.2	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 45, M-150, V-6.	m ³	245.00		
	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
08.09.02.07	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	225.50		
08.09.02.08	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m ³	127.90		
08.09.02.09	13.4.3.2	Bearing beams of abutment made of concrete, class II, MB 30, M-150, V-6.	m ³	182.70		
08.09.02.10	13.4.3.2	Abutment parapets constructed of concrete, class II, MB 30, M-150, V-6.	m ³	87.50		
08.09.02.11	13.4.3.2	Pedestrian cantilever walkway at abutment wing walls constructed of concrete, class II, MB 30, M-150, V-6.	m ³	11.00		
08.09.02.12	13.4.3.2	Masking covers of abutments and middle piers made of concrete, class II, MB 30, M-150, V-6.	m ³	46.00		
08.09.02.13	13.4.3.2	Middle pier bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	1,129.00		
08.09.02.14	13.4.3.2	Middle pier bodies constructed of concrete, class II, MB 40, M-150, V-6.	m ³	22.10		
08.09.02.15	13.4.3.2	Bearing beams of middle piers made of concrete, class II, MB 30, M-150, V-6.	m ³	1,290.10		
08.09.02.16	13.4.3.2	Abutment and middle pier caps made of concrete, class II, MB 30, M-150, V-6.	m ³	26.50		
08.09.02.17	13.4.3.2	Wing walls constructed of reinforced concrete, class II MB 30, M-150, V-6	m ³	316.60		
08.09.02.18	13.4.3.3	Spanning bridge construction of reinforced concrete				
08.09.02.19	13.4.3.3	Cross girders made of reinforced concrete, class II, MB 40, M-150, V-6.	m ³	430.64		
08.09.02.20	13.4.3.3	Bridge deck over prefabricated girders made of reinforced concrete, class II, MB 40, M-150, V-6.	m ³	1,937.28		
08.09.02.21	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 40, M-150, V-6	m ³	409.90		
08.09.02.22	13.4.3.5	Crossing slabs made of concrete MB 30, M-150, V-6	m ³	50.00		
08.09.02.23	13.4.3.4	Masking covers of cornices at footway level made of concrete, class II, MB 45, M-150, V-8.	m ³	128.80		
08.09.02.24	13.4.4	Prestressed bridge constructions				
08.09.02.25	13.4.4	Prefabricated main girders made of prestressed concrete, class II MB 50, M-150, V-3	m ³	1,901.00		
08.09.02.26	13.4.4	Prestressed box bridge construction cast in situ. Concrete class II MB 45, M-150, V-3	m ³	3,020.00		
TOTAL CONCRETE WORKS:						
08.09.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions				
		* The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.09.03.01	13.5.1	Smooth rebars GA 240/360	kg	466.51		
08.09.03.02	13.5.1	Ribbed rebars RA 400/500-2	kg	2,210,378.00		
08.09.03.03	13.5.1	Welded mesh reinforcement MAG 500/560	kg	1,069.22		
		Metal works in prestressed concrete				
		* The price includes procurement, fixing and tensioning.				
08.09.03.04	13.5.2	Patented high-strength prestressing strands with all anchors, base plates and protective tubes for cables	kg	251,089.32		
08.09.03.05	13.6	Expansion joints - procurement and installation as designed MT-100.	m'	26.00		
08.09.03.06	13.6	Expansion joints - procurement and installation as designed MT-160.	m'	52.00		
08.09.03.07	13.6	Expansion joints - procurement and installation as designed MT-230.	m'	26.00		
08.09.03.08	13.7	gullies of cast iron, procurement and installation as designed S-6.	pc.	16.00		
08.09.03.09	13.7	gullies of cast iron, procurement and installation as designed S-7.	pc.	17.00		
08.09.03.10	13.7	gullies of cast iron, procurement and installation as designed S-9.	pc.	16.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.09.03.11	13.8 13.8.2	Steel bridge fences:				
		- tubular fences or fences made of steel sections	kg	17,946.00		
08.09.03.12	13.9	Bridge bearings				
		NGe,Nga,N	pc.	18.00		
		NAL-a,NAL-b, NAL-f, NAL	pc.	72.00		
TOTAL METAL WORK						
08.09.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.09.04.01	13.10.1	Concrete or stone curbs along the highway, 13/20 MB 40	m'	1,788.50		
08.09.04.02	13.10.2	Insulating coat on pavement top	m ²	9,277.30		
08.09.04.03	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	3,623.00		
08.09.04.04	13.10.4	Bituminous pavement base course, BNHS 16A, 5 cm thick	m ²	8,690.40		
08.09.04.05	13.10.4	Pavement wearing course of skeleton mastic asphalt SMA 0/11S, 4cm thick	m ²	8,690.40		
08.09.04.06	13.10.5	Trial loading of constructed bridge.	lump sum			
08.09.04.07	13.10.6	Photographing during bridge construction	lump sum			
08.09.04.08	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	3,577.00		
08.09.04.09	13.11.1	Laying PVC pipes into footways (cat walks), Ø110 mm	m'	2,646.20		
08.09.04.10	13.11.2	Epoxy and polyurethane preservative on footways	m ²	2,298.60		
08.09.04.11	13.11.8	Construction of cementitious grouting mortar beds	m ²	75.80		
08.09.04.12	13.7.2	Cast iron pipes for gully water discharge including all fixing accessories.	m'	210.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY - BRIDGE AT km 881+101.843		
08.09.01 EARTH WORKS		
08.09.02 CONCRETE		
08.09.03 METALWORK		
08.09.04 FINISHING AND SUNDRY WORKS ON BRIDGES		
TOTAL BRIDGE AT km 881+101.843:		

08.10. BRIDGE at km 881+705.810

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.10.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.10.01.01	13.2.1	Excavation of foundations in IV and V category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	2,108.44		
		- at depth of 2-4 m	m ³	1,557.12		
		- at depth of 4-6 m	m ³	1,329.18		
		- at depth over 6 m	m ³	1,311.87		
08.10.01.02	13.2.2	Extra for excavation of foundations with pumping of 30 lit/min - 120 lit/min water.	m ³	1,261.32		
08.10.01.03	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	1,145.56		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.10.01.04	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	1,893.01		
08.10.01.05	13.2.8 additional specifications	Construction of end slope of material from the cutting or borrow pit including mechanical compaction in 30 cm thick layers, fully as designed. Payment per m ³ of compacted material.	m ³	666.46		
08.10.01.06	13.4.2	Construction of Ø120 cm piles with concrete, class MB 30, M-150, V-3. Payment per m' of completed pile.	m'	168.00		
TOTAL EARTH WORKS:						
08.10.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.10.02.01	13.4.1.3 additional specifications	Blinding layer, 10 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	45.30		
08.10.02.02	13.4.1.1	Foundation of end slope wall made of concrete, class I MB25.	m ³	5.25		
08.10.02.03	13.4.1.2	Lining of end slopes with concrete plates (60'40'12 cm) MB 40, M-150, V-3	m ²	31.00		
08.10.02.04	13.4.1.6	Concrete MB20 to fill foundation hole. Filling is done under the water. Payment per m ³ completed job.	m ³	1,570.00		
	13.4.3	Reinforced concrete constructions				
08.10.02.05	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	984.20		
	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
08.10.02.06	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	436.10		
08.10.02.07	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m ³	52.80		
08.10.02.08	13.4.3.2	Bearing beams of abutment made of concrete, class II, MB 30, M-150, V-6.	m ³	118.10		
08.10.02.09	13.4.3.2	Abutment parapets constructed of concrete, class II, MB 30, M-150, V-6.	m ³	101.50		
08.10.02.10	13.4.3.2	Pedestrian cantilever walkway at abutment wing walls constructed of concrete, class II, MB 30, M-150, V-6.	m ³	8.95		
08.10.02.11	13.4.3.2	Masking covers of abutments and middle piers made of concrete, class II, MB 30, M-150, V-6.	m ³	7.50		
08.10.02.12	13.4.3.2	Middle pier bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	191.10		
08.10.02.13	13.4.3.2	Bearing beams and caps of middle piers made of concrete, class II, MB 30, M-150, V-6.	m ³	152.20		
08.10.02.14	13.4.3.2	Wing walls constructed of reinforced concrete, class II MB 30, M-150, V-6	m ³	228.50		
08.10.02.15	13.4.3.3	Spanning bridge construction of reinforced concrete				
08.10.02.16	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 40, M-150, V-6	m ³	168.10		
08.10.02.17	13.4.3.5	Crossing slabs made of concrete MB 30, M-150, V-6	m ³	52.70		
08.10.02.18	13.4.3.4	Masking covers of cornices at footway level made of concrete, class II, MB 45, M-150, V-8.	m ³	55.60		
	13.4.4	Prestressed bridge constructions				
08.10.02.19	13.4.4	Prestressed box bridge construction cast in situ. Concrete class II MB 50, M-150, V-3	m ³	3,988.00		
TOTAL CONCRETE WORKS:						
08.10.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.10.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	1,179,594.44		
	13.5.2	Metal works in prestressed concrete * The price includes procurement, fixing and tensioning.				

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.10.03.02	13.5.2	Patented high-strength prestressing strands with all anchors, base plates and protective tubes for cables	kg	152,000.00		
08.10.03.03	13.6	Expansion joints - procurement and installation as designed (drawing No. 33).	m'	52.20		
08.10.03.04	13.7	S-7 gullies of cast iron, procurement and installation as designed.	pc.	20.00		
08.10.03.05	13.8.2	- tubular fences or fences made of steel sections	kg	7,863.70		
08.10.03.06	13.9	Bridge bearings				
		Nge 450	pc.	4.00		
		Nga 450	pc.	4.00		
		Nge 1100	pc.	4.00		
		N 1100	pc.	8.00		
TOTAL METAL WORK						
08.10.04	13.11	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.10.04.01	13.10.1	Concrete or stone curbs along the highway, 13/20 MB 40	m'	382.00		
08.10.04.02	13.10.2	Insulating coat on pavement top	m ²	3,714.02		
08.10.04.03	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	1,418.00		
08.10.04.04	13.10.4	Bituminous pavement base course, BNHS 16A, 5 cm thick	m ²	3,626.64		
08.10.04.05	13.10.4	Pavement wearing course of skeleton mastic asphalt SMA 0/11S, 4cm thick	m ²	3,626.64		
08.10.04.06	13.11.2	Epoxy and polyurethane preservative on footways	m ²	973.00		
08.10.04.07	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	740.25		
08.10.04.08	13.11.1	Laying PVC pipes into footways (cat walks), Ø110 mm	m'	1,156.00		
08.10.04.09	13.10.5	Trial loading of constructed bridge	lump sum			
08.10.04.10	13.10.6	Photographing during bridge construction	lump sum			
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY - BRIDGE AT km 881+705.810	
08.10.01 EARTH WORKS	
08.10.02 CONCRETE	
08.10.03 METALWORK	
08.10.04 FINISHING AND SUNDRY WORKS ON BRIDGES	
TOTAL BRIDGE AT km 881+705.810:	

08.11. BRIDGE AT km 883+067.252

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.11.01	13.2	EARTH WORKS				
		Excavation for foundations				
08.11.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	11,690.45		
		- at depth of 2-4 m	m ³	8,125.82		
		- at depth of 4-6 m	m ³	3,736.00		
		- at depth over 6 m	m ³	2,251.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.11.01.02	13.2.1	Excavation of foundations in V category soil and transport of earth to distance of 500 m.				
		Payment per m ³ of excavated earth - at depth of 4-6 m	m ³	245.00		
		- at depth over 6 m	m ³	122.00		
08.11.01.03	13.2.2	Extra for excavation of foundations with pumping of 30 lit/min - 120 lit/min water.	m ³	13,085.13		
08.11.01.04	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa.				
		Payment per m ³ of compacted earth.	m ³	19,269.00		
08.11.01.05	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments.				
		Payment per m ³ of compacted gravel.	m ³	2,991.00		
08.11.01.06	13.2.8 additional specifications	Construction of end slope of material from the cutting or borrow pit including mechanical compaction in 30 cm thick layers, fully as designed.				
		Payment per m ³ of compacted material.	m ³	780.00		
08.11.01.07	13.4.2	Construction of Ø150 cm piles with concrete, class MB 30, M-150, V-3. Payment per m' of completed pile.	m'	478.00		
TOTAL EARTH WORKS:						
08.11.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.11.02.01	13.4.1.3 additional specifications	Blinking layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	775.00		
	13.4.3	Reinforced concrete constructions				
08.11.02.02	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	2,395.00		
	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
08.11.02.03	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 35, M-150, V-6.	m ³	152.00		
08.11.02.04	13.4.3.2	Abutment wing walls made of concrete, class II, MB 35, M-150, V-6.	m ³	124.00		
08.11.02.05	13.4.3.2	Bearing beams of abutment made of concrete, class II, MB 35, M-150, V-6.	m ³	116.00		
08.11.02.06	13.4.3.2	Abutment parapets constructed of concrete, class II, MB 35, M-150, V-6.	m ³	82.00		
08.11.02.07	13.4.3.2	Pedestrian cantilever walkway at abutment wing walls constructed of concrete, class II, MB 35, M-150, V-6.	m ³	34.40		
08.11.02.08	13.4.3.2	Masking covers of abutments and middle piers made of concrete, class II, MB 30, M-150, V-6.	m ³	28.00		
08.11.02.09	13.4.3.2	Middle pier bodies constructed of concrete, class II, MB 35, M-150, V-6.	m ³	1,257.00		
08.11.02.10	13.4.3.2	Bearing beams of middle piers made of concrete, class II, MB 40, M-150, V-6.	m ³	728.00		
08.11.02.11	13.4.3.2	Abutment and middle pier caps made of concrete, class II, MB 40, M-150, V-6.	m ³	46.00		
08.11.02.12	13.4.3.2	Wing walls constructed of reinforced concrete, class II MB 30, M-150, V-6	m ³	629.10		
	13.4.3.3	Spanning bridge construction of reinforced concrete				
08.11.02.13	13.4.3.3	Cross girders made of reinforced concrete, class II, MB 50, M-150, V-6.	m ³	713.00		
08.11.02.14	13.4.3.3	Bridge deck over prefabricated girders made of reinforced concrete, class II, MB 45, M-150, V-6.	m ³	2,289.00		
08.11.02.15	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 30, M-150, V-6	m ³	558.00		
08.11.02.16	13.4.3.5	Crossing slabs made of concrete MB 35, M-150, V-6	m ³	53.00		
08.11.02.17	13.4.3.4	Masking covers of cornices at footway level made of concrete, class II, MB 45, M-150, V-8.	m ³	376.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
	13.4.4	Prestressed bridge constructions				
08.11.02.18	13.4.4	Prefabricated main girders made of prestressed concrete, class II MB 50, M-150, V-3	m ³	2,350.00		
08.11.02.19	13.4.4	Prestressed box bridge construction cast in situ. Concrete class II MB 45, M-150, V-3	m ³	2,516.00		
TOTAL CONCRETE WORKS:						
08.11.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions				
		* The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.11.03.01		Reinforcement B500A	kg	1,605,246.00		
08.11.03.02	13.5.1	Ribbed rebars RA 400/500-2	kg	140,916.00		
		Metal works in prestressed concrete				
		* The price includes procurement, fixing and tensioning.				
08.11.03.03	13.5.2	Patented high-strength prestressing strands with all anchors, base plates and protective tubes for cables	kg	193,332.00		
08.11.03.04	13.6	Expansion joints - procurement and installation as designed (drawing No. 32).	m'	105.00		
08.11.03.05	13.7	S-6 gullies of cast iron, procurement and installation as designed.	pc.	18.00		
08.11.03.06	13.7	S-7 gullies of cast iron, procurement and installation as designed.	pc.	16.00		
08.11.03.07	13.7	S-9 gullies of cast iron, procurement and installation as designed.	pc.	20.00		
08.11.03.08	13.8	Steel bridge fences:				
08.11.03.09	13.8.2	- tubular fences or fences made of steel sections	kg	18,800.00		
08.11.03.10	13.8.3	-protective mesh	kg	891.40		
08.11.03.11	13.9	Bridge bearings				
		(procurement and installation as designed (drawing No. 32)				
		fixed end bearings	pc.	19.00		
		free end bearings movable in direction of bridge center line	pc.	17.00		
		bearings movable vertically to bridge centerline	pc.	45.00		
		bearings movable in both directions	pc.	27.00		
TOTAL METAL WORK						
08.11.04	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works:				
		* The price includes procurement, construction and installation as designed.				
08.11.04.01	13.10.1	Concrete or stone curbs along the highway, 13/20 MB 40	m'	1,976.00		
08.11.04.02	13.10.2	Insulating coat on pavement top	m ²	9,796.00		
08.11.04.03	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	3,887.00		
08.11.04.04	13.10.4	Bituminous pavement base course, BNHS 16A, 5 cm thick	m ²	9,200.00		
08.11.04.05	13.10.4	Pavement wearing course of skeleton mastic asphalt SMA 0/11S, 4cm thick	m ²	9,200.00		
08.11.04.06	13.10.5	Trial loading of constructed bridge.	lump sum			
08.11.04.07	13.10.6	Photographing during bridge construction	lump sum			
08.11.04.08	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	4,082.00		
08.11.04.09	13.11.1	Laying PVC pipes into footways (cat walks), Ø110 mm	m'	2,747.00		
08.11.04.10	13.11.2	Epoxy and polyurethane preservative on footways	m ²	2,381.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.11.04.11	13.11.8 additional specifications	Construction of cementitious grouting mortar beds	m ²	74.00		
08.11.04.12	13.11.9 additional specifications	Steel plates embedded in girder at points where girders rest on bearings.	kg	2,291.00		
08.11.04.13	13.7.2	Cast iron pipes for gully water discharge including all fixing accessories.	m'	170.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY - BRIDGE AT km 883+067.252						
08.11.01	EARTH WORKS					
08.11.02	CONCRETE					
08.11.03	METALWORK					
08.11.04	FINISHING AND SUNDRY WORKS ON BRIDGES					
TOTAL BRIDGE AT km 883+067.252:						

08.12. BRIDGE AT km 883+576.495

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.12.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.12.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	1,779.00		
		- at depth of 2-4 m	m ³	1,365.00		
		- at depth of 4-6 m	m ³	600.00		
08.12.01.02	13.2.2	Extra for excavation of foundations with pumping of 30 lit/min - 120 lit/min water.	m ³	2,000.00		
08.12.01.03	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	1,486.00		
08.12.01.04	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	1,701.00		
08.12.01.05	13.2.8 additional specifications	Construction of end slope of material from the cutting or borrow pit including mechanical compaction in 30 cm thick layers, fully as designed. Payment per m3 of compacted material.	m ³	21.20		
08.12.01.06	13.2.9 additional specifications	Placing 80 cm thick cover protecting a gravel wedge made of gravel sand where top 30 cm shall be stabilized with cement and bottom 50 cm compacted in two layers to modulus of compressibility Ms=40 MPa. Payment per m3 of compacted material.	m ³	6.40		
TOTAL EARTH WORKS:						
08.12.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.12.02.01	13.4.1.3 additional specifications	Blasting layer, 10 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	108.50		
	13.4.3	Reinforced concrete constructions				
08.12.02.02	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	500.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
08.12.02.03	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	345.50		
08.12.02.04	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m ³	15.20		
08.12.02.05	13.4.3.2	Pedestrian cantilever walkway at abutment wing walls constructed of concrete, class II, MB 30, M-150, V-6.	m ³	1.10		
08.12.02.06	13.4.3.2	Wing walls constructed of reinforced concrete, class II MB 30, M-150, V-6	m ³	204.20		
	13.4.3.3	Spanning bridge construction of reinforced concrete				
08.12.02.07	13.4.3.3	Main plate girder made of reinforced concrete class II, MB 30, M-150, V-6.	m ³	316.10		
08.12.02.08	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 30, M-150, V-6	m ³	25.20		
08.12.02.09	13.4.3.5	Crossing slabs made of concrete MB 30, M-150, V-6	m ³	64.85		
TOTAL CONCRETE WORKS:						
08.12.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions				
		* The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.12.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	171,411.61		
TOTAL METAL WORK						
08.12.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works:				
		* The price includes procurement, construction and installation as designed.				
08.12.04.01	13.10.1	Concrete or stone curbs along the highway, 13/20 MB 40	m'	81.60		
08.12.04.02	13.10.2	Insulating coat on pavement top	m ²	381.40		
08.12.04.03	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	1,806.50		
08.12.04.04	13.10.4	Bituminous pavement base course, BNHS 16A, 5 cm thick	m ²	303.70		
08.12.04.05	13.10.4	Pavement wearing course of skeleton mastic asphalt SMA 0/11S, 4cm thick	m ²	303.70		
08.12.04.06	13.10.5	Trial loading of constructed bridge.	lump sum			
08.12.04.07	13.10.6	Photographing during bridge construction	lump sum			
08.12.04.08	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	154.00		
08.12.04.09	13.11.1	Laying PVC pipes into footways (cat walks), Ø110 mm	m'	280.00		
08.12.04.10	13.11.2	Epoxy and polyurethane preservative on footways	m ²	101.60		
08.12.04.11	13.11.6	Crashed stone revetment	m ³	102.00		
08.12.04.12	13.11.8	Construction of cementitious grouting mortar beds	m ²	18.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY - BRIDGE AT km 883+576.495	
08.12.01 EARTH WORKS	
08.12.02 CONCRETE	
08.12.03 METALWORK	
08.12.04 FINISHING AND SUNDRY WORKS ON BRIDGES	
TOTAL BRIDGE AT km 883+576.495:	

08.13. BRIDGE AT km 884+958.430

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.13.01	13.2	EARTH WORKS				
		Excavation for foundations				
08.13.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 2-4 m	m ³	3,508.00		
08.13.01.02	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	1,530.00		
08.13.01.03	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	716.90		
08.13.01.04	13.2.8 additional specifications	Construction of end slope of material from the cutting or borrow pit including mechanical compaction in 30 cm thick layers, fully as designed. Payment per m ³ of compacted material.	m ³	538.50		
08.13.01.05	13.4.2	Construction of Ø120 cm piles with concrete, class MB 30, M-150, V-3. Payment per m' of completed pile.	m'	720.00		
TOTAL EARTH WORKS:						
08.13.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.13.02.01	13.4.1.3 additional specifications	Blinding layer, 10 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	107.55		
	13.4.3	Reinforced concrete constructions				
08.13.02.02	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	1,334.60		
	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
08.13.02.03	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	321.80		
08.13.02.04	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m ³	97.40		
08.13.02.05	13.4.3.2	Abutment parapets constructed of concrete, class II, MB 30, M-150, V-6.	m ³	78.20		
08.13.02.06	13.4.3.2	Pedestrian cantilever walkway at abutment wing walls constructed of concrete, class II, MB 30, M-150, V-6.	m ³	17.50		
08.13.02.07	13.4.3.2	Masking covers of abutments and middle piers made of concrete, class II, MB 30, M-150, V-6.	m ³	8.88		
08.13.02.08	13.4.3.2	Middle pier bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	244.80		
08.13.02.09	13.4.3.2	Bearing beams of middle piers made of concrete, class II, MB 30, M-150, V-6.	m ³	241.30		
08.13.02.10	13.4.3.2	Abutment and middle pier caps made of concrete, class II, MB 40, M-150, V-6.	m ³	11.56		
08.13.02.11	13.4.3.2	Wing walls constructed of reinforced concrete, class II MB 30, M-150, V-6	m ³	95.90		
	13.4.3.3	Spanning bridge construction of reinforced concrete				
08.13.02.12	13.4.3.3	Cross girders made of reinforced concrete, class II, MB 50, M-150, V-6.	m ³	220.00		
08.13.02.13	13.4.3.3	Bridge deck over prefabricated girders made of reinforced concrete, class II, MB 50, M-150, V-6.	m ³	948.30		
08.13.02.14	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 40, M-150, V-6	m ³	152.80		
08.13.02.15	13.4.3.5	Crossing slabs made of concrete MB 30, M-150, V-6	m ³	42.10		
08.13.02.16	13.4.3.4	Masking covers of cornices at footway level made of concrete, class II, MB 45, M-150, V-8.	m ³	45.40		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.13.02.17	13.4.4	Prestressed bridge constructions				
	13.4.4	Prefabricated main girders made of prestressed concrete, class II MB 50, M-150, V-3	m ³	984.00		
TOTAL CONCRETE WORKS:						
08.13.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions				
		* The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.13.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	877,876.80		
		Metal works in prestressed concrete				
		* The price includes procurement, fixing and tensioning.				
08.13.03.02	13.5.2	Patented high-strength prestressing strands with all anchors, base plates and protective tubes for cables	kg	65,368.00		
08.13.03.03	13.6	Expansion joints - procurement and installation as designed MT-100.	m'	52.00		
08.13.03.04	13.7	gullies of cast iron, procurement and installation as designed S9	pc.	16.00		
		Steel bridge fences:				
08.13.03.05	13.8.2	- tubular fences or fences made of steel sections	kg	315.00		
08.13.03.06	13.9	Bridge bearings				
		NAL-b-350x450x85	pc.	16.00		
		NAL-f-450x600x85	pc.	24.00		
TOTAL METAL WORK						
08.13.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works:				
		* The price includes procurement, construction and installation as designed.				
08.13.04.01	13.10.1	Concrete or stone curbs along the highway, 13/20 MB 40	m'	630.00		
08.13.04.02	13.10.2	Insulating coat on pavement top	m ²	3,024.00		
08.13.04.03	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	667.00		
08.13.04.04	13.10.4	Bituminous pavement base course, BNHS 16A, 5 cm thick	m ²	2,924.00		
08.13.04.05	13.10.4	Pavement wearing course of skeleton mastic asphalt SMA 0/11S, 4cm thick	m ²	2,924.00		
08.13.04.06	13.10.5	Trial loading of constructed bridge.	lump sum			
08.13.04.07	13.10.6	Photographing during bridge construction	lump sum			
08.13.04.08	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	1,312.00		
08.13.04.09	13.11.1	Laying PVC pipes into footways (cat walks), Ø110 mm	m'	472.00		
08.13.04.10	13.11.2	Epoxy and polyurethane preservative on footways	m ²	725.00		
08.13.04.11	13.11.8	Construction of cementitious grouting mortar beds	m ²	28.16		
08.13.04.12	13.11.9	Steel plates embedded in girder at points where girders rest on bearings.	kg	1,100.00		
08.13.04.13	13.7.2.	Cast iron pipes for gully water discharge including all fixing accessories.	m'	108.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY - BRIDGE AT km 884+958.430	
08.13.01 EARTH WORKS	
08.13.02 CONCRETE	
08.13.03 METALWORK	
08.13.04 FINISHING AND SUNDRY WORKS ON BRIDGES	
TOTAL BRIDGE AT km 884+958.430:	

08.14. BRIDGE AT km 885+445.066

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.14.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.14.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	867.00		
		- at depth of 2-4 m	m ³	818.00		
		- at depth of 4-6 m	m ³	713.00		
08.14.01.02	13.2.2	Extra for excavation of foundations with pumping of 30 lit/min - 120 lit/min water.	m ³	1,500.00		
08.14.01.03	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	433.30		
08.14.01.04	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	461.00		
08.14.01.05	13.2.9 additional specifications	Placing 80 cm thick cover protecting a gravel wedge made of gravel sand where top 30 cm shall be stabilized with cement and bottom 50 cm compacted in two layers to modulus of compressibility Ms=40 MPa. Payment per m ³ of compacted gravel.	m ³	81.00		
TOTAL EARTH WORKS:						
08.14.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.14.02.01	13.4.1.3 additional specifications	Blinking layer, 10 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	44.00		
	13.4.3	Reinforced concrete constructions				
08.14.02.02	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	79.70		
	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
08.14.02.03	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	99.70		
08.14.02.04	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m ³	20.30		
08.14.02.05	13.4.3.2	Pedestrian cantilever walkway at abutment wing walls constructed of concrete, class II, MB 30, M-150, V-6.	m ³	2.13		
	13.4.3.3	Spanning bridge construction of reinforced concrete				
08.14.02.06	13.4.3.3	Main plate girder made of reinforced concrete class II, MB 30, M-150, V-6.	m ³	85.70		
08.14.02.07	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 30, M-150, V-6	m ³	13.10		
08.14.02.08	13.4.3.5	Crossing slabs made of concrete MB 35, M-150, V-6	m ³	50.40		
TOTAL CONCRETE WORKS:						
08.14.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.14.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	50,905.44		
TOTAL METAL WORK						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.14.04.	13.10	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.14.04.01	13.10.1	Concrete or stone curbs along the highway, 13/20 MB 40	m'	44.00		
08.14.04.02	13.10.2	Insulating coat on pavement top	m ²	190.10		
08.14.04.03	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	550.00		
08.14.04.04	13.10.4	Bituminous pavement base course, BNHS 16A, 5 cm thick	m ²	141.00		
08.14.04.05	13.10.4	Pavement wearing course of skeleton mastic asphalt SMA 0/11S, 4cm thick	m ²	141.00		
08.14.04.06	13.10.5	Trial loading of constructed bridge.	lump sum			
08.14.04.07	13.10.6	Photographing during bridge construction	lump sum			
08.14.04.08	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound (Livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	88.00		
08.14.04.09	13.11.1	Laying PVC pipes into footways (cat walks), Ø110 mm	m'	180.00		
08.14.04.10	13.11.2	Epoxy and polyurethane preservative on footways	m ²	47.10		
08.14.04.11	13.11.6	Crashed stone revetment	m ³	40.00		
08.14.04.12	13.11.8	Construction of cementitious grouting mortar beds	m ²	9.70		
	additional specifications					
	additional specifications					
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY - BRIDGE AT km 885+445.066	
08.14.01 EARTH WORKS	
08.14.02 CONCRETE	
08.14.03 METALWORK	
08.14.04 FINISHING AND SUNDRY WORKS ON BRIDGES	
TOTAL BRIDGE AT km 885+445.066:	

08.16. TOP SLAB CULVERT AT km 884+067.303 (UNDER THE HIGHWAY)

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.16.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.16.01.01	13.2.1	Excavation of foundations in IV category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	442.96		
		- at depth of 2-4 m	m ³	188.50		
		- at depth of 4-6 m	m ³	67.02		
08.16.01.02	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	373.32		
08.16.01.03	13.2.7	Placing the sub-base made of gravel and sand in 30 cm thick layers under foundation including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted gravel.	m ³	62.69		
	additional specifications					
TOTAL EARTH WORKS:						
08.16.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
	13.4.1	Plain concrete				
08.16.02.01	13.4.1.3 additional specifications	Blinding layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	26.06		
08.16.02.02	13.1.4.1 additional specifications	Concrete layer for slope. Concrete class I MB 20.	m ³	49.30		
08.16.02.03	13.1.4.2 additional specifications	Protective concrete over waterproofing layer (MB20, 5cm) with galvanized mesh .	m ²	188.10		
	13.4.3	Reinforced concrete constructions				
08.16.02.04	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	51.14		
	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
08.16.02.05	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	100.96		
08.16.02.06	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m ³	6.35		
	13.4.3.3	Spanning bridge construction of reinforced concrete				
08.16.02.07	13.4.3.3	Main plate girder made of reinforced concrete class II, MB 30, M-150, V-6.	m ³	44.47		
08.16.02.08	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 30, M-150, V-6	m ³	6.31		
TOTAL CONCRETE WORKS:						
08.16.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.16.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	21,817.24		
	13.8	Steel bridge fences:				
08.16.03.02	13.8.3	- tubular fences or fences made of steel sections	kg	16.00		
TOTAL METAL WORK						
08.16.04	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.16.04.01	13.10.2	Insulating coat on pavement top	m ²	200.00		
08.16.04.02	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	523.73		
08.16.04.03	13.10.5	Trial loading of constructed bridge.	lump sum			
08.16.04.04	13.10.6	Photographing during bridge construction	lump sum			
08.16.04.05	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	13.50		
08.16.04.06	13.11.6 additional specifications	Crashed stone revetment	m ³	34.80		
08.16.04.07	13.11.15 additional specifications	'Fugeband" tapes for sealing concrete conections	m'	31.60		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						
08.16.05.	2	PRELIMINARY WORKS				
08.16.05.01	2.5	Demolition of existing construction	lump sum			
TOTAL PRELIMINARY WORKS:						

SUMMARY TOP SLAB CULVERT AT km 884+067.303 (UNDER THE HIGHWAY)					
08.16.01	EARTH WORKS				
08.16.02	CONCRETE				
08.16.03	METALWORK				
08.16.04	FINISHING AND SUNDRY WORKS ON BRIDGES				
08.16.05	PRELIMINARY WORKS				
TOTAL TOP SLAB CULVERT km 884+167.303 (UNDER THE HIGHWAY):					

08.16. TOP SLAB CULVERT AT km 884+067.303 (part under main road with inlect structure)

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.16.01.	13.2	EARTH WORKS				
		Excavation of foundations				
08.16.01.01	13.2.1	Excavation of foundations in IV category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	382.96		
		- at depth of 2-4 m	m ³	410.72		
		- at depth of 4-6 m	m ³	410.72		
		- at depth over 6 m	m ³	731.84		
08.16.01.02	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	220.50		
08.16.01.03	13.2.7 additional specifications	Placing the sub-base made of gravel and sand in 30 cm thick layers under foundation including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted gravel.	m ³	46.85		
TOTAL EARTH WORKS:						
08.16.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.16.02.01	13.4.1.3 additional specifications	Blinking layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ²	21.46		
08.16.02.02	13.1.4.1 additional specifications	Concrete layer for slope. Concrete class I MB 20.	m ³	35.70		
08.16.02.03	13.1.4.2 additional specifications	Protective concrete over waterproofing layer (MB20, 5cm) with galvanized mesh .	m ²	138.60		
	13.4.3	Reinforced concrete constructions				
08.16.02.04	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	44.09		
	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
08.16.02.05	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	106.96		
	13.4.3.3	Spanning bridge construction of reinforced concrete				
08.16.02.06	13.4.3.3	Main plate girder made of reinforced concrete class II, MB 30, M-150, V-6.	m ³	32.34		
TOTAL CONCRETE WORKS:						
08.16.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.16.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	17,325.65		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.16.03.02	13.5.1	Welded mesh reinforcement MAG 500/560	kg	4,078.89		
TOTAL METAL WORK						
08.16.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.16.04.01	13.10.2	Insulating coat on pavement top	m ²	138.60		
08.16.04.02	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	367.41		
08.16.04.03	13.10.5	Trial loading of constructed bridge.	lump sum			
08.16.04.04	13.10.6	Photographing during bridge construction	lump sum			
08.16.04.05	13.11.6 additional specifications	Crashed stone revetment	m ³	25.20		
08.16.04.06	13.11.15 additional specifications	"Fugeband" tapes for sealing concrete connections	m'	13.50		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY TOP SLAB CULVERT AT km 884+167.303 (part under main road)						
08.16.01 EARTH WORKS						
08.16.02 CONCRETE						
08.16.03 METALWORK						
08.16.04 FINISHING AND SUNDRY WORKS ON BRIDGES						
TOTAL CULVERT AT km 884+167.303 (part under main road):						

08.17. SLAB TOP CULVERT AT km 884+815.865

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.17.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.17.01.01	13.2.1	Excavation of foundations in IV and V category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	583.36		
		- at depth of 2-4 m	m ³	474.62		
		- at depth of 4-6 m	m ³	286.52		
08.17.01.02	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	458.05		
08.17.01.03	13.2.7 additional specifications	Placing the sub-base made of gravel and sand in 30 cm thick layers under foundation including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted gravel.	m ³	83.54		
08.17.01.04	13.2.9 additional specifications	Placing 80 cm thick cover protecting a gravel wedge made of gravel sand where top 30 cm shall be stabilized with cement and bottom 50 cm compacted in two layers to modulus of compressibility Ms=40 MPa. Payment per m ³ of compacted gravel.	m ³	29.96		
TOTAL EARTH WORKS:						
08.17.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
	13.4.1	Plain concrete				
08.17.02.01	13.4.1.3 additional specifications	Blinding layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ²	35.00		
08.17.02.02	13.1.4.1 additional specifications	Concrete layer for slope. Concrete class I MB 20.	m ³	99.00		
08.17.02.03	13.1.4.2 additional specifications	Protective concrete over waterproofing layer (MB20, 5cm) with galvanized mesh .	m ²	330.00		
	13.4.3	Reinforced concrete constructions				
08.17.02.04	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	86.98		
	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
08.17.02.05	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	89.54		
08.17.02.06	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m ³	4.50		
	13.4.3.3	Spanning bridge construction of reinforced concrete				
08.17.02.07	13.4.3.3	Main plate girder made of reinforced concrete class II, MB 30, M-150, V-6.	m ³	61.78		
08.17.02.08	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 30, M-150, V-6	m ³	2.96		
TOTAL CONCRETE WORKS:						
08.17.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions				
		* The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.17.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	25,401.86		
	13.8	Steel bridge fences:				
08.17.03.02	13.8.2	- tubular fences or fences made of steel sections	kg	218.61		
TOTAL METAL WORK						
08.17.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.17.04.01	13.10.2	Insulating coat on pavement top	m ²	350.00		
08.17.04.02	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	787.72		
08.17.04.03	13.10.5	Trial loading of constructed bridge.	lump sum			
08.17.04.04	13.10.6	Photographing during bridge construction	lump sum			
08.17.04.05	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	10.95		
08.17.04.06	13.11.6 additional specifications	Crashed stone revetment	m ³	60.00		
08.17.04.07	13.11.15 additional specifications	'Fugeband" tapes for sealing concrete conections	m'	67.50		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						
08.17.05.	2	PRELIMINARY WORKS				
08.17.05.01	2.5	Demolition of existing construction	lump sum			
TOTAL PRELIMINARY WORKS:						

SUMMARY SLAB TOP CULVERT AT km 884+815.865	
08.17.01 EARTH WORKS	
08.17.02 CONCRETE	
08.17.03 METALWORK	
08.17.04 FINISHING AND SUNDRY WORKS ON BRIDGES	
08.17.05 PRELIMINARY WORKS	
TOTAL SLAB TOP CULVERT km 884+815.865:	

08.17. INJECT STRUCTURES AT km 884+815.865

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.17.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.17.01.01	13.2.1	Excavation of foundations in IV and V category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	294.56		
		- at depth of 2-4 m	m ³	247.03		
		- at depth of 4-6 m	m ³	220.80		
		- at depth over 6 m	m ³	294.52		
08.17.01.02	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	126.00		
08.17.01.03	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	46.20		
08.17.01.04	13.2.7 additional specifications	Placing the sub-base made of gravel and sand in 30 cm thick layers under foundation including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted gravel.	m ³	10.56		
TOTAL EARTH WORKS:						
08.17.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.17.02.01	13.4.1.3 additional specifications	Blinking layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ²	11.73		
08.17.02.02	13.1.4.1 additional specifications	Concrete layer for slope. Concrete class I MB 20.	m ³	22.07		
08.17.02.03	13.1.4.2 additional specifications	Protective concrete over waterproofing layer (MB20, 5cm) with galvanized mesh .	m ²	29.04		
	13.4.3	Reinforced concrete constructions				
08.17.02.04	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	31.94		
	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
08.17.02.05	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	106.67		
	13.4.3.3	Spanning bridge construction of reinforced concrete				
08.17.02.06	13.4.3.3	Main plate girder made of reinforced concrete class II, MB 30, M-150,V-6.	m ³	17.14		
TOTAL CONCRETE WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.17.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions				
		* The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.17.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	10,688.66		
08.17.03.02	13.5.1	Welded mesh reinforcement MAG 500/560	kg	3,807.30		
TOTAL METAL WORK						
08.17.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.17.04.01	13.10.2	Insulating coat on pavement top	m ²	29.04		
08.17.04.02	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	436.36		
08.17.04.03	13.10.5	Trial loading of constructed bridge.	lump sum			
08.17.04.04	13.10.6	Photographing during bridge construction	lump sum			
08.17.04.05	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	4.40		
08.17.04.06	13.11.6 additional specifications	Crashed stone revetment	m ³	13.38		
08.17.04.07	13.11.15 additional specifications	'Fugeband" tapes for sealing concrete conections	m'	40.50		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						
08.17.05.	2	PRELIMINARY WORKS				
08.17.05.01	2.5	Demolition of existing construction	lump sum			
TOTAL PRELIMINARY WORKS:						

SUMMARY INLECT STRUCTURES		
08.17.01	EARTH WORKS	
08.17.02	CONCRETE	
08.17.03	METALWORK	
08.17.04	FINISHING AND SUNDRY WORKS ON BRIDGES	
08.17.05	PRELIMINARY WORKS	
TOTAL INLECT STRUCTURES:		

08.18. UNDERPASS AT km 885+335.85

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.18.01	13.2	EARTH WORKS				
		Excavation for foundations				
08.18.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	1,002.30		
		- at depth of 2-4 m	m ³	265.30		
08.18.01.02	13.2.2	Extra for excavation of foundations with pumping of 30 lit/min - 120 lit/min water.	m ³	500.00		
08.18.01.03	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	1,106.00		
08.18.01.04	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	986.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.18.01.05	13.2.7 additional specifications	Placing the sub-base made of gravel and sand in 30 cm thick layers under foundation including compaction of layers to modulus of compressibility Ms=30 MPa.				
		Payment per m ³ of compacted gravel.	m ³	70.00		
08.18.01.06	13.2.9 additional specifications	Placing 80 cm thick cover protecting a gravel wedge made of gravel sand where top 30 cm shall be stabilized with cement and bottom 50 cm compacted in two layers to modulus of compressibility Ms=40 MPa.				
		Payment per m ³ of compacted gravel.	m ³	208.00		
TOTAL EARTH WORKS:						
08.18.01.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.18.02.01	13.4.1.3 additional specifications	Blinding layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	40.50		
08.18.02.02	13.1.4.1 additional specifications	Concrete layer for slope. Concrete class I MB 20.	m ³	14.20		
08.18.02.03	13.1.4.2 additional specifications	Protective concrete over waterproofing layer (MB20, 5cm) with galvanized mesh .	m ²	1,000.00		
	13.4.3	Reinforced concrete constructions				
08.18.02.04	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	246.90		
	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
08.18.02.05	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	221.00		
08.18.02.06	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m ³	91.40		
	13.4.3.3	Spanning bridge construction of reinforced concrete				
08.18.02.07	13.4.3.3	Main plate girder made of reinforced concrete class II, MB 30, M-150,V-6.	m ³	112.00		
08.18.02.08	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 30, M-150, V-6	m ³	7.60		
TOTAL CONCRETE WORKS:						
08.18.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.18.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	54,164.52		
	13.8	Steel bridge fences:				
08.18.03.02	13.8.2	- tubular fences or fences made of steel sections	kg	288.90		
TOTAL METAL WORK						
08.18.04.	13.10	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.18.04.01	13.10.2	Insulating coat on pavement top	m ²	183.50		
08.18.04.02	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	1,253.00		
08.18.04.03	13.10.5	Trial loading of constructed bridge.	lump sum			
08.18.04.04	13.10.6	Photographing during bridge construction	lump sum			
08.18.04.05	13.11.15 additional specifications	"Fugeband" tapes for sealing concrete conexions	m'	25.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY - UNDERPASS AT km 885+335.85	
08.18.01 EARTH WORKS	
08.18.02 CONCRETE	
08.18.03 METALWORK	
08.18.04 FINISHING AND SUNDRY WORKS ON BRIDGES	
TOTAL UNDERPASS AT km 885+335.85:	

08.19.OVERPASS AT 0+719.11 OF SPLIT LEVEL CROSSROAD PREDEJANE

LEG 1

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.19.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.19.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	1,128.40		
		- at depth of 2-4 m	m ³	200.50		
		- at depth of 4-6 m	m ³	260.00		
08.19.01.02	13.2.1	Excavation of foundations in V category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 4-6 m	m ³	45.14		
		- at depth over 6 m	m ³	143.12		
08.19.01.03	13.2.2	Extra for excavation of foundations with pumping of 30 lit/min - 120 lit/min water.	m ³	267.60		
08.19.01.04	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	1,033.60		
08.19.01.05	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	347.10		
08.19.01.06	13.2.6 additional specifications	Extra for excavation to place all needed supports in the foundation pit including wooden shoring, combination of wooden shoring and steel supports and steel shoring. Payment per m ² of used material.	m ²	280.00		
08.19.01.07	13.2.8 additional specifications	Construction of end slope of material from the cutting or borrow pit including mechanical compaction in 30 cm thick layers, fully as designed. Payment per m ³ of compacted material.	m ³	421.00		
08.19.01.08	13.2.9 additional specifications	Placing 80 cm thick cover protecting a gravel wedge made of gravel sand where top 30 cm shall be stabilized with cement and bottom 50 cm compacted in two layers to modulus of compressibility Ms=40 MPa. Payment per m ³ of compacted material.	m ³	93.84		
08.19.01.09	13.4.2	Construction of Ø120 cm piles with concrete, class MB 30, M-150, V-3. Payment per m' of completed pile.	m'	226.00		
TOTAL EARTH WORKS:						
08.19.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.19.02.01	13.4.1.3 additional specifications	Blinding layer, 10 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	25.50		
08.19.02.02		Plain concrete under the pier S6 , MB 30	m ³	90.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total	
08.19.02.03	13.4.3	Reinforced concrete constructions					
	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	468.80			
08.19.02.04	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams					
	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	244.80			
08.19.02.05	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m ³	42.96			
08.19.02.06	13.4.3.2	Abutment parapets constructed of concrete, class II, MB 30, M-150, V-6.	m ³	15.48			
08.19.02.07	13.4.3.2	Pedestrian cantilever walkway at abutment wing walls constructed of concrete, class II, MB 30, M-150, V-6.	m ³	2.50			
08.19.02.08	13.4.3.2	Masking covers of abutments and middle piers made of concrete, class II, MB 30, M-150, V-6.	m ³	1.15			
08.19.02.09	13.4.3.2	Middle pier bodies constructed of concrete, class II, MB 40, M-150, V-6.	m ³	278.51			
08.19.02.10	13.4.3.2	Abutment caps made of concrete, class II, MB 40, M-150, V-6.	m ³	0.81			
08.19.02.11	13.4.3.3	Spanning bridge construction of reinforced concrete					
	13.4.3.3	Main plate girder made of reinforced concrete class II, MB 40, M-150, V-6.	m ³	808.68			
08.19.02.12	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 30, M-150, V-6	m ³	40.00			
08.19.02.13	13.4.3.5	Crossing slabs made of concrete MB 30, M-150, V-6	m ³	14.96			
08.19.02.14	13.4.3.4	Masking covers of cornices at footway level made of concrete, class II, MB 45, M-150, V-8.	m ³	16.50			
TOTAL CONCRETE WORKS:							
08.19.03.	13.5	METALWORK					
		Reinforcing bars in concrete members and constructions					
		* The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.					
		08.19.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	421,994.10	
		08.19.03.02	13.6	Expansion joints - procurement and installation as designed MT-100.	m'	16.00	
		08.19.03.03	13.7	S-7 gullies of cast iron, procurement and installation as designed.	pc.	7.00	
		08.19.03.04	13.8	Steel bridge fences:			
		08.19.03.05	13.8.3	- protective mesh	kg	584.50	
08.19.03.05	13.9	Bridge bearings					
		NAL-b 350x450x85	pc.	4.00			
TOTAL METAL WORK							
08.19.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES					
		This shall apply to all items of finishing works:					
		* The price includes procurement, construction and installation as designed.					
		08.19.04.01	13.10.1	Concrete or stone curbs along the highway, 13/20 MB 40	m'	484.00	
		08.19.04.02	13.10.2	Insulating coat on pavement top	m ²	1,300.00	
		08.19.04.03	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	856.64	
		08.19.04.04	13.10.4	Bituminous pavement base course, BNHS 16A, 5 cm thick	m ²	1,331.00	
		08.19.04.05	13.10.4	Pavement wearing course of skeleton mastic asphalt SMA 0/11S, 4cm thick	m ²	1,331.00	
		08.19.04.06	13.10.5	Trial loading of constructed bridge.	lump sum		
		08.19.04.07	13.10.6	Photographing during bridge construction	lump sum		
		08.19.04.08	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	512.00	
		08.19.04.09	13.11.1	Laying PVC pipes into footways (cat walks), Ø110 mm	m'	120.00	

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.19.04.10	13.11.2	Epoxy and polyurethane preservative on footways	m ²	244.00		
08.19.04.11	13.11.8 additional specifications	Construction of cementitious grouting mortar beds	m ²	2.56		
08.19.04.12	13.7.2	Cast iron pipes for gully water discharge including all fixing accessories.	m'	9.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY -OVERPASS AT km 0+719.11

08.19.01 EARTH WORKS	
08.19.02 CONCRETE	
08.19.03 METALWORK	
08.19.04 FINISHING AND SUNDRY WORKS ON BRIDGES	
TOTAL OVERPASS AT km 0+719.11	

08.20.OVERPASS AT km 0+038.46 OF SPLIT LEVEL CEOSROAD PREDEJANE

LEG 2

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.20.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.20.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	1,128.40		
		- at depth of 2-4 m	m ³	200.50		
		- at depth of 4-6 m	m ³	276.00		
08.20.01.02	13.2.1	Excavation of foundations in V category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 4-6 m	m ³	45.14		
		- at depth over 6 m	m ³	149.12		
08.20.01.03	13.2.2	Extra for excavation of foundations with pumping of 30 lit/min - 120 lit/min water.	m ³	267.60		
08.20.01.04	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	1,040.20		
08.20.01.05	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	370.00		
08.20.01.06	13.2.6 additional specifications	Extra for excavation to place all needed supports in the foundation pit including wooden shoring, combination of wooden shoring and steel supports and steel shoring. Payment per m ² of used material.	m ²	280.00		
08.20.01.07	13.2.8 additional specifications	Construction of end slope of material from the cutting or borrow pit including mechanical compaction in 30 cm thick layers, fully as designed. Payment per m ³ of compacted material.	m ³	421.00		
08.20.01.08	13.2.9 additional specifications	Placing 80 cm thick cover protecting a gravel wedge made of gravel sand where top 30 cm shall be stabilized with cement and bottom 50 cm compacted in two layers to modulus of compressibility Ms=40 MPa. Payment per m ³ of compacted material.	m ³	93.84		
08.20.01.09	13.4.2	Construction of Ø120 cm piles with concrete, class MB 30, M-150, V-3. Payment per m' of completed pile.	m'	226.00		
TOTAL EARTH WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.20.01.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.20.02.01	13.4.1.3 additional specifications	Blinking layer, 10 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m³	25.90		
08.20.02.02		Plain concrete under the pier S2 , MB 30	m³	90.00		
	13.4.3	Reinforced concrete constructions				
08.20.02.03	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m³	476.80		
	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
08.20.02.04	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m³	253.10		
08.20.02.05	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m³	43.47		
08.20.02.06	13.4.3.2	Abutment parapets constructed of concrete, class II, MB 30, M-150, V-6.	m³	16.53		
08.20.02.07	13.4.3.2	Pedestrian cantilever walkway at abutment wing walls constructed of concrete, class II, MB 30, M-150, V-6.	m³	2.63		
08.20.02.08	13.4.3.2	Masking covers of abutments and middle piers made of concrete, class II, MB 30, M-150, V-6.	m³	1.15		
08.20.02.09	13.4.3.2	Middle pier bodies constructed of concrete, class II, MB 40, M-150, V-6.	m³	282.94		
08.20.02.10	13.4.3.2	Abutment caps made of concrete, class II, MB 40, M-150, V-6.		0.81		
	13.4.3.3	Spanning bridge construction of reinforced concrete				
08.20.02.11	13.4.3.3	Main plate girder made of reinforced concrete class II, MB 40, M-150,V-6.	m³	815.88		
08.20.02.12	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 40, M-150, V-6	m³	40.00		
08.20.02.13	13.4.3.5	Crossing slabs made of concrete MB 30, M-150, V-6	m³	17.25		
08.20.02.14	13.4.3.4	Masking covers of cornices at footway level made of concrete, class II, MB 45, M-150, V-8.	m³	16.63		
TOTAL CONCRETE WORKS:						
08.20.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.20.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	417,435.70		
08.20.03.02	13.6	Expansion joints - procurement and installation as designed MT-100.	m'	17.00		
08.20.03.03	13.7	S-7 gullies of cast iron, procurement and installation as designed.	pc.	7.00		
08.20.03.04	13.8	Steel bridge fences:				
08.20.03.05	13.8.3	- protective mesh	kg	584.50		
	13.9	Bridge bearings				
		NaL-b 350x450x85	pc.	4.00		
TOTAL METAL WORK						
08.20.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.20.04.01	13.10.1	Concrete or stone curbs along the highway, 13/20 MB 40	m'	484.00		
08.20.04.02	13.10.2	Insulating coat on pavement top	m²	1,396.00		
08.20.04.03	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m²	874.30		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.20.04.04	13.10.4	Bituminous pavement base course, BNHS 16A, 5 cm thick	m ²	1,347.00		
08.20.04.05	13.10.4	Pavement wearing course of skeleton mastic asphalt SMA 0/11S, 4cm thick	m ²	1,347.00		
08.20.04.06	13.10.5	Trial loading of constructed bridge.				
08.20.04.07	13.10.6	Photographing during bridge construction				
08.20.04.08	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound (Livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	516.00		
08.20.04.09	13.11.1	Laying PVC pipes into footways (cat walks), Ø110 mm	m'	120.00		
08.20.04.10	13.11.2	Epoxy and polyurethane preservative on footways	m ²	244.00		
08.20.04.11	13.11.8	Construction of cementitious grouting mortar beds	m ²	2.56		
08.20.04.12	13.7.2	Cast iron pipes for gully water discharge including all fixing accessories.	m'	9.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY OVERPASS AT km 0+038.46						
08.20.01 EARTH WORKS						
08.20.02 CONCRETE						
08.20.03 METALWORK						
08.20.04 FINISHING AND SUNDRY WORKS ON BRIDGES						
TOTAL OVERPASS AT km 0+038.46						

08.21.UNDERPASS AT km 0+30.0 OF SPLIT LEVEL CROSSROAD PREDEJANE

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.21.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.21.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m.				
		Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	630.00		
		- at depth of 2-4 m	m ³	122.50		
08.21.01.02	13.2.2	Extra for excavation of foundations with pumping of 30 lit/min - 120 lit/min water.	m ³	400.00		
08.21.01.03	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa.	m ³	378.00		
08.21.01.04	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments.	m ³	400.00		
08.21.01.05	13.2.7	Placing the sub-base made of gravel and sand in 30 cm thick layers under foundation including compaction of layers to modulus of compressibility Ms=30 MPa.	m ³	39.60		
08.21.01.06	13.2.9	Placing 80 cm thick cover protecting a gravel wedge made of gravel sand where top 30 cm shall be stabilized with cement and bottom 50 cm compacted in two layers to modulus of compressibility Ms=40 MPa.	m ³	39.20		
		Payment per m ³ of compacted gravel.	m ³			
TOTAL EARTH WORKS:						
08.21.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.21.02.01	13.4.1 13.4.1.3 additional specifications	Plain concrete				
		Blinking layer, 10 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m³	28.70		
08.21.02.02	13.4.1.2 additional specifications	Protective concrete over waterproofing layer (MB20, 5cm) with galvanized mesh .	m²	209.50		
08.21.02.03	13.4.3 13.4.3.1	Reinforced concrete constructions				
		Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m³	122.80		
08.21.02.04	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
		Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m³	92.60		
08.21.02.05	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m³	32.40		
08.21.02.06	13.4.3.3	Spanning bridge construction of reinforced concrete				
		Main plate girder made of reinforced concrete class II, MB 30, M-150,V-6.	m³	54.00		
08.21.02.07	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 30, M-150, V-6	m³	8.50		
08.21.02.08	13.4.3.5	Crossing slabs made of concrete MB 30, M-150, V-6	m³	36.00		
TOTAL CONCRETE WORKS:						
08.21.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.21.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	87,310.33		
08.21.03.02	13.8 13.8.2	Steel bridge fences:				
		- tubular fences or fences made of steel sections	kg	400.00		
TOTAL METAL WORK						
08.21.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works:				
08.21.04.01	13.10.1	* The price includes procurement, construction and installation as designed.				
		Concrete or stone curbs along the highway, 13/20 MB 40	m'	12.00		
08.21.04.02	13.10.2	Insulating coat on pavement top	m²	104.80		
08.21.04.03	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m²	608.20		
08.21.04.04	13.10.4	Bituminous pavement base course, BNHS 16A, 5 cm thick	m²	74.40		
08.21.04.05	13.10.4	Pavement wearing course of skeleton mastic asphalt SMA 0/11S, 4cm thick	m²	74.40		
08.21.04.06	13.10.5	Trial loading of constructed bridge.	lump sum			
08.21.04.07	13.10.6	Photographing during bridge construction	lump sum			
08.21.04.08	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	24.00		
08.21.04.09	13.11.2	Epoxy and polyurethane preservative on footways	m²	36.00		
08.21.04.10	13.11.8 additional specifications	Construction of cementitious grouting mortar beds	m²	2.64		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						
SUMMARY UNDERPASS AT km 0+030.0						
08.21.01 EARTH WORKS						
08.21.02 CONCRETE						
08.21.03 METALWORK						
08.21.04 FINISHING AND SUNDRY WORKS ON BRIDGES						
TOTAL UNDERPASS AT km 0+030.0						

08.22. TOP SLAB CULVERT AT km 0+112.53 OF SPLIT LEVEL CROSSROAD PREDEJANE

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.22.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.22.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	617.90		
08.22.01.02	13.2.5	- at depth of 2-4 m	m ³	309.95		
		Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	1,226.18		
08.22.01.03	13.2.7 additional specifications	Placing the sub-base made of gravel and sand in 30 cm thick layers under foundation including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted gravel.	m ³	149.60		
TOTAL EARTH WORKS:						
08.22.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.22.02.01	13.4.1.3 additional specifications	Blinding layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ²	60.27		
08.22.02.02	13.1.4.1 additional specifications	Concrete layer for slope. Concrete class I MB 20.	m ³	128.52		
08.22.02.03	13.1.4.2 additional specifications	Protective concrete over waterproofing layer (MB20, 5cm) with galvanized mesh .	m ²	359.04		
	13.4.3	Reinforced concrete constructions				
08.22.02.04	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	167.09		
	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
08.22.02.05	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	251.47		
08.22.02.06	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m ³	59.30		
	13.4.3.3	Spanning bridge construction of reinforced concrete				
08.22.02.07	13.4.3.3	Main plate girder made of reinforced concrete class II, MB 30, M-150, V-6.	m ³	83.81		
08.22.02.08	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 30, M-150, V-6	m ³	1.70		
TOTAL CONCRETE WORKS:						
08.22.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.22.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	56,058.36		
	13.8	Steel bridge fences:				
08.22.03.02	13.8.2	- tubular fences or fences made of steel sections	kg	171.20		
TOTAL METAL WORK						
08.22.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.22.04.01	13.10.2	Insulating coat on pavement top	m ²	359.04		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.22.04.02	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	951.15		
08.22.04.03	13.10.5	Trial loading of constructed bridge.	lump sum			
08.22.04.04	13.10.6	Photographing during bridge construction	lump sum			
08.22.04.05	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	7.40		
08.22.04.06	13.11.6 additional specifications	Crashed stone revetment	m ³	95.64		
08.22.04.07	13.11.15 additional specifications	'Fugeband" tapes for sealing concrete conections	m'	154.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY SLAB TOP CULVERT AT km 0+112.53						
08.22.01	EARTH WORKS					
08.22.02	CONCRETE					
08.22.03	METALWORK					
08.22.04	FINISHING AND SUNDRY WORKS ON BRIDGES					
TOTAL SLAB TOP CULVERT AT km 0+112.53						

08.23.BRIDGE AT km 0+264.889

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.23.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.23.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m.				
		Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	2,060.20		
		- at depth of 2-4 m	m ³	1,445.70		
08.23.01.02	13.2.1	Excavation of foundations in V category soil and transport of earth to distance of 500 m.				
		Payment per m ³ of excavated earth - at depth of 4-6 m	m ³	1,032.10		
08.23.01.03	13.2.2	Extra for excavation of foundations with pumping of 30 lit/min - 120 lit/min water.	m ³	2,000.00		
08.23.01.04	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa.				
		Payment per m ³ of compacted earth.	m ³	1,589.00		
08.23.01.05	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments.				
		Payment per m ³ of compacted gravel.	m ³	752.80		
08.23.01.06	13.2.8 additional specifications	Construction of end slope of material from the cutting or borrow pit including mechanical compaction in 30 cm thick layers, fully as designed.				
		Payment per m3 of compacted material.	m ³	663.00		
08.23.01.07	13.2.9 additional specifications	Placing 80 cm thick cover protecting a gravel wedge made of gravel sand where top 30 cm shall be stabilized with cement and bottom 50 cm compacted in two layers to modulus of compressibility Ms=40 MPa.				
		Payment per m3 of compacted material.	m ³	152.00		
TOTAL EARTH WORKS:						
08.23.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.23.02.01	13.4.1 13.4.1.3 additional specifications	Plain concrete				
		Blinking layer, 10 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m³	14.30		
08.23.02.02	13.4.3 13.4.3.1	Reinforced concrete constructions				
		Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m³	85.80		
08.23.02.03	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
		Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m³	150.00		
08.23.02.04	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m³	69.30		
08.23.02.05	13.4.3.2	Pedestrian cantilever walkway at abutment wing walls constructed of concrete, class II, MB 30, M-150, V-6.	m³	30.00		
08.23.02.06	13.4.3.3	Spanning bridge construction of reinforced concrete				
		Main plate girder made of reinforced concrete class II, MB 30, M-150,V-6.	m³	94.20		
08.23.02.07	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 30, M-150, V-6	m³	16.70		
08.23.02.08	13.4.3.5	Crossing slabs made of concrete MB 30, M-150, V-6	m³	20.10		
TOTAL CONCRETE WORKS:						
08.23.02.	13.5	METALWORK				
08.23.03.01	13.5.1	Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
		Ribbed rebars RA 400/500-2	kg	69,264.81		
TOTAL METAL WORK						
08.23.04.	13.10	FINISHING AND SUNDRY WORKS ON BRIDGES				
08.23.04.01	13.10.1	This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
		Concrete or stone curbs along the highway, 13/20 MB 40	m'	53.50		
08.23.04.02	13.10.2	Insulating coat on pavement top	m²	174.70		
08.23.04.03	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m²	1,078.70		
08.23.04.04	13.10.4	Bituminous pavement base course, BNHS 16A, 5 cm thick	m²	117.70		
08.23.04.05	13.10.4	Pavement wearing course of skeleton mastic asphalt SMA 0/11S, 4cm thick	m²	117.70		
08.23.04.06	13.10.5	Trial loading of constructed bridge.	lump sum			
08.23.04.07	13.10.6	Photographing during bridge construction	lump sum			
08.23.04.08	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	53.50		
08.23.04.09	13.11.1	Laying PVC pipes into footways (cat walks), Ø110 mm	m'	214.00		
08.23.04.10	13.11.2	Epoxy and polyurethane preservative on footways	m²	56.18		
08.23.04.11	13.11.6 additional specifications	Crashed stone revetment	m³	69.10		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY BRIDGE AT km 0+264.889					
08.23.01 EARTH WORKS					
08.23.02 CONCRETE					
08.23.03 METALWORK					
08.23.04 FINISHING AND SUNDRY WORKS ON BRIDGES					
TOTAL BRIDGE AT km 0+264.889					

08.24.BRIDGE AT LOCAL ROAD L5, AT km 0+115.365

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.24.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.24.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	321.00		
		- at depth of 2-4 m	m ³	279.00		
		- at depth of 4-6 m	m ³	176.60		
08.24.01.02	13.2.2	Extra for excavation of foundations with pumping of 30 lit/min - 120 lit/min water.	m ³	500.00		
08.24.01.03	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	133.40		
08.24.01.04	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	160.00		
08.24.01.05	13.2.9 additional specifications	Placing 80 cm thick cover protecting a gravel wedge made of gravel sand where top 30 cm shall be stabilized with cement and bottom 50 cm compacted in two layers to modulus of compressibility Ms=40 MPa. Payment per m ³ of compacted gravel.	m ³	31.70		
TOTAL EARTH WORKS:						
08.24.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.24.02.01	13.4.1.3 additional specifications	Blinking layer, 10 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	7.60		
08.24.02.02	13.1.4.1 additional specifications	Concrete layer for slope. Concrete class I MB 20.	m ³	3.70		
08.24.02.03	13.1.4.2 additional specifications	Protective concrete over waterproofing layer (MB20, 5cm) with galvanized mesh .	m ²	54.00		
	13.4.3	Reinforced concrete constructions				
08.24.02.04	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	20.60		
	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
08.24.02.05	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	27.00		
08.24.02.06	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m ³	24.00		
	13.4.3.3	Spanning bridge construction of reinforced concrete				
08.24.02.07	13.4.3.3	Main plate girder made of reinforced concrete class II, MB 30, M-150, V-6.	m ³	23.20		
08.24.02.08	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 30, M-150, V-6	m ³	13.80		
08.24.02.09	13.4.3.5	Crossing slabs made of concrete MB 30, M-150, V-6	m ³	13.40		
TOTAL CONCRETE WORKS:						
08.24.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.24.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	15,827.70		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.24.03.02	13.8 13.8.2	Steel bridge fences: - tubular fences or fences made of steel sections	kg	659.70		
TOTAL METAL WORK						
08.24.04.	13.10	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.24.04.01	13.10.2	Insulating coat on pavement top	m ²	55.00		
08.24.04.02	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	210.00		
08.24.04.03	13.10.5	Trial loading of constructed bridge.		lump sum		
08.24.04.04	13.10.6	Photographing during bridge construction		lump sum		
08.24.04.05	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	18.00		
08.24.04.06	13.11.2	Epoxy and polyurethane preservative on footways	m ²	27.00		
08.24.04.07	13.11.6 additional specifications	Crashed stone revetment	m ³	9.80		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY BRIDGE AT LOCAL ROAD L5, AT na km 0+115.365	
08.24.01 EARTH WORKS	
08.24.02 CONCRETE WORKS	
08.24.03 METAL WORK	
08.24.04 FINISHING AND SUNDRY WORKS ON BRIDGES	
TOTAL BRIDGE AT km 0+115.365:	

08.25. INLET STRUCTURE AT km 882+480.90

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.25.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.25.01.01	13.2.1	Excavation of foundations in IV category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	54.52		
		- at depth of 2-4 m	m ³	51.66		
		- at depth of 4-6 m	m ³	46.70		
		- at depth over 6 m	m ³	71.99		
08.25.01.02	13.2.4	Backfilling with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	67.60		
TOTAL EARTH WORKS:						
08.25.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.25.02.01	13.4.1.3 additional specifications	Blasting layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	2.40		
	13.4.3	Reinforced concrete constructions				
08.25.02.02	13.4.3.1	Reinforced concrete for inlet structure Concrete class II MB 30, M-150, V-6.	m ³	54.02		
TOTAL CONCRETE WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.25.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions				
		* The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.25.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	4,437.16		
08.25.03.02	13.5.1	Welded mesh reinforcement MAG 500/560	kg	2,233.65		
TOTAL METAL WORK						
08.25.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works:				
		* The price includes procurement, construction and installation as designed.				
08.25.04.01	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	130.40		
08.25.04.02	13.10.10	Procurment, transport and instalation of metal rungs. Payment per pieces	pc.	46.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY INLET STRUCTURE AT km 882+480.90						
08.25.01 EARTH WORKS						
08.25.02 CONCRETE						
08.25.03 METALWORK						
08.25.04 FINISHING AND SUNDRY WORKS ON BRIDGES						
TOTAL INLET STRUCTURE AT km 882+480.90						

08.25. INLET STRUCTURE UG1 AND UG2 AT km 883+762.574

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.25.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.25.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	88.62		
		- at depth of 2-4 m	m ³	87.19		
		- at depth of 4-6 m	m ³	84.92		
08.25.01.02	13.2.1	Excavation of foundations in IV category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth over 6 m	m ³	143.44		
08.25.01.03	13.2.4	Backfilling with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	125.20		
TOTAL EARTH WORKS:						
08.25.02.	13.4	CONCRETE				
		This shall apply to all items:				
		* Concrete shall be mixed mechanically and compacted by vibrating.				
		* Reinforcing bars shall be paid separately, except for bored piles.				
		* Cables shall be paid separately.				
		* The price of concrete includes formwork and scaffold.				
		* Payment per m ³ of placed concrete for completely performed work				
08.25.02.01	13.4.1	Plain concrete				
	13.4.1.3 additional specifications	Blasting layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	4.80		
08.25.02.02	13.4.3	Reinforced concrete constructions				
	13.4.3.1	Reinforced concrete for inlet structure Concrete class II MB 30, M-150, V-6.	m ³	103.90		
TOTAL CONCRETE WORKS:						
08.25.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions				
		* The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.25.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	8,644.78		
08.25.03.02	13.5.1	Welded mesh reinforcement MAG 500/560	kg	4,285.19		
TOTAL METAL WORK						
08.25.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.25.04.01	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	249.60		
08.25.04.02	13.10.10	Procurment, transport and instalation of metal rungs. Payment per pieces	pc.	88.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY INLECT STRUCTURE UG1 AND UG2 AT km 883+762.574						
08.25.01 EARTH WORKS						
08.25.02 CONCRETE						
08.25.03 METALWORK						
08.25.04 FINISHING AND SUNDRY WORKS ON BRIDGES						
TOTAL INLECT STRUCTURE UG1 AND UG2 AT km 883+762.574						

08.25. INLECT STRUCTURE AT km 883+882.283

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.25.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.25.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	48.51		
		- at depth of 2-4 m	m ³	45.78		
08.25.01.02	13.2.1	Excavation of foundations in IV category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 4-6 m	m ³	45.44		
		- at depth over 6 m	m ³	55.52		
08.25.01.03	13.2.4	Backfilling with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	57.60		
TOTAL EARTH WORKS:						
08.25.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.25.02.01	13.4.1.3 additional specifications	Blinding layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	1.95		
	13.4.3	Reinforced concrete constructions				
08.25.02.02	13.4.3.1	Reinforced concrete for inlet structure Concrete class II MB 30, M-150, V-6.	m ³	40.46		
TOTAL CONCRETE WORKS:						
08.25.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.25.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	2,819.68		
08.25.03.02	13.5.1	Welded mesh reinforcement MAG 500/560	kg	1,801.02		
TOTAL METAL WORK						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.25.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.25.04.01	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	100.20		
08.25.04.02	13.10.10	Procurement, transport and instalation of metal rungs. Payment per pieces	pc.	34.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY INLECT STRUCTURE AT km 883+882.283						
08.25.01 EARTH WORKS						
08.25.02 CONCRETE						
08.25.03 METALWORK						
08.25.04 FINISHING AND SUNDRY WORKS ON BRIDGES						
TOTAL INLECT STRUCTURE AT km 883+882.283						

08.25. INLECT STRUCTURE UG1 AND UG2 AT km 883+952.142

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.25.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.25.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	90.80		
		- at depth of 2-4 m	m ³	46.41		
08.25.01.02	13.2.1	Excavation of foundations in IV category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 2-4 m	m ³	39.48		
		- at depth of 4-6 m	m ³	88.26		
		- at depth over 6 m	m ³	72.64		
08.25.01.03	13.2.4	Backfilling with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	119.60		
TOTAL EARTH WORKS:						
08.25.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.25.02.01	13.4.1.3 additional specifications	Blinding layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	4.35		
	13.4.3	Reinforced concrete constructions				
08.25.02.02	13.4.3.1	Reinforced concrete for inlet structure Concrete class II MB 30, M-150, V-6.	m ³	94.44		
TOTAL CONCRETE WORKS:						
08.25.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions				
		* The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.25.03.01.	13.5.1	Ribbed rebars RA 400/500-2	kg	7,256.84		
08.25.03.02	13.5.1	Welded mesh reinforcement MAG 500/560	kg	4,034.67		
TOTAL METAL WORK						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.25.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.25.04.01	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	230.52		
08.25.04.02	13.10.10	Procurement, transport and instalation of metal rungs. Payment per pieces	pc.	80.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY INLECT STRUCTURE UG1 AND UG2 AT km 883+952.142						
08.25.01 EARTH WORKS						
08.25.02 CONCRETE						
08.25.03 METALWORK						
08.25.04 FINISHING AND SUNDRY WORKS ON BRIDGES						
TOTAL INLECT STRUCTURE UG1 AND UG2 AT km 883+952.142						

08.25. INLECT STRUCTURE AT km 884+241.537

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.25.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.25.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	39.27		
08.25.01.02	13.2.1	Excavation of foundations in IV category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 2-4 m	m ³	36.12		
		- at depth of 4-6 m	m ³	34.02		
		- at depth over 6 m	m ³	22.68		
08.25.01.03	13.2.4	Backfilling with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	52.00		
TOTAL EARTH WORKS:						
08.25.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.25.02.01	13.4.1.3 additional specifications	Blinding layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	1.95		
	13.4.3	Reinforced concrete constructions				
08.25.02.02	13.4.3.1	Reinforced concrete for inlet structure Concrete class II MB 30, M-150, V-6.	m ³	40.46		
TOTAL CONCRETE WORKS:						
08.25.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.25.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	2,819.68		
08.25.03.02	13.5.1	Welded mesh reinforcement MAG 500/560	kg	1,801.02		
TOTAL METAL WORK						
08.25.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.25.04.01	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	100.20		
08.25.04.02	13.10.10	Procurement, transport and instalation of metal rungs. Payment per pieces	pc.	34.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY INLECT STRUCTURE AT km 884+241.537						
08.25.01	EARTH WORKS					
08.25.02	CONCRETE					
08.25.03	METALWORK					
08.25.04	FINISHING AND SUNDRY WORKS ON BRIDGES					
TOTAL INLECT STRUCTURE AT km 884+241.537						

08.25. INLECT STRUCTURE UG1 AND UG2 AT km 884+306.224

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.25.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.25.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	84.17		
		- at depth of 2-4 m	m ³	78.71		
		- at depth of 4-6 m	m ³	34.82		
08.25.01.02	13.2.1	Excavation of foundations in IV category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 4-6 m	m ³	41.54		
		- at depth over 6 m	m ³	37.12		
08.25.01.02	13.2.4	Backfilling with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	100.80		
TOTAL EARTH WORKS:						
08.25.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.25.02.01	13.4.1.3 additional specifications	Blinking layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	4.35		
	13.4.3	Reinforced concrete constructions				
08.25.02.02	13.4.3.1	Reinforced concrete for inlet structure Concrete class II MB 30, M-150, V-6.	m ³	85.06		
TOTAL CONCRETE WORKS:						
08.25.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.25.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	7,373.29		
08.25.03.02	13.5.1	Welded mesh reinforcement MAG 500/560	kg	4,103.08		
TOTAL METAL WORK						
08.25.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.25.04.01	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	201.12		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.25.04.02	13.10.11	Covers made of iron, procurment, transport and instalation covers 625mm for control points for closed structures. Cover is instaled on reinforced slab. Payment per pieces.	pc.	1.00		
08.25.04.03	13.10.10	Procurment, transport and instalation of metal rungs. Payment per pieces	pc.	74.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY INLECT STRUCTURE UG1 AND UG2 AT km 884+306.224						
08.25.01 EARTH WORKS						
08.25.02 CONCRETE						
08.25.03 METALWORK						
08.25.04 FINISHING AND SUNDRY WORKS ON BRIDGES						
TOTAL INLECT STRUCTURE UG1 AND UG2 AT km 884+306.224						

08.25. INLECT STRUCTURE AT km 884+358.565

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.25.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.25.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	40.91		
		- at depth of 2-4 m	m ³	39.90		
08.25.01.02	13.2.1	Excavation of foundations in IV category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 4-6 m	m ³	43.30		
		- at depth over 6 m	m ³	62.92		
08.25.01.03	13.2.4	Backfilling with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	52.00		
TOTAL EARTH WORKS:						
08.25.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.25.02.01	13.4.1.3 additional specifications	Blinding layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	1.95		
	13.4.3	Reinforced concrete constructions				
08.25.02.02	13.4.3.1	Reinforced concrete for inlet structure Concrete class II MB 30, M-150, V-6.	m ³	41.75		
TOTAL CONCRETE WORKS:						
08.25.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.25.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	3,235.10		
08.25.03.02	13.5.1	Welded mesh reinforcement MAG 500/560	kg	2,051.54		
TOTAL METAL WORK						
08.25.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.25.04.01	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	90.32		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.25.04.02	13.10.11	Covers made of iron, procurement, transport and installation covers 625mm for control points for closed structures. Cover is installed on reinforced slab. Payment per pieces.	pc.	1.00		
08.25.04.03	13.10.10	Procurement, transport and installation of metal rungs. Payment per pieces	pc.	32.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY INJECT STRUCTURE AT km 884+358.565						
08.25.01 EARTH WORKS						
08.25.02 CONCRETE						
08.25.03 METALWORK						
08.25.04 FINISHING AND SUNDRY WORKS ON BRIDGES						
TOTAL INJECT STRUCTURE AT km 884+358.565						

08.25. TOTAL INJECT STRUCTURE UG1 AND UG2 AT km 884+306.224

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.25.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.25.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	81.48		
		- at depth of 2-4 m	m ³	42.42		
08.25.01.02	13.2.1	Excavation of foundations in IV category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 2-4 m	m ³	36.54		
		- at depth of 4-6 m	m ³	75.94		
		- at depth over 6 m	m ³	160.00		
08.25.01.03	13.2.4	Backfilling with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	125.20		
TOTAL EARTH WORKS:						
08.25.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.25.02.01	13.4.1.3 additional specifications	Blinding layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	4.80		
	13.4.3	Reinforced concrete constructions				
08.25.02.02	13.4.3.1	Reinforced concrete for inlet structure Concrete class II MB 30, M-150, V-6.	m ³	105.36		
TOTAL CONCRETE WORKS:						
08.25.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.25.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	9,195.64		
08.25.03.02	13.5.1	Welded mesh reinforcement MAG 500/560	kg	4,330.46		
TOTAL METAL WORK						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.25.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.25.04.01	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	241.20		
08.25.04.02	13.10.11	Covers made of iron, procurvement, transport and instalation covers 625mm for control points for closed structures. Cover is instaled on reinforced slab. Payment per pieces.	pc.	1.00		
08.25.04.03	13.10.10	Procurment, transport and instalation of metal rungs. Payment per pieces	pc.	85.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY INLECT STRUCTURE UG1 AND UG2 AT km 884+496.123						
08.25.01	EARTH WORKS					
08.25.02	CONCRETE					
08.25.03	METALWORK					
08.25.04	FINISHING AND SUNDRY WORKS ON BRIDGES					
TOTAL INLECT STRUCTURE UG1 AND UG2 AT km 884+496.123						

08.25. INLECT STRUCTURE UG1 AND UG2 AT km 884+575.88

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.25.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.25.01.01	13.2.1	Excavation of foundations in IV category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	129.40		
		- at depth of 2-4 m	m ³	141.37		
		- at depth of 4-6 m	m ³	112.98		
		- at depth over 6 m	m ³	137.56		
08.25.01.02	13.2.4	Backfilling with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	125.20		
TOTAL EARTH WORKS:						
08.25.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.25.02.01	13.4.1.3 additional specifications	Blasting layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	4.80		
	13.4.3	Reinforced concrete constructions				
08.25.02.02	13.4.3.1	Reinforced concrete for inlet structure Concrete class II MB 30, M-150, V-6.	m ³	105.86		
TOTAL CONCRETE WORKS:						
08.25.03.	13.5	METALWORK				
		Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
08.25.03.01	13.5.1	Ribbed rebars RA 400/500-2	kg	9,046.99		
08.25.03.02	13.5.1	Welded mesh reinforcement MAG 500/560	kg	4,444.14		
TOTAL METAL WORK						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.25.04.	13.1	FINISHING AND SUNDRY WORKS ON BRIDGES				
		This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
08.25.04.01	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	238.40		
08.25.04.02	13.10.11	Covers made of iron, procurvement, transport and instalation covers 625mm for control points for closed structures. Cover is instaled on reinforced slab. Payment per pieces.	pc.	1.00		
08.25.04.03	13.10.10	Procurment, transport and instalation of metal rungs. Payment per pieces	pc.	87.00		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						

SUMMARY INLECT STRUCTURE UG1 AND UG2 AT km 884+575.88						
08.25.01	EARTH WORKS					
08.25.02	CONCRETE					
08.25.03	METALWORK					
08.25.04	FINISHING AND SUNDRY WORKS ON BRIDGES					
TOTAL INLECT STRUCTURE UG1 AND UG2 AT km 884+575.88						

08.26. BRIDGE AT km 0+185.52 (local station)

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.26.01.	13.2	EARTH WORKS				
		Excavation for foundations				
08.26.01.01	13.2.1	Excavation of foundations in II and III category soil and transport of earth to distance of 500 m. Payment per m ³ of excavated earth - at depth of 0-2 m	m ³	597.35		
		- at depth of 2-4 m	m ³	318.00		
		- at depth of 4-6 m	m ³	14.82		
08.26.01.02	13.2.2	Extra for excavation of foundations with pumping of 30 lit/min - 120 lit/min water.	m ³	465.09		
08.26.01.03	13.2.3	Excavation of Trenches and Channels Less than 1.5 m Wide and Less than 2.0 m Deep	m ³	10.73		
08.26.01.04	13.2.4	Backfilling of pier foundations with earth in 30 cm thick layers including compaction of layers to modulus of compressibility Ms=30 MPa. Payment per m ³ of compacted earth.	m ³	400.17		
08.26.01.05	13.2.5	Construction of wedge made of well-graded gravel compacted in 30 cm thick layers to modulus of compressibility Ms=40 MPa. It shall be constructed behind the abutments. Payment per m ³ of compacted gravel.	m ³	530.00		
08.26.01.06	13.2.8 additional specifications	Construction of end slope of material from the cutting or borrow pit including mechanical compaction in 30 cm thick layers, fully as designed. Payment per m ³ of compacted material.	m ³	77.11		
TOTAL EARTH WORKS:						
08.26.02.	13.4	CONCRETE				
		This shall apply to all items: * Concrete shall be mixed mechanically and compacted by vibrating. * Reinforcing bars shall be paid separately, except for bored piles. * Cables shall be paid separately. * The price of concrete includes formwork and scaffold. * Payment per m ³ of placed concrete for completely performed work				
	13.4.1	Plain concrete				
08.26.02.01	13.4.1.1	Foundation of end slope wall made of concrete, class I MB25.	m ³	10.73		
08.26.02.02	13.4.1.2	Lining of end slopes with concrete plates (60'40'12 cm) MB 40, M-150, V-3	m ²	38.63		
08.26.02.03	13.4.1.3 additional specifications	Blinding layer, 15 cm thick, made of concrete, class I MB 15 under foundation, pile caps and crossing slabs.	m ³	19.26		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.25.02.04	13.4.3	Reinforced concrete constructions				
	13.4.3.1	Strip foundations, foundations for wings, counter-beams, slab foundations, cushions and pile caps made of reinforced concrete, class III MB 30, M-150, V-6.	m ³	121.92		
08.26.02.05	13.4.3.2	Piers supporting plain spanning constructions of different systems and bearing beams				
	13.4.3.2	Abutment bodies constructed of concrete, class II, MB 30, M-150, V-6.	m ³	93.50		
08.26.02.06	13.4.3.2	Abutment wing walls made of concrete, class II, MB 30, M-150, V-6.	m ³	29.80		
08.26.02.07	13.4.3.3	Spanning bridge construction of reinforced concrete				
		Main plate girder made of reinforced concrete class II, MB 30, M-150,V-6.	m ³	116.00		
08.26.02.08	13.4.3.4	Cornices at footway level (including inspection manholes) cast in situ. Concrete class II MB 30, M-150, V-6	m ³	12.84		
08.26.02.09	13.4.3.5	Crossing slabs made of concrete MB 30, M-150, V-6	m ³	26.70		
TOTAL CONCRETE WORKS:						
08.26.03.	13.5	METALWORK				
08.26.03.01	13.5.1	Reinforcing bars in concrete members and constructions * The price includes procurement, cutting, bending and fixing of reinforcing bars in the construction, fully as designed.				
		Ribbed rebars RA 400/500-2	kg	45,681.86		
TOTAL METAL WORK						
08.26.04.	13.10	FINISHING AND SUNDRY WORKS ON BRIDGES				
08.26.04.01	13.10.1	This shall apply to all items of finishing works: * The price includes procurement, construction and installation as designed.				
		Concrete or stone curbs along the highway, 13/20 MB 40	m'	42.80		
08.26.04.02	13.10.2	Insulating coat on pavement top	m ²	145.00		
08.26.04.03	13.10.3	Applying one layer of bitulite and one layer of hot bitumen onto concrete surfaces in contact with earth.	m ²	330.88		
08.26.04.04	13.10.4	Bituminous pavement base course, BNHS 16A, 5 cm thick	m ²	229.00		
08.26.04.05	13.10.4	Pavement wearing course of skeleton mastic asphalt SMA 0/11S, 4cm thick	m ²	229.00		
08.26.04.06	13.10.5	Trial loading of constructed bridge.	lump sum			
08.26.04.07	13.10.6	Photographing during bridge construction	lump sum			
08.26.04.08	13.10.8	Fitting and sealing joints with elastic bituminous sealing compound ('livobit) on asphalt next to curbs and cornices at footway level and next to expansion joints	m'	85.60		
08.26.04.09	13.11.1	Laying PVC pipes into footways (cat walks), Ø110 mm	m'	128.40		
08.26.04.10	13.11.2	Epoxy and polyurethane preservative on footways	m ²	53.50		
TOTAL FINISHING AND SUNDRY WORKS ON BRIDGES:						
08.26.05.	2	PRELIMINARY WORKS				
08.26.05.01	2.5	Demolition of existing construction	lump sum			
TOTAL PRELIMINARY WORKS:						

SUMMARY BRIDGE AT km 0+185.52 (local station)	
08.26.01 EARTH WORKS	
08.26.02 CONCRETE	
08.26.03 METALWORK	
08.26.04 FINISHING AND SUNDRY WORKS ON BRIDGES	
08.26.05 PRELIMINARY WORKS	
TOTAL BRIDGE AT km 0+185.52:	

08. SUMMARY – Bridges	
08.09. BRIDGE AT km 881+101.843	
08.10. BRIDGE AT km 881+705.810	
08.11. BRIDGE AT km 883+067.252	
08.12. BRIDGE AT km 883+576.495	
08.13. BRIDGE AT km 884+958.430	
08.14. BRIDGE AT km 885+445.066	
08.16. TOP SLAB CULVERT km 884+167.303 (UNDER THE HIGHWAY)	
08.16. CULVERT AT km 884+167.303 (part under main road)	
08.17. SLAB TOP CULVERT km 884+815.865:	
08.17. INLECT STRUCTURES	
08.18. UNDERPASS AT km 885+335.85	
08.19. OVERPASS AT km 0+719.11	
08.20. OVERPASS AT km 0+038.46	
08.21. UNDERPASS AT km 0+030.0	
08.22. SLAB TOP CULVERT AT km 0+112.53	
08.23. BRIDGE AT km 0+264.889	
08.24. BRIDGE AT km 0+115.365	
08.25. INLET STRUCTURE AT km 882+480.90	
08.25. INLECT STRUCTURE UG1 AND UG2 AT km 883+762.574	
08.25. INLECT STRUCTURE AT km 883+882.283	
08.25. INLECT STRUCTURE UG1 AND UG2 AT km 883+952.142	
08.25. INLECT STRUCTURE AT km 884+241.537	
08.25. INLECT STRUCTURE UG1 AND UG2 AT km 884+306.224	
08.25. INLECT STRUTURE AT km 884+358.565	
08.25. INLECT STRUCTURE UG1 AND UG2 AT km 884+496.123	
08.25. INLECT STRUCTURE UG1 AND UG2 AT km 884+575.88	
08.26. BRIDGE AT km 0+185.52:	
SUB-TOTAL	
Unforeseen work (5% of sub-total)	
<i>TOTAL Bridges (8.):</i>	

10.03. PROTECTION WALL 3- LEFTWARDS, from km 881+077,24 to km 881+328,14, L=244.0m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
10.03.05.		CONCRETE WORKS				
10.03.05.01	8.3.6	Casting reinforced concrete sheet piles to make the bridge construction horizontal. This item includes casting of reinforced concrete pile in situ to make the bridge construction horizontal. Price includes procurement and transport of materials, placing of concrete, reinforcement and formwork per piece. Measurement unit is piece.	piece.	112.00		
TOTAL CONCRETE WORKS:						
10.03.06.		REINFORCEMENT WORKS				
10.03.06.01	10.03.06.01	Procurement and erection of HEA140 steel posts Price includes procurement, transport, assembly and erection of steel posts made of HEA140 sections including all related works. Measurement unit is kg.	kg	6,977.75		
10.03.06.02	10.03.06.02	Procurement and fastening of anchor plates Price includes procurement, transport, assembly and fastening of anchor plates, 400x300x10 in size including all related works. Measurement unit is kg.	kg	113.00		
TOTAL REINFORCEMENT WORKS:						
10.03.07.		SUNDRIES				
10.03.07.01.	10.03.07.01.	Procurement and driving of transparent sheet piles This item includes procurement, transport and driving of transparent sheet piles on the bridge, 196x200x11 in size. Measurement unit is piece.	piece.	112.00		
TOTAL SUNDRIES:						

10.03. SUMMARY PROTECTION WALL 3- LEFTWARDS, from km 881+077,24 to km 881+328,14, L=244.0m,

10.03.05.	CONCRETE WORKS	
10.03.06.	REINFORCEMENT WORKS	
10.03.07.	SUNDRIES	
<u>TOTAL PROTECTION WALL 3-leftwards, from km 881+077,24 to km 881+328,14, L=244.0m (10.03.):</u>		

10.04. PROTECTION WALL 4 – LEFTWARDS, from km 881+451,00 to km 881+613,74, L=164.0m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
10.04.01.		EARTH WORKS				
10.04.01.01	3.2	Excavation of earth for foundations This item includes excavation of II category earth for Ø630 mm foundations with loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m ³ .	m ³	33.00		
10.04.01.02	3.4.1.3	Filling and leveling of stone aggregate This item includes filling and leveling of stone aggregate between reinforced concrete sheet piles and pavement edge Measurement unit is m ³ .	m ³	26.24		
TOTAL EARTH WORKS:						
10.04.02.		CONCRETE WORKS				
10.04.02.01	8.3.6	Construction of prefabricated foundations with mB30 reinforced concrete This item includes procurement, transport of prefabricated foundations, designed size: Ø600 mm, 2.50 m high including all related works. Measurement unit is piece.	piece.	42.00		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
10.04.02.02	8.3.6	Construction and placing of 396x50x11 reinforced concrete sheet piles This item includes procurement, transport and placing of prefabricated sheet piles made of MB30 reinforced concrete, 396x50x11 in size. Measurement unit is piece.	piece.	41.00		
TOTAL CONCRETE WORKS:						
10.04.03.		REINFORCEMENT WORKS				
10.04.03.01	10.04.03.01	Procurement and erection of HEA140 steel posts Price includes procurement, transport, assembly and erection of steel posts made of HEA140 sections including all related works. Measurement unit is kg.	kg	5,187.00		
TOTAL REINFORCEMENT WORKS:						
10.04.04.		SUNDRIES				
10.04.04.01.	10.04.04.01.	Procurement and placing of absorptive sheet piles This item includes procurement, transport and placing of absorptive sheet piles, 396x50x11 in size. Measurement unit is piece.	piece.	328.00		
TOTAL SUNDRIES:						

10.04. SUMMARY PROTECTION WALL 4 – LEFTWARDS, from km 881+451,00 to km 881+613,74, L=164.0m						
10.04.01.	EARTH WORKS					
10.04.02.	CONCRETE WORKS					
10.04.03.	REINFORCEMENT WORKS					
10.04.04.	SUNDRIES					
TOTAL PROTECTION WALL 4 – LEFTWARDS, from km 881+451,00 to km 881+613,74, L=164.0m (10.04.):						

10.05. PROTECTION WALL 5 – LEFTWARDS, from km 885+132,85 to km 885+399,70, L=264.0m

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
10.05.01.		EARTH WORKS				
10.05.01.01	3.2	Excavation of earth for foundations This item includes excavation of II category earth for Ø630 mm foundations with loading and transport of surplus material to stockpiling area specified by the Engineer. Measurement unit is m ³ .	m ³	50.70		
10.05.01.02	3.4.1.3	Filling and leveling of stone aggregate This item includes filling and leveling of stone aggregate between reinforced concrete sheet piles and pavement edge Measurement unit is m ³ .	m ³	40.40		
TOTAL EARTH WORKS:						
10.05.02.		CONCRETE WORKS				
10.05.02.01	8.3.6	Construction of prefabricated foundations with mB30 reinforced concrete This item includes procurement, transport and placing of prefabricated foundations, designed size: Ø600 mm, 2.50 m high including all related works. Measurement unit is piece.	piece.	67.00		
10.05.02.02	8.3.6	Construction and placing of 396x50x11 reinforced concrete sheet piles This item includes procurement, transport and placing of prefabricated sheet piles made of MB30 reinforced concrete, 396x50x11 in size. Measurement unit is piece.	piece.	66.00		
TOTAL CONCRETE WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
10.05.03.		REINFORCEMENT WORKS				
10.05.03.01	10.05.03.01	Procurement and erection of HEA140 steel posts Price includes procurement, transport, assembly and erection of steel posts made of HEA140 sections including all related works. Measurement unit is kg.	kg	7,410.00		
10.05.06.02	10.05.06.02	Procurement and fastening of anchor plates Price includes procurement, transport, assembly and fastening of anchor plates, 400x300x10 in size including all related works. Measurement unit is piece.	piece.	2.00		
TOTAL REINFORCEMENT WORKS:						
10.05.04.		SUNDRIES				
10.05.04.01.	10.05.04.01.	Procurement and placing of absorptive sheet piles This item includes procurement, transport and placing of prefabricated sheet piles made of MB30 reinforced concrete, 396x50x11 in size. Measurement unit is piece.	piece.	459.00		
TOTAL SUNDRIES:						

<u>10.05. SUMMARY PROTECTION WALL 5 – LEFTWARDS, from km 885+132,85 to km 885+399,70, L=264.0m</u>						
10.05.01.	EARTH WORKS					
10.05.02.	CONCRETE WORKS					
10.05.03.	REINFORCEMENT WORKS					
10.05.04.	SUNDRIES					
<u>TOTAL PROTECTION WALL 5 – LEFTWARDS, from km 885+132,85 to km 885+399,70, L=264.0m (10.05.):</u>						

<u>10. SUMMARY –ENVIRONMENTAL PROTECTION -PROTECTION WALLS</u>						
10.03.	WALL 3 LEFTWARDS from km 881+077,24 to km 881+328,14, L=244m					
10.04.	WALL 4 LEFTWARDS from km 881+451,00 to km 881+613,74, L=164m					
10.05.	WALL 5 LEFTWARDS from km 885+132,85 to km 885+399,70, L=264m					
	SUB-TOTAL					
	Unforeseen work (5% of sub-total)					
<u>TOTAL ENVIRONMENTAL PROTECTION -PROTECTION WALLS (10.):</u>						

11. Traffic-technical and service equipment for roads
ELEMENTS OF TRAFFIC SIGNS AND SIGNALS

No.	T.S	Work description	Unit	Quantity	Unit price	Total
11.01.		ELEMENTS OF TRAFFIC SIGNS AND SIGNALS				
11.01.01.		Reflective traffic sign with mounting accessories, class 3:				
OPEN SECTION						
11.01.01.01	12.1,12.2,3	I-20 1200x1200x1200mm	pcs.	2		
11.01.01.02	12.1,12.2,3	I-24 + 2 fleshers 1650x1400mm	pcs.	1		
11.01.01.03	12.1,12.2,3	I-24 1500x1400mm	pcs.	1		
11.01.01.04	12.1,12.2,3	II-29 ø900mm	pcs.	2		
11.01.01.05	12.1,12.2,3	II-30 (80) ø900mm	pcs.	2		
11.01.01.06	12.1,12.2,3	II-30 (100) ø900mm	pcs.	2		
11.01.01.07	12.1,12.2,3	III-26 ø900mm	pcs.	2		
11.01.01.08	12.1,12.2,3	III-17.1 400x200mm	pcs.	10		
11.01.01.10	12.1,12.2,3	III-56 (2) 1400x1200mm	pcs.	1		
11.01.01.11	12.1,12.2,3	III-58 2100x1200mm	pcs.	3		
11.01.01.12	12.1,12.2,3	3T3-1 2900x3200mm	pcs.	1		
OPEN SECTION						
INTERCHANGE						
11.01.01.14	12.1,12.2,3	II-1 1200x1200x1200mm	pcs.	3		
11.01.01.15	12.1,12.2,3	II-4 ø900mm	pcs.	1		
11.01.01.16	12.1,12.2,3	II-26.1 ø900mm	pcs.	1		
11.01.01.17	12.1,12.2,3	II-30 (100) ø900mm	pcs.	4		
11.01.01.18	12.1,12.2,3	II-30 (20) ø900mm	pcs.	2		
11.01.01.19	12.1,12.2,3	II-30 (40) ø900mm	pcs.	1		
11.01.01.20	12.1,12.2,3	II-30 (60) ø900mm	pcs.	3		
11.01.01.21	12.1,12.2,3	II-32.2 ø900mm	pcs.	2		
11.01.01.22	12.1,12.2,3	II-43 ø900mm	pcs.	5		
11.01.01.23	12.1,12.2,3	II-45 ø900mm	pcs.	2		
11.01.01.24	12.1,12.2,3	III-12 (1) 2400x1000mm	pcs.	2		
11.01.01.25	12.1,12.2,3	III-13 (4) 2400x1500mm	pcs.	1		
11.01.01.26	12.1,12.2,3	III-19 900x1350mm	pcs.	2		
11.01.01.27	12.1,12.2,3	III-20 900x1350mm	pcs.	2		
11.01.01.28	12.1,12.2,3	III-61 (1) 4200x4800mm	pcs.	1		
11.01.01.29	12.1,12.2,3	III-61 (2) 3400x440mm	pcs.	1		
11.01.01.30	12.1,12.2,3	III-63 950x950mm	pcs.	18		
11.01.01.31	12.1,12.2,3	III-63.2 950x950mm	pcs.	8		
11.01.01.32	12.1,12.2,3	III-63.1 2250x750mm	pcs.	1		1-251

No.	T.S	Work description	Unit	Quantity	Unit price	Total
11.01.01.33	12.1,12.2,3	III-65.1 (1) 5300x2500mm	pcs.	2		
11.01.01.34	12.1,12.2,3	III-66 1000x1200mm	pcs.	2		
11.01.01.35	12.1,12.2,3	III-72 (1) 5500x4800mm	pcs.	1		
11.01.01.36	12.1,12.2,3	III-72 (2) 5500x5200mm	pcs.	1		
11.01.01.37	12.1,12.2,3	III-76 3100x3400mm	pcs.	2		
11.01.01.38	12.1,12.2,3	P.P. ø1000mm	pcs.	2		
11.01.01.39	12.1,12.2,3	Directional board 300x1000mm	pcs.	2		
INTERCHANGE						
LEVEL JUNCTION, class 2						
11.01.01.40	12.1,12.2,3	II-1 1200x1200x1200mm	pcs.	1		
11.01.01.41	12.1,12.2,3	II-2 ø900mm	pcs.	1		
11.01.01.42	12.1,12.2,3	II-28 ø900mm	pcs.	4		
11.01.01.43	12.1,12.2,3	II-30 (40) ø900mm	pcs.	1		
11.01.01.44	12.1,12.2,3	II-30 (60) ø900mm	pcs.	2		
11.01.01.45	12.1,12.2,3	II-30 (80) ø900mm	pcs.	2		
11.01.01.46	12.1,12.2,3	II-43 ø900mm	pcs.	1		
11.01.01.47	12.1,12.2,3	II-45.1 ø900mm	pcs.	2		
11.01.01.48	12.1,12.2,3	III-13 (1) 2400x2700mm	pcs.	1		
11.01.01.49	12.1,12.2,3	III-13 (2) 2100x2100mm	pcs.	1		
11.01.01.50	12.1,12.2,3	III-13 (3) 2400x1500mm	pcs.	1		
11.01.01.51	12.1,12.2,3	III-25 ø900mm	pcs.	1		
11.01.01.52	12.1,12.2,3	III-8 (1) 2400x2900mm	pcs.	1		
11.01.01.53	12.1,12.2,3	III-8 (2) 2800x2900mm	pcs.	1		
11.01.01.54	12.1,12.2,3	III-11 600x900mm	pcs.	1		
11.01.01.55	12.1,12.2,3	Directional board 300x1000mm	pcs.	2		
LEVEL JUNCTION, class 2						
RELOCATION OF M-1, class 2						
11.01.01.56	12.1,12.2,3	II-28 ø900mm	pcs.	3		
11.01.01.57	12.1,12.2,3	III-25 ø900mm	pcs.	3		
RELOCATION OF M-1, class 2						
RELOCATION OF R-214, class 2						
11.01.01.58	12.1,12.2,3	II-28 ø600mm	pcs.	3		
11.01.01.59	12.1,12.2,3	II-2 ø600mm	pcs.	1		
11.01.01.60	12.1,12.2,3	II-30(60) ø600mm	pcs.	2		
RELOCATION OF R-214, class 2						

No.	T.S	Work description	Unit	Quantity	Unit price	Total
LOCAL ROADS, class 2						
11.01.01.61	12.1,12.2	II-21 4m ø600mm	pcs.	6		
LOCAL ROADS, class 2						
11.01.02.	12.4	Supporting post for reflective traffic sign (delivered to the site):				
OPEN SECTION						
11.01.02.01	12.4	φ 60 x 2300 mm	pcs.	24		
11.01.02.02		post sign	pcs.	4		
OPEN SECTION						
INTERCHANGE						
11.01.02.03	12.4	φ 60 x 2300 mm	pcs.	2		
11.01.02.04		φ 60 x 3000 mm	pcs.	13		
11.01.02.05		φ 60 x 3500 mm	pcs.	4		
11.01.02.06		φ 60 x 4000 mm	pcs.	3		
11.01.02.07		segment - "I" portal + anchoring to wall + installation	pcs.	1		
11.01.02.08		"I" portal + foundation + installation	pcs.	1		
INTERCHANGE						
LEVEL JUNCTION, class 2						
11.01.02.09	12.4	φ 60 x 2300 mm	pcs.	4		
11.01.02.10		φ 60 x 3000 mm	pcs.	2		
11.01.02.11		φ 60 x 4000 mm	pcs.	8		
LEVEL JUNCTION, class 2						
RELOCATION OF M-1, class 2						
11.01.02.12	12.4	φ 60 x 3000 mm	pcs.	2		
RELOCATION OF M-1, class 2						
RELOCATION OF R-214, class 2						
11.01.02.13	12.4	φ 60 x 3000 mm	pcs.	2		
11.01.02.14		φ 60 x 4000 mm	pcs.	2		
RELOCATION OF R-214, class 2						
LOCAL ROADS, class 2						
11.01.02.15	12.4	Sign support mounted to bridge wall	pcs.	6		
LOCAL ROADS, class 2						
11.01.03.	12.4	Mounting of all delivered elements except non- standard boards and portals Working hours of two 5-men crews	day	1		
Mounting of all delivered elements						

SUMMARY ELEMENTS OF TRAFFIC SIGNS AND SIGNALS	
OPEN SECTION - TOTAL ELEMENTS OF TRAFFIC SIGNS AND SIGNALS	
INTERCHANGE - TOTAL ELEMENTS OF TRAFFIC SIGNS AND SIGNALS	
LEVEL JUNCTION - TOTAL ELEMENTS OF TRAFFIC SIGNS AND SIGNALS	
RELOCATION OF M-1 - TOTAL ELEMENTS OF TRAFFIC SIGNS AND SIGNALS	
R-214 - TOTAL ELEMENTS OF TRAFFIC SIGNS AND SIGNALS	
LOCAL ROADS - TOTAL ELEMENTS OF TRAFFIC SIGNS AND SIGNALS	
Mounting of all delivered elements	
TOTAL ELEMENTS OF TRAFFIC SIGNS AND SIGNALS	1-253

ELEMENTS OF ROAD MARKINGS

ELEMENTS OF ROAD MARKINGS						
No.	T.S	Work description	Unit	Quantity	Unit price	Total
11.02.		ELEMENTS OF ROAD MARKINGS				
OPEN SECTION						
11.02.01.	12.5	continuous line (0.20m)	m ²	1,680.00		
11.02.02.		vibro continuous line (0.20m)	m ²	1,680.00		
11.02.03.		broken line, type C (0.2m) 6-12m	m ²	560.00		
OPEN SECTION						
INTERCHANGE						
11.02.04.	12.5	continuous line (0.20m)	m ²	1,040.40		
11.02.05.		wide broken line, type B (0.3m) 3-3m	m ²	43.20		
11.02.06.		short broken line, type A (0.15m) 1-1m	m ²	4.00		
11.02.07.		slanted limit lines and limit lines	m ²	2,211.03		
11.02.11.		sound strip	m	54.00		
INTERCHANGE						
LEVEL JUNCTION, class 2						
11.02.09.	12.5	continuous edge line	m ²	209.1		
11.02.10.		cross road markings	m ²	6.6		
11.02.11.		arrows	m ²	57.0		
11.02.12.		traffic direction fields	m ²	271.0		
11.02.13.		line 1-1m	m ²	4.8		
11.02.14.		line 3-3m	m ²	3.6		
LEVEL JUNCTION, class 2						
RELOCATION OF M-1, class 2						
11.02.15.	12.5	continuous edge line	m ²	426.6		
11.02.16.		warning line 10-5m	m ²	27.0		
11.02.17.		broken line, type C (0.15m) 5-10m	m ²	36.0		
RELOCATION OF M-1, class 2						
RELOCATION OF R-214, class 2						
11.02.111.	12.5	continuous edge line	m ²	126.2		
11.02.19.		continuous lane line	m ²	63.1		
11.02.20.	12.5	Mounting of all delivered elements except non- standard boards and portals Working hours for two 5-man teams	day	4		
RELOCATION OF R-214, class 2						

ELEMENTS OF ROAD MARKINGS

OPEN SECTION - TOTAL ELEMENTS OF ROAD MARKINGS	
INTERCHANGE - TOTAL ELEMENTS OF ROAD MARKINGS	
LEVEL JUNCTION - TOTAL ELEMENTS OF ROAD MARKINGS	
RELOCATION OF M-1 - TOTAL ELEMENTS OF ROAD MARKINGS	
R-214 - TOTAL ELEMENTS OF ROAD MARKINGS	
TOTAL ELEMENTS OF ROAD MARKINGS	

TRAFFIC EQUIPMENT - delivery + full installation

No.	T.S	Work description	Unit	Quantity	Unit price	Total	
11.03.		TRAFFIC EQUIPMENT - delivery + full installation					
OPEN SECTION							
11.3.01.	12.6	Double sided distance barrier H2W7 assembly-type	m	48			
11.3.02.		Single sided distance barrier H1W4* on the road	m	68			
11.3.03.		Single sided distance barrier H1W5	m	6460			
11.3.06.		Single sided distance barrier H2W4	m	3500			
11.3.07.		Single sided distance barrier H2W4* on the structure	m	5204			
11.3.11.		Single sided barrier	m	16			
11.3.09.		Single sided distance barrier H1W5-H2W4 crossing	pcs.	30			
11.3.10.		Direction sign	pcs.	20			
11.3.11.		Retroreflecting stud on safety barrier	pcs.	600			
11.3.12.		Oblique ending of single-sided distance barrier, 12m	pcs.	12			
OPEN SECTION							
INTERCHANGE							
11.3.13.	12.6	Single sided barrier N2W4	m	3076			
11.3.14.		Single sided distance barrier H1W4* on the road	m	444			
11.3.15.		Single sided distance barrier H1W5	m	92			
11.3.16.		Single sided distance barrier H1W4-N2W4 crossing	m	4			
11.3.17.		Single sided distance barrier H1W5-N2W4 crossing	m	2			
11.3.111.		Oblique ending of single-sided distance barrier, 12m	m	4			
11.3.19.		Oblique ending of single-sided barrier, 12m	m	5			
11.3.20.		Direction sign	pcs.	16			
11.3.21.		Retroreflecting stud on safety barrier	pcs.	307			
11.3.22.		Absorber	pcs.	2			
INTERCHANGE							
LEVEL JUNCTION							
11.3.23.	12.6	Single sided barrier N2W4	m	596			
11.3.24.		Oblique ending of single-sided barrier, 12m	pieces	4			
11.3.25.		Direction sign	pcs.	16			
11.3.26.		Retroreflecting stud on safety barrier	pcs.	44			
LEVEL JUNCTION							
RELOCATION OF M-1							
11.3.27.	12.6	Single sided barrier H1W5	m	1420			
11.3.211.		Direction sign	pcs.	29			
11.3.29.		Retroreflecting stud on safety barrier	pcs.	60			
RELOCATION OF M-1							

No.	T.S	Work description	Unit	Quantity	Unit price	Total
RELOCATION OF R-214						
11.3.30.	12.6	Single sided distance barrier H1W5	m	704		
11.3.31.		Single sided distance barrier H2W4	m	88		
11.3.32.		Single sided distance barrier H2W4* on the road	m	224		
11.3.33.		Single sided distance barrier H1W5-H2W4 crossing	m	4		
11.3.34.		Oblique ending of single-sided barrier, 12m	pieces	1		
11.3.35.		Direction sign	pcs.	2		
11.3.36.		Retroreflecting stud on safety barrier	pcs.	85		
RELOCATION OF R-214						
LOCAL ROADS						
11.3.37.	12.6	Single sided distance barrier N2W4	m	332		
11.3.311.		Retroreflecting stud on safety barrier	pcs.	28		
LOCAL ROADS						

SUMMARY TRAFFIC EQUIPMENT - delivery + full installation		
OPEN SECTION - TOTAL ELEMENTS OF TRAFFIC EQUIPMENT		
INTERCHANGE - TOTAL ELEMENTS OF TRAFFIC EQUIPMENT		
LEVEL JUNCTION - TOTAL ELEMENTS OF TRAFFIC EQUIPMENT		
RELOCATION OF M-1 - TOTAL ELEMENTS OF TRAFFIC EQUIPMENT		
R-214 - TOTAL ELEMENTS OF TRAFFIC EQUIPMENT		
LOCAL ROADS - TOTAL ELEMENTS OF TRAFFIC EQUIPMENT		
TOTAL TRAFFIC EQUIPMENT - delivery + full installation		

11. Summary – Traffic-technical and service equipment for roads		
11.01.01. TRAFFIC SIGNS AND SIGNALS		
11.01.02. ROAD MARKINGS		
11.01.03. ELEMENTS OF TRAFFIC EQUIPMENT		
SUB-TOTAL		
Unforeseen work (5% of sub-total)		
<i>Total Traffic-technical and service equipment for roads (11.):</i>		

12. TECHNICAL INFRASTRUCTURE

DESIGN OF LIGHTING SYSTEM AT "PREDEJANE" GRADE-SEPARATED JUNCTION AND POWER SUPPLY TO TOLL STATIONS

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
1.1.01.00		PUBLIC LIGHTING SYSTEM AT "PREDEJANE" INTERCHANGE				
		CIVIL WORKS				
1.1.01.01	16.5.5.6	Construction of foundation for public lighting pole. The foundation is of prismatic shape with base of 1.2 mx1.2 m in size embedded to a depth of 1.2 m, as shown on the drawing. The item includes: earth excavation, placing formwork, laying Ø70 mm pipe for cable routing, fixing anchors for pole planting and sealing with concrete, class MB20. All materials and work included.	complete	32		
1.1.01.02	16.5.5.6	Construction of foundation for public lighting pole. The foundation is of prismatic shape with base of 0.9 mx0.9 m in size embedded to a depth of 1 m, as shown on the drawing. The item includes: earth excavation, placing formwork, laying Ø70 mm pipe for cable routing, fixing anchors for pole planting and sealing with concrete, class MB20. All materials and work included.	complete	77		
1.1.01.03	16.5.5.2.	Excavation of 0.4 m wide and 0.8 m deep cable trench for laying one low-voltage cable line. Trench shall be filled with fine grained earth (sand) and backfilled, earth <u>compacted and leveled.</u>	m'	3316		
1.1.01.04	16.5.5.2.	Excavation of 0.5 m wide and 0.8 m deep cable trench for laying one low-voltage cable line. Trench shall be filled with fine grained earth (sand) and backfilled, earth <u>compacted and leveled.</u>	m'	363		
1.1.01.05	16.5.5.2.	Excavation of 0.6 m wide and 0.8 m deep cable trench for laying three low-voltage cable line. Trench shall be filled with fine grained earth (sand) and backfilled, earth <u>compacted and leveled.</u>	m'	175		
1.1.01.06	16.5.5.2.	Excavation of 0.75 m wide and 0.8 m deep cable trench for laying four low-voltage cable line. Trench shall be filled with fine grained earth (sand) and backfilled, earth <u>compacted and leveled.</u>	m'	30		
1.1.01.07	1.1.01.07	For developed land: delivery and placing of markers for cable route, cable conduits and crossing points with underground installations.	pcs.	5		
1.1.01.08	1.1.01.08	For undeveloped land: delivery and placing of markers for cable route, cable conduits and crossing points with underground installations.	pcs.	98		
1.1.01.09	1.1.01.09	Delivery and laying of PVC pipe, F 2x110 mm	m'	105		
1.1.01.10	1.1.01.10	Delivery and laying of PVC pipe, F 4x110 mm	m'	48		
1.1.01.11	1.1.01.11	Delivery and laying of PVC pipe, F 6x110 mm	m'	7		
TOTAL CIVIL WORKS:						
		ELECTRICAL AND INSTALLATION WORKS				
1.1.03.12	16.5.5.6	Delivery and erection of 13 m high public lighting pole. Outer and inner surfaces of the pole are galvanized and the pole is provided with anti-vandal lock. The item includes delivery and installation of connecting gears with 6 A fuses, one for each luminaire, including other electrical and installation material required for connecting the connecting gear equipment. Delivery and drawing of PP 00-Y 3x2.5 mm ² + 2.5 mm ² feeder cables through the pole to each luminaire as well as connecting of cable ends. The item also includes delivery and placing of rubber pad for pole leveling. The rubber pad shall be placed between the anchor plate and pole foundation and it will serve as a buffer between metal and concrete surfaces. The pad surface is grooved to enable water runoff. Poles on the bridge over the Južna Morava River shall be anchored on already prepared anchors on the brackets. All materials and work included.	pcs.	56		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
1.1.03.13	16.5.5.6	Delivery and erection of 9 m high public lighting pole. Outer and inner surfaces of the pole are galvanized and the pole is provided with anti-vandal lock. The item includes delivery and installation of connecting gears with 6 A fuses, one for each luminaire, including other electrical and necessary installation material to connect equipment in the connecting gear. Delivery and drawing of PP 00-Y 3x2.5 mm ² + 2.5 mm ² feeder cables through the pole to each luminaire as well as connecting of cable ends. The item also includes delivery and placing of rubber pad for pole leveling. The rubber pad shall be placed between the anchor plate and pole foundation and it will serve as a buffer between metal and concrete surfaces. The pad surface is grooved to enable water runoff. Poles on overpasses above the Južna Morava River shall be anchored on already prepared anchors on the overpass structure. <u>All materials and work included.</u>	pcs.	84		
1.1.03.14	1.1.03.14	Delivery of 1.5 m long arm and its mounting on a public lighting pole. <u>All materials and work included.</u>	pcs.	29		
1.1.03.15	1.1.03.15	Delivery of 1.5 m long double arm and its mounting on a public lighting pole. <u>All materials and work included.</u>	pcs.	19		
1.1.03.16	1.1.03.16	Delivery of support for two luminaires and its mounting onto public lighting pole. <u>All materials and work included.</u>	pcs.	8		
1.1.03.17	1.1.03.17	Delivery of support for two luminaires and its mounting onto public lighting pole. <u>All materials and work included.</u>	pcs.	8		
1.1.03.18	1.1.03.18	Delivery of luminaires with adequate Na 250 W bulb and control gear (impedance bonds have double power rating) and their mounting onto galvanized steel pole.	pcs.	38		
1.1.03.19	1.1.03.19	Delivery of luminaires with adequate Na 250 W bulb and control gear (impedance bonds have double power rating) and their mounting onto galvanized steel pole.	pcs.	29		
1.1.03.20	1.1.03.20	Delivery of luminaires with adequate Na 150 W bulb and control gear (impedance bonds have double power rating) and their mounting onto galvanized steel pole.	pcs.	76		
1.1.03.21	1.1.03.21	Delivery of luminaires with adequate Na 150 W bulb and control gear (impedance bonds have double power rating) and their mounting onto galvanized steel pole.	pcs.	16		
1.1.03.22	1.1.03.22	Delivery of luminaires with adequate Na 250 W bulb and control gear (impedance bonds have double power rating) and their mounting onto galvanized steel pole.	pcs.	16		
1.1.03.23	16.5.3.	Delivery of outdoor distribution cabinet for public lighting RO-JO-1 made of polyester and equipped with door and lock and its mounting on concrete base at height of 0.2 m above ground level. The item includes delivery and casting of concrete base for distribution cabinet. The distribution cabinet consists of three compartments for installation of the following equipment: - 1 single-pole two-position change over switch, 16 A - 2 single-pole, three-position change over switches, 16 A - 1 contactor, 500 V, 63 A - 1 ripple control contactor - alternatively FOREL - 1 bulb, 60 W, 220 V - 3 fuses, NV-0 250/50 A - 4 three-pole safety staffs, NV-0 125/3x25 A - 1 direct electricity meter - metering group 10-60 A - 3 automatic fuses, 10 A - small electrical and installation materials for connecting the bus bars to guard and neutral rails, etc. The item includes installation and connection of all equipment in distribution cabinet, functional testing and putting into operation. <u>All materials and work included.</u>	complete	2		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
1.1.03.24	16.5.5.2	Placing of potential barrier around the standalone distribution cabinet. The barrier shall be made of galvanized strip FeZn 25x4 mm buried into a trench around the distribution cabinet foundation and connected to common earth electrode for outdoor lighting system. Civil works included.	complete	2		
1.1.03.25	16.5.5.2	Delivery, laying into excavated trench or cable conduit and connection of 1 kV, PP00-A, 4x35 mm ² + 2.5 mm ² feeder cables for outdoor lighting system from ROJO-1 and ROJO-2 (distribution cabinets for public lighting system) to lighting poles according to in/out principle. The item also includes procurement and placing of PVC warning tape at depth of 0.5 m from the cable. Procurement and fitting of lead clamps with impressed cable characteristics: type, voltage, section and year of cable laying. Marks shall be placed at both ends of hard plastic ('juvidur') pipes and in cable trench at every 5 m of cable length. All materials and work included.	m'	5248		
1.1.03.26	16.1.2.2. 16.1.2.3.	Delivery, laying into excavated trench or cable conduit and connecting PP00-A 4x70 mm ² cable from low-voltage switchgear in pole-mounted transformer station 10/0.4 to distribution cabinet for outdoor lighting ROJO-1 and ROJO-2. The item includes procurement and laying of 2 PVC warning tapes - first tape at depth of 0.3 m from the cable and the other tape at 0.5 m from the cable. Procurement and fitting of lead clamps with impressed cable characteristics: type, voltage, section and year of cable laying. Marks shall be placed at both ends of hard plastic ('juvidur') pipes and in cable trench at every 5 m of cable length. All materials and work included.	m'	775		
1.1.03.27	1.1.03.27	Procurement, delivery and placing of FeZn 25x4 mm galvanized strip for safety earthing in the same trench in parallel with the cable. All metal poles for outdoor lighting and distribution cabinets ROJO-1 and ROJO-2 shall be connected to the strip.	m'	5085		
1.1.03.28	1.1.03.28	Procurement, delivery and fitting of SRPS N.B4 936 cross member into its housing (K-U-K) which will be than grouted with bitumen. Housing shall be placed next to each pole at point of earthing strip detaching and joining.	pcs.	160		
TOTAL ELECTRICAL AND INSTALLATION WORKS:						
1.1.03.29	16.5.5.7	SUNDRIES Geodetic survey of cable lines and entering of underground installations into the cadastral plan. Control of performed works, carrying out all required tests and issuing relevant certificates and putting into operation.	lump sum			
TOTAL SUNDRIES:						
PUBLIC LIGHTING SYSTEM AT "PREDEJANE INTERCHANGE":						
1.1.02.00		1kV FEEDER CABLE FOR POWER SUPPLY TO TOLL STATION				
1.1.02.01	16.1.2.2.	Excavation of 80 cm deep and 40 cm wide trench for laying of 1 kV cable. Filling of trench with fine-grained earth (sand) in 20 cm thick layer. Trench backfilling including earth compaction and leveling.	m'	10		
1.1.02.02	1.1.02.02	For developed land: delivery and placing of markers for cable route, cable conduits and crossing points with underground installations.	pc.	3		
1.1.02.03	16.1.2.3.	Delivery and laying of hard plastic ('juvidur') pipes, F 4x110 mm	m'	8		
TOTAL CIVIL WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
1.1.02.04	16.1.2.2. 16.1.2.3.	ELECTRICAL AND INSTALLATION WORKS Delivery, laying into excavated trench or cable conduit and connecting of 1 kV, PP00-A 4x70 mm2 cable. The item also includes procurement and placing of PVC warning tape at depth of 0.5 m from the cable. Procurement and fitting of lead clamps with impressed cable characteristics: type, voltage, section and year of cable laying. Marks shall be placed at both ends of hard plastic ('juvidur') pipes in cable trench at every 5 m of cable length. All materials and work included. Cable shall be laid from 10/0.4 kV pole-mounted transformer station to cable termination box in the toll station service building.	m'	38		
TOTAL ELECTRICAL AND INSTALLATION WORKS:						
1.1.02.05	16.1.2.6. 16.1.2.7.	SUNDRIES Geodetic survey of cable lines and entering of underground installations into the cadastral plan. Control of performed works, carrying out all required tests and issuing relevant certificates and putting into operation.				
				lump sum		
TOTAL SUNDRIES:						
TOTAL 1kV FEEDER CABLE FOR POWER SUPPLY TO TOLL STATION:						

SUMMARY DESIGN OF LIGHTING SYSTEM AT "PREDEJANE" GRADE-SEPARATED JUNCTION AND POWER SUPPLY TO TOLL STATIONS						
1.1.01.00 PUBLIC LIGHTING SYSTEM AT "PREDEJANE" INTERCHANGE						
1.1.02.00 1kV FEEDER CABLE FOR POWER SUPPLY TO TOLL STATION						
TOTAL DESIGN OF LIGHTING SYSTEM AT "PREDEJANE" GRADE-SEPARATED JUNCTION AND POWER SUPPLY TO TOLL STATIONS						

10 kV, Al/C 3x50/8 mm2 OVERHEAD FEEDER CABLE

10/0.4 kV, 100 kVA MTS AT "PREDEJANE" INTERCHANGE

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.01.00		10 kV, Al/C 3x50/8 mm2 OVERHEAD FEEDER CABLE				
01.01.01	16.2.2.	CIVIL WORKS Construction of reinforced concrete block foundation for the new mast 12/1600. Foundation shall be of prismatic shape with a square base, 0.9 m x 0.9 m, embedding depth 2.2 m. The item includes: earth excavation, placing formwork, fixing rebars, construction of fine-grained sand base and sealing with concrete, class MB20. All materials and work included.	complete	1		
01.01.02	16.2.2.	Construction of reinforced concrete block foundation for the new mast 12/1000. Foundation shall be of prismatic shape with a square base, 0.8 m x 0.8 m, embedding depth 2.2 m. Foundation appearance is shown on the separate drawing. The item includes: earth excavation, placing formwork, fixing rebars, construction of fine-grained sand base and sealing with concrete, class MB20. All materials and work included.	complete	1		
TOTAL CIVIL WORKS:						
01.01.03	16.2.2.	ELECTRICAL AND INSTALLATION WORKS Delivery and planting of new terminal mast 12/1600 of reinforced concrete. All materials and work included.	pc.	1		
01.01.04	16.2.2.	Delivery and erection of new angle tension tower 12/1000 of reinforced concrete. All materials and work included.	pc.	1		
01.01.05	16.2.4.8.	Installation of earth electrode for the mast. The item includes earth excavation, procurement and installation of Ø10 mm earth electrode of galvanized iron. The earth electrode shall have two rings: one ring will be placed at depth of 0.5 m and at distance of 1 m from the mast edge while the other ring will be placed at depth of 0.8-1 m and at distance of minimum 2 m from the mast edge, as shown on the drawing. All materials and work included.	complete	2		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.01.06	16.2.4.8. 16.2.4.5.	The following equipment shall be delivered and mounted onto newly designed mast 12/1600 (1') to be planted on the transmission line route: - top concrete cantilever for horizontal arrangement of conductors, which shall support single tension string insulators, 6 pcs. - spur cantilever - 10 kV double tension insulator string for spur line feeding 10/0.4 kV MTS (mast transformer station) - 3 pcs. Other accessories necessary for fixing the equipment. The item also includes connection of the existing Al/Č conductors to newly designed mast. All materials and work included.	complete	1		
01.01.07	16.2.4.8. 16.2.4.5.	The following equipment shall be delivered and mounted onto newly designed mast 12/1000 (2'): - concrete cantilever for tensioning of conductors - 10 kV double tension insulator string - 3 pcs. - 10 kV single tension insulator string - 3 pcs. Other accessories necessary for fixing the equipment. All materials and work included.	complete	1		
01.01.08	01.01.08	Delivery and mounting of Al/Č 3x50/8mm ² strand - spur line from the existing overhead line via mast inserted into the very route to 10/0.4 kV MTS at "Predejane interchange". All materials and work included.	m	120		
TOTAL ELECTRICAL AND INSTALLATION WORKS:						
01.01.09	01.01.09	SUNDRIES Control of performed works and putting into operation.	lump sum			
01.01.10	01.01.10	Switching off the voltage and safeguarding the site.	lump sum			
TOTAL SUNDRIES:						
TOTAL 10 kV, Al/Č 3x50/8 mm ² OVERHEAD FEEDER CABLE:						
01.02.00		10/0.4 kV, 100 kVA MTS AT "PREDEJANE" INTERCHANGE				
01.02.01	16.2.2 16.2.2	CIVIL WORKS				
		Construction of reinforced concrete block foundation for the new mast 11/1600. Foundation shall be of prismatic shape with a square base, 1.2x1.2x2.0 m. The item includes: earth excavation, placing formwork, fixing rebars, construction of fine-grained sand base, sealing with concrete, class MB20 and laying Ø60 mm plastic pipes for cables and earthing strip. All materials and work included.	complete	1		
01.02.02	16.2.2	Excavation of earth to place safety earth electrode, backfilling and compaction of earth in 15 cm thick layers.	m ³	6.5		
01.02.03	16.2.2	Procurement, transport and planting of reinforced concrete mast, 11 m high (9 m above the foundation level), 1600 daN peak force with all necessary supporting cantilevers for MTS equipment (100 kVA output power) and suitable top concrete tension cantilever for Al/Č 3x50/8 mm ² strands. All materials and work included.	pc.	1		
TOTAL CIVIL WORKS:						
ELECTRICAL AND INSTALLATION WORKS						
01.02.04	01.02.04	Delivery and installation of three-pole switch disconnector with lightning arresters.	complete	1		
01.02.05	01.02.05	Delivery, installation and connection of outdoor 10/0.4 kV, 100 kVA transformers with reduced power losses.	complete	1		
01.02.06	01.02.06	Installation of single-pole base for high-voltage fuse on isolators located on the primary transformer side.	pcs.	3		
01.02.07	01.02.07	Delivery and installation of high-voltage 10 kV, 16 A fuse-link.	pcs.	3		
01.02.08	01.02.08	Installation and connection of bus bars Cu Ø13 mm (connection between the switch disconnector and transformer)	complete	1		
01.02.09	01.02.09	Delivery and laying of PP00 3x95+50 mm ² , 1 kV cable line to connect power transformer and low-voltage distribution cabinet including connection of the line ends.	m'	5		
01.02.10	01.02.10	Delivery and installation of low-voltage lightning arrester, 500 V, 5 kA	pcs.	3		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.02.11	01.02.11	Delivery and mounting of outdoor low-voltage distribution cabinet made of polyester, IP54 protection class, for the following equipment: - low-voltage copper bus bars, 30 mm x 5 mm, - three-pole switch, 250 A, 400 V with electromagnetic and thermal releases, - 3 measuring current transformers, 150/5A/A -3 ammeters with maxigraph, 0-6 A □ -3 low-voltage terminals via three-pole disconnecting fuse bars, 400 A, - bases for 250 A nominal current with 80 A fuse-links - 9 pcs. -1 socket with safety contact, 10 A, 250 V, - 6 A fuse-link for ammeters and bulb - 4 pcs. - 10 A fuse-link for socket - 1 pc. -1 light switch, 10 A and 1 light fitting with 60 W bulb, - hardware and electric bonds -1 set - other non-specified small materials	complete	1		
01.02.12	01.02.12	Installation of common earth electrode for MTS. The earth electrode shall be installed in the form of two concentric contours made of copper wire, 35 mm ² minimum section, around MTS foundation. They shall be placed in earth according to drawings in graphical documentation. Probes (galvanized iron pipes, 2.5" diameter, 3 m long) shall be placed in apexes of external contour.	complete	1		
TOTAL ELECTRICAL AND INSTALLATION WORKS:						
01.02.13	01.02.13	SUNDRIES Making necessary connections, non-specified small materials, all necessary tests and measurements in the transformer station and issuing relevant test certificates. Technical inspection and putting transformer station into operation		lump sum		
TOTAL SUNDRIES:						
TOTAL 10/0.4 kV, 100 kVA MTS:						

SUMMARY 10 kV, Al/C 3x50/8 mm² OVERHEAD FEEDER CABLE and 10/0.4 kV, 100 kVA MTS AT "PREDEJANE" INTERCHANGE						
01.01.00	10 kV, Al/C 3x50/8 mm ² OVERHEAD FEEDER CABLE					
01.02.00	10/0.4 kV, 100 kVA MTS AT "PREDEJANE" INTERCHANGE					
<i>TOTAL 10 kV, Al/C 3x50/8 mm² OVERHEAD FEEDER CABLE and 10/0.4 kV, 100 kVA MTS AT "PREDEJANE" INTERCHANGE:</i>						

Overhead low-voltage network

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.00.00		Overhead low-voltage network, 1 kV, Al/C 4x35/6mm² for power supply to Bunavejsko settlement from km 882+471 to km 883+516 of the highway				
01.01.00		Civil works				
01.01.01	01.01.01	Dismantling of the existing mast of low-voltage network and transport to the nearest warehouse as directed by the Investor (up to distance of 5 km).	pcs.	24		
01.01.02	16.2.2.	Construction of reinforced concrete block foundation for the new mast 9/1000. Foundation shall be of prismatic shape with a square base, 0.9 m x 0.9 m, embedding depth 1.8 m. The item includes: earth excavation, placing formwork and sealing with concrete, class MB20. All materials and work included.	complete	2		
TOTAL CIVIL WORKS:						
01.02.00		Electrical and installation works				
01.02.01	01.02.01	Dismantling of the existing mast equipment and Al/C conductor as well as transport to the nearest warehouse as directed by the Investor (up to distance of 5 km).	complete	24		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
01.02.02	16.2.2.	Delivery and erection of new reinforced concrete terminal mast 9/1000 according to the supplier's design. The mast shall be delivered together with suitable cantilever for horizontal arrangement of conductors including all needed supports for equipment to be mounted onto mast. All materials and work included.	pc.	1		
01.02.03	16.2.4.8 16.2.4.5	The following equipment shall be delivered and mounted onto new reinforced concrete terminal steel lattice mast 9/1000: - single tension insulator string with long rod insulators, 10 kV - 3 pcs. The item also includes equipment supports and accessories necessary for fixing equipment to supports. All materials and work included.	complete	1		
01.02.05	16.2.4.8.	Installation of earth electrode for the mast. The item includes earth excavation, procurement and installation of Ø10 mm earth electrode of galvanized iron. The earth electrode shall have two rings: one ring will be placed at depth of 0.5 m and at distance of 1 m from the mast edge while the other ring will be placed at depth of 0.8-1 m and at distance of 2 m at least from the mast edge, as shown on the drawing. All materials and work included.	complete	1		
01.02.06	01.02.06	Control of performed works, carrying out all required tests and issuing relevant certificates and putting into operation.	lump sum			
01.02.07	01.02.07	Switching off the voltage and safeguarding the site.	lump sum			
TOTAL ELECTRICAL AND INSTALLATION WORKS:						
Overhead low-voltage network, 1 kV, Al/Č 4x35/6mm2 for power supply to Bunavejsko settlement from km 882+471 to km 883+516 of the highway						
02.00.00		Overhead low-voltage network, 1 kV, Al/Č 4x35/6mm ² for power supply to "Mahala Paševluka" settlement at km 882+841				
02.01.00		Civil works				
02.01.01	02.01.01	Dismantling of the existing mast of low-voltage network and transport to the nearest warehouse as directed by the Investor (up to distance of 5 km).	pcs.	6		
02.01.02	16.2.2.	Construction of reinforced concrete block foundation for the new mast 9/1000. Foundation shall be of prismatic shape with a square base, 0.9 m x 0.9 m, embedding depth 1.8 m. The item includes: earth excavation, placing formwork, laying Ø110 mm pipes for cables and sealing with concrete, class MB20. All materials and work included.	complete	3		
02.01.03	16.2.4.2.	Excavation of 0.8 m deep and 0.4 m wide trench for laying one 1 kV cable line.	m	153		
02.01.04	16.2.4.3.	Delivery and laying of 4xØ110 mm hard plastic ('Juvidur') pipes to draw cables under the highway.	m	57		
TOTAL CIVIL WORKS:						
02.02.00		Electrical and installation works				
02.02.01	02.02.01	Dismantling of the existing mast equipment and Al/Č conductor as well as transport to the nearest warehouse as directed by the Investor (up to distance of 5 km).	complete	7		
02.02.02	16.2.2.	Delivery and erection of new reinforced concrete terminal mast 9/1000 according to the supplier's design. The mast shall be delivered together with suitable cantilever for horizontal arrangement of conductors including all needed supports for equipment to be mounted onto mast. All materials and work included.	pcs.	3		
02.02.03	16.2.4.8	Installation of earth electrode for the mast. The item includes earth excavation, procurement and installation of Ø10 mm earth electrode of galvanized iron. The earth electrode shall have two rings: one ring will be placed at depth of 0.5 m and at distance of 1 m from the mast edge while the other ring will be placed at depth of 0.8-1 m and at distance of 2 m at least from the mast edge, as shown on the drawing. All materials and work included.	complete	3		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
02.02.04	16.2.4.8. 16.2.4.5.	The following equipment shall be delivered and mounted onto new reinforced concrete terminal steel lattice mast 9/1000: - 3 cable termination boxes, 1 kV - 3 lightning arresters, 1 kV - 3 single tension insulator strings, 1 kV Other accessories necessary for fixing equipment to supports. The item also includes connection of the existing Al/Č conductors to newly designed mast. <u>All materials and work included.</u>	complete	3		
02.02.05	02.02.05	Delivery and laying of 1 kV PP 00-A 4x150 mm2 cable line into excavated cable trench under the highway through hard plastic ("Juvidur") pipes. The item includes procurement and filling of 20 cm thick bed made of fine grained earth or sand, procurement and placing of 2 PVC warning tapes, one at the depth of 0.3 m from the cable and the other at 0.5 m from the cable. Procurement and placing of lead clamps with impressed cable characteristics: type, voltage, section and year of cable laying. Marks shall be placed at both ends of hard plastic ("Juvidur") pipes and in cable trench at every 5 m of cable length. Trench backfilling, compaction of earth in layers and connection of cable ends. Procurement and placing of cable line markers for undeveloped land. All materials and work included.	m	311		
02.02.06	16.2.4.2.	Delivery and assembly of protective gutter for 2 m long cable. The gutter shall be made of 2x(100x50x10) sections according to designed detail.	pcs.	4		
02.02.07	16.2.4.6. 16.2.4.7.	Geodetic survey of cable lines and entering of underground installations into the cadastral plan. Control of performed works, carrying out all required tests and issuing relevant certificates and putting into operation.	lump sum			
02.02.08	02.02.08	Switching off the voltage and safeguarding the site.	lump sum			
TOTAL ELECTRICAL AND INSTALLATION WORKS:						
Overhead low-voltage network, 1 kV, Al/Č 4x35/6mm2 for power supply to "Mahala Paševluka" settlement at km 882+841						

SUMMARY Overhead low-voltage network		
01.00.00	Overhead low-voltage network, 1 kV, Al/Č 4x35/6mm2 for power supply to Bunavejsko settlement from km 882+471 to km 883+516 of the highway	
02.00.00	Overhead low-voltage network, 1 kV, Al/Č 4x35/6mm2 for power supply to "Mahala Paševluka" settlement at km 882+841	
TOTAL Overhead low-voltage network:		

DESIGN FOR DISPLACEMENT AND PROTECTION OF THE EXISTING TELECOMMUNICATION SYSTEM

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
Note: All items referred to material include its delivery.						
12.5.04.00	COLLISION 4 - THE EXISTING TELECOMMUNICATION OPTIC CABLE RUNNING IN PARALLEL WITH PLANNED HIGHWAY ALIGNMENT from 881+175.00 km to 881+475.00 km					
Collision 4 – material						
12.5.04.01	15.4.1.	PVC pipe, 1xØ110	m	580		
12.5.04.02	15.4.1.	Plug for pipe, Ø110 mm	pcs.	4		
12.5.04.03	15.4.1.	Comb for two pipes, Ø110 mm	pcs.	60		
12.5.04.04	15.4.1.	PVC cable shield, 1 m	pcs.	290		
12.5.04.05	15.4.1.	Concrete post for marking straight cable route	pcs.	5		
12.5.04.06	15.4.1.	Concrete post for marking turning points in cable route	pcs.	2		
12.5.04.07	15.4.1.	Identification and warning tape with aluminum backing	m	290		
12.5.04.08	15.4.1.	Sand	m³	52.2		
Collision 4 – works						
12.5.04.09	15.4.2.2.	Routing	m	290		
12.5.04.10	12.5.04.10	Detection of the existing cable routes by cable detector and pegging out.	m	290		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
12.5.04.11	15.4.2.2.	Manual excavation of 0.6 m x 1.2 m trench in III category earth	m	290		
12.5.04.12	15.4.2.2.	Backfilling of 0.6 m x 1.2 m trench and compaction of earth in layers	m	290		
12.5.04.13	12.5.04.13	Placing combs into trench	pcs.	60		
12.5.04.14	15.4.2.2.	Spreading of sand in trench	m	290		
12.5.04.15	15.4.2.2.	Laying and casing the existing Ø40 PE hoses into Ø110 pipes in excavated trench	m	580		
12.5.04.16	12.5.04.16	Plugging of Ø110 mm pipe	pcs.	4		
12.5.04.17	15.4.2.3.	Placing concrete post for marking pipe ends and turning points in cable route.	pcs.	7		
12.5.04.18	15.5.2.	Electrical measurements on optic cable after protection	pc.	1		
12.5.04.19	12.5.04.19	Preparation of as-built technical documentation	m	290		
12.5.04.20	12.5.04.20	Geodetic surveys and mapping up to 1 km	m	290		
12.5.04.21	15.4.1.	Placing identification and warning tape with aluminum backing	m	955		
TOTAL COLLISION 4:						
12.5.05.00	COLLISION 5 - THE EXISTING TELECOMMUNICATION OPTIC CABLE RUNNING IN PARALLEL WITH PLANNED HIGHWAY ALIGNMENT at 882+875.00					
Collision 5 – material						
12.5.05.01	15.4.1.	PVC pipe, 1xØ110	m	50		
12.5.05.02	15.4.1.	Plug for pipe, Ø110 mm	pcs.	4		
12.5.05.03	15.4.1.	Comb for two pipes, Ø110 mm	pcs.	5		
12.5.05.04	15.4.1.	PVC cable shield, 1 m	pcs.	25		
12.5.05.05	15.4.1.	Concrete post for marking straight cable route	pcs.	2		
12.5.05.06	15.4.1.	Identification and warning tape with aluminum backing	m	25		
12.5.05.07	15.4.1.	Sand	m³	4.5		
12.5.05.08	15.4.1.	Concrete MB-20	m³	2		
Collision 5 – works						
12.5.05.09	15.4.2.2.	Routing	m	25		
12.5.05.10	12.5.05.10	Detection of the existing cable routes by cable detector and pegging out.	m	25		
12.5.05.11	15.4.2.2.	Manual excavation of 0.6 m x 1.2 m trench in III category earth	m	25		
12.5.05.12	15.4.2.2.	Backfilling of 0.6 m x 1.2 m trench and compaction of earth in layers	m	25		
12.5.05.13	12.5.05.13	Placing combs into trench	pcs.	3		
12.5.05.14	15.4.2.2.	Spreading of sand in trench	m	25		
12.5.05.15	12.5.05.15	Sealing pipes with concrete in trench beneath road crossing	m	25		
12.5.05.16	15.4.2.2.	Laying and casing the existing Ø40 PE hoses into Ø110 pipes in excavated trench	m	50		
12.5.05.17	12.5.05.17	Plugging of Ø110 mm pipe	pcs.	4		
12.5.05.18	15.4.2.3.	Placing concrete post for marking pipe ends and turning points in cable route.	pcs.	2		
12.5.05.19	15.5.2.	Electrical measurements on optic cable after protection	pc.	1		
12.5.05.20	12.5.05.20	Preparation of as-built technical documentation	m	25		
12.5.05.21	12.5.05.21	Geodetic surveys and mapping up to 1 km	m	25		
12.5.05.22	15.4.1.	Placing identification and warning tape with aluminum backing	m	955		
TOTAL COLLISION 5:						
12.5.06.00	COLLISION 6 - THE EXISTING TELECOMMUNICATION OPTIC CABLE RUNNING IN PARALLEL WITH PLANNED HIGHWAY ALIGNMENT at 883+125.00					
Collision 6 – material						
12.5.06.01	15.4.1.	PVC pipe, 1xØ110	m	70		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
12.5.06.02	15.4.1.	Plug for pipe, Ø110 mm	pcs.	2		
12.5.06.03	15.4.1.	PVC cable shield, 1 m	pcs.	70		
12.5.06.04	15.4.1.	Concrete post for marking straight cable route	pcs.	4		
12.5.06.05	15.4.1.	Identification and warning tape with aluminum backing	m	70		
12.5.06.06	15.4.1.	Sand	m³	12.6		
Collision 6 – works						
12.5.06.07	15.4.2.2.	Routing	m	70		
12.5.06.08	12.5.06.08	Detection of the existing cable routes by cable detector and pegging out.	m	70		
12.5.06.09	15.4.2.2.	Manual excavation of 0.6 m x 1.2 m trench in III category earth	m	70		
12.5.06.10	15.4.2.2.	Backfilling of 0.6 m x 1.2 m trench and compaction of earth in layers	m	70		
12.5.06.11	15.4.2.2.	Spreading of sand in trench	m	70		
12.5.06.12	15.4.2.2.	Laying and casing the existing Ø40 PE hoses into Ø110 pipes in excavated trench	m	140		
12.5.06.13	12.5.06.13	Plugging of Ø110 mm pipe	pcs.	2		
12.5.06.14	15.4.2.3.	Placing concrete post for marking pipe ends and turning points in cable route.	pcs.	4		
12.5.06.15	15.5.2.	Electrical measurements on optic cable after protection	pc.	1		
12.5.06.16	12.5.06.16	Preparation of as-built technical documentation	m	70		
12.5.06.17	12.5.06.17	Geodetic surveys and mapping up to 1 km	m	70		
12.5.06.18	15.4.1.	Placing identification and warning tape with aluminum backing	m	955		
TOTAL COLLISION 6:						
12.5.07.00	COLLISION 7 - THE EXISTING TELECOMMUNICATION OPTIC CABLE RUNNING IN PARALLEL WITH PLANNED HIGHWAY ALIGNMENT from km 883+700.00 to km 883+925.00					
Collision 7 – material						
12.5.07.01	15.4.1.	PVC pipe, 1xØ110	m	460		
12.5.07.02	15.4.1.	Plug for pipe, Ø110 mm	pcs.	2		
12.5.07.03	15.4.1.	Comb for two pipes, Ø110 mm	pcs.	25		
12.5.07.04	15.4.1.	PVC cable shield, 1 m	pcs.	230		
12.5.07.05	15.4.1.	Concrete post for marking straight cable route	pcs.	3		
12.5.07.06	15.4.1.	Concrete post for marking turning points in cable route	pcs.	2		
12.5.07.07	15.4.1.	Identification and warning tape with aluminum backing	m	230		
12.5.07.08	15.4.1.	Sand	m³	41.4		
Collision 7 – works						
12.5.07.09	15.4.2.2.	Routing	m	230		
12.5.07.10	12.5.07.10	Detection of the existing cable routes by cable detector and pegging out.	m	230		
12.5.07.11	15.4.2.2.	Manual excavation of 0.6 m x 1.2 m trench in III category earth	m	230		
12.5.07.12	15.4.2.2.	Backfilling of 0.6 m x 1.2 m trench and compaction of earth in layers	m	230		
12.5.07.13	12.5.07.13	Placing combs into trench	pcs.	25		
12.5.07.14	15.4.2.2.	Spreading of sand in trench	m	230		
12.5.07.15	15.4.2.2.	Laying and casing the existing Ø40 PE hoses into Ø110 pipes in excavated trench	m	460		
12.5.07.16	12.5.07.16	Plugging of Ø110 mm pipe	pcs.	2		
12.5.07.17	15.4.2.3.	Placing concrete post for marking pipe ends and turning points in cable route.	pcs.	5		
12.5.07.18	15.5.2.	Electrical measurements on optic cable after protection	pc.	1		
12.5.07.19	12.5.07.19	Preparation of as-built technical documentation	m	230		
12.5.07.20	12.5.07.20	Geodetic surveys and mapping up to 1 km	m	230		1-266

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
12.5.07.21	15.4.1.	Placing identification and warning tape with aluminum backing	m	955		
TOTAL COLLISION 7:						

Summary DESIGN FOR DISPLACEMENT AND PROTECTION OF THE EXISTING TELECOMMUNICATION SYSTEM						
12.5.04.00		COLLISION 4 - THE EXISTING TELECOMMUNICATION OPTIC CABLE RUNNING IN PARALLEL WITH PLANNED HIGHWAY ALIGNMENT from 881+175.00 km to 881+475.00 km				
12.5.05.00		COLLISION 5 - THE EXISTING TELECOMMUNICATION OPTIC CABLE RUNNING IN PARALLEL WITH PLANNED HIGHWAY ALIGNMENT at 882+875.00				
12.5.06.00		COLLISION 6 - THE EXISTING TELECOMMUNICATION OPTIC CABLE RUNNING IN PARALLEL WITH PLANNED HIGHWAY ALIGNMENT at 883+125.00				
12.5.07.00		COLLISION 7 - THE EXISTING TELECOMMUNICATION OPTIC CABLE RUNNING IN PARALLEL WITH PLANNED HIGHWAY ALIGNMENT from km 883+700.00 to km 883+925.00				
TOTAL DESIGN FOR DISPLACEMENT AND PROTECTION OF THE EXISTING TELECOMMUNICATION SYSTEM						

DESIGN OF OCS RECONSTRUCTION AND OVERPASS EARTHING

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
12.6.01.00		DISMANTLING				
12.6.01.01	12.6.01.01	Dismantling of masts and breaking up mast foundations.	kg	425		
12.6.01.02	12.6.01.02	Displacement of catenary equipment to new cantilevers	km	0.35		
12.6.01.03	12.6.01.03	Replacement of droppers in the contact equipment	km	0.35		
12.6.01.04	12.6.01.04	Dismantling of complete single cantilever assembly with brackets	pcs.	7		
12.6.01.05	12.6.01.05	Dismantling of the existing earth conductors	pcs.	2		
TOTAL DISMANTLING OF CONSTRUCTION EQUIPMENT:						
12.6.02.00		EARTH WORKS				
12.6.02.01	12.6.02.01	Marking of mast foundations, portals and anchors including removal and replacement of crushed stone for ballast bed	pcs.	2		
12.6.02.02	12.6.02.02	Excavation of foundation pits for masts, portals, and anchors, 0-2 m deep without strutting in: a. II-III soil category	m ³	4.1		
12.6.02.03	12.6.02.03	Backfilling and compaction of earth around foundations, spreading and compaction of remaining earth around foundations.	m ³	0.7		
12.6.02.04	12.6.02.04	Haulage of surplus material of all categories with loading and unloading to the distance of: a. 5-20 m	m ³	3.4		
TOTAL EARTH WORKS:						
12.6.03.00		CONCRETING				
12.6.03.01	12.6.03.01	Casting of foundations for masts, portals and anchors with concrete MB15. Concrete shall be mixed mechanically and compacted by poker vibrator.	m ³	4.7		
12.6.03.02	12.6.03.02	Increase of concreting costs for shuttering.	m ²	5.9		
12.6.03.03	12.6.03.03	Finishing of exposed foundation faces with 2 cm thick coat on average of cement mortar 1:3 mix.	m ²	6.3		
12.6.03.04	12.6.03.04	Delivery and installation of anchors for footed masts m 36/830 mm.	pcs.	8		
TOTAL CONCRETING:						
12.6.04.00		MAST AND PORTALS				
12.6.04.01	12.6.04.01	Delivery and erection of all masts.	kg	468		
12.6.04.02	12.6.04.02	Inscription of marks on masts including TOR height, mast number and distance between inner mast face and the track centre line.	pcs.	2		
TOTAL MAST AND PORTALS:						
12.6.05.00		ELECTRICAL AND INSTALLATION WORKS				
12.6.05.01	12.6.05.01	Complete single cantilever assembly with brackets for twin channel mast or equipment support:				
		a. Delivery of material and equipment	pcs.	7		
		b. Installation	pcs.	7		
TOTAL ELECTRICAL AND INSTALLATION WORKS:						1-267

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
12.6.06.00		RETURN CONDUCTOR AND EARTHING				
12.6.06.01	12.6.06.01	Delivery and fitting of rail bond of bare copper strand, 35 mm ² section. Measurement and payment per each rail bond of: b. L= 220 mm	pcs.	80		
12.6.06.02	12.6.06.02	Delivery and fitting of complete spark-gap for earthing of metal structures. Measurement and payment per one spark-gap.	pcs.	3		
12.6.06.03	12.6.06.03	Delivery and installation of bare galvanized iron strand, 95 mm ² section, on supports for connecting metallic structures to be earthed. Measurement per: a. one strand	pcs.	9		
12.6.06.04	12.6.06.04	b. meter of strand length	m'	145		
		Delivery and fitting of earthing assembly for OCS supporting structures or other metallic structures out of tunnels to rail of bare galvanized iron strand, 95 mm ² section, buried in the formation. The strand is fitted with cable shoe at one end and the other end is welded to rail. Measurement per one earthing strand of: a. L=3500 mm	pc.	1		
		b. L=5000 mm	pc.	1		
		c. Variable length of: - one strand	pcs.	3		
		- meter of strand length	m'	40		
12.6.06.05	12.6.06.05	Delivery and installation of angles 50x50x1600 mm to serve as mechanical protection.	pcs.	6		
12.6.06.06	12.6.06.06	Delivery and placing of plate with electrical hazard warning sign according to YR catalogue 951101	pcs.	8		
TOTAL RETURN CONDUCTOR AND EARTHING:						
12.6.07.00		SUNDRIES				
12.6.07.01	12.6.07.01	Inspection of completed works and OCS energizing.		lump sum		
12.6.07.02	12.6.07.02	Works on the existing 25 kV electrical network and safety measures on the site.		lump sum		
TOTAL SUNDRIES:						

SUMMARY DESIGN OF OCS RECONSTRUCTION AND OVERPASS EARTHING						
12.6.01.00	DISMANTLING					
12.6.02.00	EARTH WORKS					
12.6.03.00	CONCRETING					
12.6.04.00	MAST AND PORTALS					
12.6.05.00	ELECTRICAL AND INSTALLATION WORKS					
12.6.06.00	RETURN CONDUCTOR AND EARTHING					
12.6.07.00	SUNDRIES					
TOTAL DESIGN OF OCS RECONSTRUCTION AND OVERPASS EARTHING:						

08.02. TELECOMMUNICATION INSTALLATIONS – CIVIL ENGINEERING PART

08.02.01. Manholes						
Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.02.01.01.		EARTH WORKS				
08.02.01.01.01.	13.2.2.	Excavation of II and III category earth with all needed supports and transport to stockpiling area. Payment per m ³ of "net" excavated earth	m ³	144		
08.02.01.01.02.	08.02.01.01.02.	Placing and compaction of 10 cm thick sub-base made of gravel and sand mix around telephone manhole.	m ³	2.7		
08.02.01.01.03.	13.2.4.	Backfilling of over-excavated area with earth in 30 cm thick layers including compaction of each layer to modulus of compressibility Ms=30 MPa and backfilling of abandoned manholes. Payment per m ³ of compacted earth	m ³	110.25		
TOTAL EARTH WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.02.01.02.		WORKS ON PLAIN AND REINFORCED CONCRETE				
08.02.01.02.01.	8.10.	10 cm thick blinding course made of lean concrete MB15 under the bottom plate.	m ³	3.7		
08.02.01.02.02.	8.10.	10 cm thick layer made of lean concrete MB 20 around telephone manholes to serve as a platform for any installation and urgent works on telecommunication cable conduits.	m ³	4.23		
08.02.01.02.03.	8.10.	Reinforced concrete MB 30, V-6 impermeability, M-150 frost resistance for bottom manhole plate.	m ³	5.4		
08.02.01.02.04.	8.10.	Reinforced concrete MB 30, V-6 impermeability, M-150 frost resistance for 15 cm thick manhole walls.	m ³	16.2		
08.02.01.02.05.	8.10.	Sloping layer of lean concrete MB 15 and 10 cm thick leveling layer of lean concrete MB 15 under the bottom plate.	m ³	0.72		
TOTAL WORKS ON PLAIN AND REINFORCED CONCRETE:						
08.02.01.03.		REINFORCEMENT WORKS				
08.02.01.03.01.	13.5.1.	Measurement includes all labor, procurement and transport, wire-brushing, cutting, mechanical bending and fixing of reinforcing bars according to designed details and quality. Payment per kg of fixed reinforcing bars RA 400/500-2.	kg	2693		
TOTAL REINFORCEMENT WORKS:						
08.02.01.04.		MASONRY WORKS				
08.02.01.04.01	08.02.01.04.01	Making wall of bricks laid on edge in cement mortar to protect vertical waterproofing layer. Payment per m ² of protected surface. The price includes procurement and transport of all needed material and masonry.	m ²	144		
TOTAL MASONRY WORKS:						
08.02.01.05.		SUNDRIES				
08.02.01.05.01	08.02.01.05.01	Placing waterproofing layer of bitulite, two coats of hot bitumen and one coat of "Condor IV" band over external concrete surfaces. Payment per m ² of finished and protected surface. The price includes procurement, transport and incorporation of materials, overlappings and all works in situ.	m ²	166		
08.02.01.05.02	08.02.01.05.02	Procurement, transport and fitting of lids for telephone manholes. Payment per one fully fitted lid for heavy traffic with a frame for double lid.	pcs.	20		
08.02.01.05.03	08.02.01.05.03	Making funnel-like openings for newly designed manholes - 2 Ø 110 pipes	pcs.	20		
08.02.01.05.04	08.02.01.05.04	Delivery and mounting of prefabricated cantilevers and cantilever supports Cantilever supports - 2 per one manhole	pcs.	40		
		Cantilevers - (1 per one support)	pcs.	40		
TOTAL SUNDRIES:						
TOTAL MANHOLES (08.02.01.):						
08.02.02. Telecommunication cable conduit route						
08.02.02.01.		MATERIAL				
08.02.02.01.01	15.4.2.1.	Plug for PVC pipes, Φ110 mm	pcs.	116		
08.02.02.01.02	15.4.2.1.	Comb for 2 PVC pipes, Φ110 mm	pcs.	266		
08.02.02.01.03	15.4.2.1.	PVC pipe, Φ110 mm, L=6.00 m	pcs.	89		
08.02.02.01.04	15.4.2.1.	Comb for 4 HDPE pipe, Φ50 mm	pcs.	4,601		
08.02.02.01.05	15.4.2.1.	HDPE pipe, 4xΦ50 mm	m'	18,404		
08.02.02.01.06	15.4.2.1.	Rubber ring for PVC pipes, Φ110 mm	pcs.	89		
08.02.02.01.07	15.4.2.2.	Yellow warning tape for P.O. cables, 8 cm	kg	348		
TOTAL MATERIAL:						
08.02.02.02.		EARTH WORKS				
08.02.02.02.01	15.4.2.2.	Excavation of III category earth to depth of 2 m 90% mechanical excavation	m ³	2,718		
		10% hand excavation	m ³	302		
TOTAL EARTH WORKS:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
08.02.02.03.		BUILDING MATERIAL				
08.02.02.03.01	15.4.2.2.	Procurement and transport of sand to telecommunication cable conduit route.	m ³	1,430		
TOTAL BUILDING MATERIAL:						
08.02.02.04.		WORKS ON TELECOMMUNICATION CABLE ROUTE				
08.02.02.04.01.	15.4.2.2.	Routing	m	4,868		
08.02.02.04.02.	15.4.2.2.	Backfilling with sand of trench bottom for telecommunication cable conduit and area around and above PVC pipe including wetting and compaction.	m ³	1,430		
08.02.02.04.03.	15.4.2.2.	Backfilling of trench for telecommunication cable conduit, area next to manhole and trench under the pavement with over-excavated material including compaction in 20 cm thick layers.	m ³	1,640		
08.02.02.04.04.	15.4.2.2.	Haulage of surplus material	m ³	1,590		
08.02.02.04.05.	15.4.2.1.	Laying of 4 HDPE pipes, Φ50	m	18,404		
08.02.02.04.06.	15.4.2.1.	Laying of 2 pipes, Φ110 mm into excavated trench.	m	533		
08.02.02.04.07.	15.4.2.2.	Placing a warning tape.	m	4,868		
08.02.02.04.08.	15.4.2.1.	Sealing of pipes, Φ110 mm	pcs.	116		
TOTAL WORKS ON TELECOMMUNICATION CABLE ROUTE:						
TOTAL TELECOMMUNICATION CABLE CONDUIT ROUTE (08.02.02.):						

08.02. Summary – telecommunication installations – civil engineering part					
08.02.01. MANHOLES					
08.02.02. TELECOMMUNICATION CABLE CONDUIT ROUTE					
TOTAL telecommunication installations – civil engineering part (08.02.):					

12.09. Displacement and protection of lineside telecommunication cables

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
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Note: All items related to material include delivery.

Note: All items related to material include delivery.

12.09.04.	COLLISION 4 - ITEMS OF THE BILL OF QUANTITIES ARE NOT AVAILABLE					
12.09.05.	COLLISION 5 - Cables are affected by construction of embankment on the left track side					
12.09.05.01. Collision 5 - material						
12.09.05.01.01	15.4.1.	STA cable	m	420		
12.09.05.01.02	15.4.1.	SPZ 21x0.9	m	420		
12.09.05.01.03	15.4.1.	PNK	m	420		
12.09.05.01.04	15.4.1.	Straight joint on STA cable, code N1626, without measurement of coupling, accessories and material included.	pc.	2		
12.09.05.01.05	15.4.1.	Pupinized joint on STA cable with measurement of coupling and making diagram of crossing points, accessories and material included.	pc.	1		
12.09.05.01.06	15.4.1.	Joint on SPZ cable with heat-shrink coupling	pc.	2		
12.09.05.01.07	15.4.1.	Joint on PNK cable with heat-shrink coupling	pc.	2		
12.09.05.01.08	15.4.1.	Brick for separation of PNK cables from other cables in a trench	pc.	2280		
12.09.05.01.09	12.09.05.01.09	Yellow PVC pipes, 110 mm dia., 6 m long	pc.	8		
12.09.05.01.10	15.4.1.	Sand	m ³	29		
TOTAL COLLISION 5 - material:						
12.09.05.02. Collision 5 - works						
12.09.05.02.11	15.4.2.2.	Routing	m	420		
12.09.05.02.12	15.4.2.2.	Excavation of 0.8x0.5 m trench, placing PVC shields and yellow PVC warning tape, backfilling and compaction in minimum three layers and haulage of surplus earth to specified stockpiling area.	m	420		
12.09.05.02.13	12.09.05.02.13	Construction of passage under the track.	m	10		
12.09.05.02.14	15.4.2.3	Laying STA cable in a trench	m	420		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
12.09.05.02.15	15.4.2.3	Laying SPZ cable in a trench	m	420		
12.09.05.02.16	15.4.2.3	Laying PNK cable in a trench	m	420		
12.09.05.02.17	12.09.05.02.17	Installation of straight cable joint on STA cable without measurement of coupling.	pc.	2		
12.09.05.02.18	12.09.05.02.18	Installation of pupinized joint.	pc.	1		
12.09.05.02.19	12.09.05.02.19	Installation of joint on SPZ cable.	pc.	2		
12.09.05.02.20	12.09.05.02.20	Installation of joint on PNK cable.	pc.	2		
12.09.05.02.21	12.09.05.02.21	Placing bricks in a soldier course	pc.	2280		
		System switch off/on				
12.09.05.02.22	12.09.05.02.22	Signaling/safety systems	compl.	1		
12.09.05.02.23	12.09.05.02.23	1. Central traffic control	compl.	1		
12.09.05.02.24	12.09.05.02.24	2. Station interlocking	compl.	1		
12.09.05.02.25	12.09.05.02.25	3. Level crossing control	compl.	1		
		Telecommunication systems				
12.09.05.02.26	12.09.05.02.26	1. HF system Z12 Niš – Leskovac – Skopje	compl.	1		
12.09.05.02.27	12.09.05.02.27	2. Selective dispatch system - traffic	compl.	1		
12.09.05.02.28	12.09.05.02.28	3. Selective dispatch system - electric traction	compl.	1		
12.09.05.02.29	12.09.05.02.29	4. Radio dispatch system	compl.	1		
		Power supply systems				
12.09.05.02.30	12.09.05.02.30	1. Central electric traction control	compl.	1		
		Measurement, testing and documentation				
12.09.05.02.31	15.5.2	Measurement of a cable drum	compl.	1		
12.09.05.02.32	15.4.2.2	Identification of cable route by detector and recording.	m	450		
12.09.05.02.33	15.5.2	Measurement of finished cable installation between two stations.	compl.	1		
12.09.05.02.34	15.5.2	Measurement of SPZ cable.	compl.	1		
12.09.05.02.35	15.5.2	Measurement of PNK cable.	compl.	1		
12.09.05.02.36	12.09.05.02.36	As-built design of cable works with measurement protocols	compl.	1		
12.09.05.02.37	12.09.05.02.37	As-built design of civil works	compl.	1		
TOTAL COLLISION 5 - works:						
TOTAL COLLISION 5 - material+works:						
TOTAL COLLISION 5:						
12.09.06.	COLLISION 6 - Cables are affected by construction of embankment on the left track side					
12.09.06.01. Collision 6 - material						
12.09.06.01.01	15.4.1.	STA cable	m	250		
12.09.06.01.02	15.4.1.	SPZ 21x0.9	m	250		
12.09.06.01.03	15.4.1.	PNK	m	250		
12.09.06.01.04	15.4.1.	Straight joint on STA cable, code N1626, without measurement of coupling, accessories and material included.	pc.	2		
12.09.06.01.05	15.4.1.	Straight joint on STA cable with measurement of capacitive coupling and making diagram of crossing points, accessories and material included.	pc.	1		
12.09.06.01.06	15.4.1.	Joint on SPZ cable with heat-shrink coupling	pc.	2		
12.09.06.01.07	15.4.1.	Joint on PNK cable with heat-shrink coupling	pc.	2		
12.09.06.01.08	15.4.1.	Brick for separation of PNK cables from other cables in a trench	pc.	2280		
12.09.06.01.09	15.4.1.	Sand	m³	29		
TOTAL COLLISION 6 - material:						

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
12.09.06.02. Collision 6 - works						
12.09.06.02.10	15.4.2.2.	Routing	m	570		
12.09.06.02.11	15.4.2.2.	Excavation of 0.8x0.5 m trench, placing PVC shields and yellow PVC warning tape, backfilling and compaction in minimum three layers and haulage of surplus earth to <u>specified stockpiling area.</u>	m	570		
12.09.06.02.12	15.4.2.3	Construction of passage under the track.	m	20		
12.09.06.02.13	15.4.2.3	Laying STA cable in a trench	m	250		
12.09.06.02.14	15.4.2.3	Laying SPZ cable in a trench	m	250		
12.09.06.02.15	12.09.06.02.15	Laying PNK cable in a trench	m	250		
12.09.06.02.16	12.09.06.02.16	Installation of straight cable joint on STA cable without measurement of coupling.	pc.	2		
12.09.06.02.17	12.09.06.02.17	Installation of straight cable joint on STA cable with measurement of capacitive coupling.	pc.	1		
12.09.06.02.18	12.09.06.02.18	Installation of joint on SPZ cable.	pc.	2		
12.09.06.02.19	12.09.06.02.19	Installation of joint on PNK cable.	pc.	2		
12.09.06.02.20	12.09.06.02.20	Placing bricks in a soldier course	pc.	2280		
		System switch off/on				
12.09.06.02.21	12.09.06.02.21	Signaling/safety systems	compl.	1		
12.09.06.02.22	12.09.06.02.22	1. Central traffic control	compl.	1		
12.09.06.02.23	12.09.06.02.23	2. Station interlocking	compl.	1		
12.09.06.02.24	12.09.06.02.24	3. Level crossing control	compl.	1		
		Telecommunication systems				
12.09.06.02.25	12.09.06.02.25	1. HF system Z12 Niš – Leskovac – Skopje	compl.	1		
12.09.06.02.26	12.09.06.02.26	2. Selective dispatch system - traffic	compl.	1		
12.09.06.02.27	12.09.06.02.27	3. Selective dispatch system - electric traction	compl.	1		
12.09.06.02.28	12.09.06.02.28	4. Radio dispatch system	compl.	1		
		Power supply systems				
12.09.06.02.29	15.5.2	1. Central electric traction control	compl.	1		
	15.4.2.2	Measurement, testing and documentation				
12.09.06.02.30	15.5.2	Measurement of a cable drum	compl.	1		
12.09.06.02.31	15.5.2	Identification of cable route by detector and recording.	m	280		
12.09.06.02.32	15.5.2	Measurement of finished cable installation between two stations.	compl.	1		
12.09.06.02.33	15.5.2	Measurement of SPZ cable.	compl.	1		
12.09.06.02.34	15.5.2	Measurement of PNK cable.	compl.	1		
12.09.06.02.35	12.09.06.02.35	As-built design of cable works with measurement protocols	compl.	1		
12.09.06.02.36	12.09.06.02.36	As-built design of civil works	compl.	1		
TOTAL COLLISION 6 - works:						
TOTAL COLLISION 6 - material+works:						
TOTAL COLLISION 6:						

12.09. Displacement and protection of the existing lineside telecommunication cables		
12.09.05. COLLISION 5 - Cables are affected by construction of embankment on the left track side		
12.09.06. COLLISION 6 - Cables are affected by construction of embankment on the left track side		
TOTAL Displacement and protection of the existing lineside telecommunication cables (12.09.):		

<u>I2. SUMMARY – Technical infrastructure</u>	
DESIGN OF LIGHTING SYSTEM AT "PREDEJANE" GRADE-SEPARATED JUNCTION AND POWER SUPPLY TO TOLL STATIONS	
10 kV, Al/Č 3x50/8 mm2 OVERHEAD FEEDER CABLE and 10/0.4 kV, 100 kVA MTS AT "PREDEJANE" INTERCHANGE	
Overhead low-voltage network	
DESIGN FOR DISPLACEMENT AND PROTECTION OF THE EXISTING TELECOMMUNICATION SYSTEM	
DESIGN OF OCS RECONSTRUCTION AND OVERPASS EARTHING	
TELECOMMUNICATION INSTALLATIONS – CIVIL ENGINEERING PART	
Displacement and protection of lineside telecommunication cables	
SUB-TOTAL	
Unforeseen work (5% of sub-total)	
<u>TOTAL TECHNICAL INFRASTRUCTURE (I2.):</u>	

10. Landscaping of road land strip

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
14.01.00	14.01.00	LANDSCAPING				
14.01.02.	14.01.02.	Procurement and planting of 10-12 year old plantlets of high deciduous trees. Cylindrical planting pits, 1.00x1.00 m shall be excavated, detritus, barren soil and other damaging substances removed from the pit and plantlets bedded with mix of humus, peat fertilizer and sand in approximate proportion 6:3:1 to 2/3 of pit volume. The top third of pit shall be enriched with peat fertilizer of prescribed quantity (25 kg per plantlet). Sand content in the mix depends on soil substrate structure. Plantlets shall be fixed to rod of specified height with rounded top placed prior to covering up the clods taking care not to damage the root system. After planting ground shall be bowl-shaped and plantlets abundantly watered. Other operations shall be performed in accordance with attached General conditions of landscaping				
		TILIA ARGENTEA	pcs.	22		
		ACER PLATANOIDES	pcs.	11		
		FRAXINUS ANGUSTIFOLIA	pcs.	28		
		SALIX VITELINA "PENDULA"	pcs.	16		
14.01.04.	14.01.04.	Procurement and planting of 6-8 year old plantlets of medium high and small deciduous trees. Cylindrical planting pits, 0.80x0.80 m shall be excavated, detritus, barren soil and other damaging substances removed from the pit and plantlets bedded with mix of humus, peat fertilizer and sand in approximate proportion 6:3:1 to 2/3 of pit volume. The top third of pit shall be enriched with peat fertilizer of prescribed quantity (15 kg per plantlet). Sand content in the mix depends on soil substrate structure. After planting ground shall be bowl-shaped and plantlets abundantly watered. Plantlets shall be baled for transport to prevent drying of root system. Other operations shall be performed in accordance with attached General conditions of landscaping.				
		CRATAEGUS NIGRA	pcs.	59		
		ACER CAMPESTRE	pcs.	38		
		FRAXINUS ORNUS	pcs.	33		
		PRUNUS CERASIFERA "NIGRA"	pcs.	47		
		CORILUS AVELLANA	pcs.	32		
		SAMBUCUS NIGRA	pcs.	33		
		CORNUS MAS "VARIEGATA"	pcs.	63		
		COTINUS COGGYGRIA	pcs.	23		
		SYRINGA VULGARIS	pcs.	18		
14.01.05.	14.01.05.	Procurement and planting of 3-5 year old plantlets of deciduous shrubs and creepers. Cylindrical planting pits, 0.4x0.4 m shall be excavated and plantlets bedded by using mix of humus, peat fertilizer and sand in approximate proportion 6:3:1 to 2/3 of pit volume. The top third of pit shall be enriched with peat fertilizer of prescribed quantity (3 kg per plantlet). Sand content in the mix depends on soil substrate structure. Appropriate number of plantlets shall be bedded in the area of one m2 depending on the sort. Other operations shall be performed in accordance with attached General conditions of landscaping.				
		VIBURNUM OPULUS "ROSEUM"	pcs.	171		
		CORNUS ALBA	pcs.	923		
		CORNUS SANGUINEA	pcs.	387		
		TAMARIX PENTANDRA	pcs.	403		

Item No.	T.S.	Work Description	Unit	Quantity	Unit Price	Total
14.01.06.	14.01.06.	PHILADELPHUS CORONARIUS	pcs.	241		
		SPIRAEA X VANHOUTTEI	pcs.	398		
		ROSA RUGOSA	pcs.	208		
		FORSITHIA X INTERMEDIA	pcs.	864		
		BUDDLEIA DAVIDII	pcs.	319		
		LONICERA TATARICA	pcs.	481		
		LONICERA CAPRIFOLIUM	pcs.	18		
		Procurement and planting of 3-5 year old plantlets of evergreen shrubs. Cylindrical planting pits, 0.4x0.4 m shall be excavated and plantlets bedded by using mix of humus, peat fertilizer and sand in approximate proportion 6:3:1 to 2/3 of pit volume. The top third of pit shall be enriched with peat fertilizer of prescribed quantity (3 kg per plantlet). Sand content in the mix depends on soil substrate structure. Appropriate number of plantlets shall be bedded in the area of one m2 depending on the sort. Other operations shall be performed in accordance with attached General conditions of landscaping.				
		PRUNUS LAUROCERASUS	pcs.	383		
		PYRACANTHA COCCINEA	pcs.	434		
		MAHONIA AQUIFOLIUM	pcs.	318		
		BERBERIS JULIANAE	pcs.	390		
TOTAL LANDSCAPING:						
14.02.00.	14.02.00.	MAINTENANCE				
14.02.01.	14.02.01.	Capital maintenance of green areas includes all greenery maintenance and cultivation operations, watering, sprinkler irrigation, hoeing, formation (pruning) of hedge, lawn cut and protection of plants against entomological and phytopathological damages. It amounts to 20% approximately of landscaping investment value for one year period.				
			lump sum			
TOTAL MAINTENANCE:						

14. Summary Landscaping of road land strip					
14.01.00 LANDSCAPING					
14.02.00 MAINTENANCE					
SUB-TOTAL					
Unforeseen work (5% of sub-total)					
<i>TOTAL Landscaping of road land strip (14.):</i>					

No.	Description	Unit	Nominal quantity	Rate	Extended amount
D100	Skilled concrete finisher	hour	500.00		
D101	Skilled asphalt finisher	hour	500.00		
D102	Skilled mason	hour	500.00		
D103	Skilled electrician	hour	500.00		
D104	Skilled fitter	hour	500.00		
D105	Skilled joiner	hour	500.00		
D106	Skilled carpenter	hour	500.00		
D107	Skilled steelwork erector	hour	500.00		
D108	Unskilled labourer	hour	500.00		
D109	Unskilled assitant	hour	500.00		
D110	Highly-skilled group leader	hour	500.00		
D112	Foreman	hour	500.00		
D113	Driver for vehicle up to 10 tons	hour	1,000.00		
D114	Driver for vehicle 10 to 20 tons	hour	1,000.00		
D115	Driver for vehicle above 10 tons	hour	1,000.00		
D116	Operator for excavator, dragline, shovel, or crane	hour	500.00		
D117	Operator for roller, asphalt finisher, concrete finisher	hour	500.00		
D118	Operator for tractor with dozer blade or ripper	hour	500.00		
	Subtotal				
D150	Allow _ percent ^a of Subtotal for Contractor’s overhead, profit, etc.				
Total for Daywork: Labor					
a. To be entered by the bidder.					

No.	Description	Unit	Nominal quantity	Rate	Extended amount
D201	Cement	t	200.00		
D202	Mild steel reinforcing bar up to 16 mm diameter	t	100.00		
D203	Mild steel reinforcing bar above 16 mm diameter	t	100.00		
D204	Aggregate for pavement base	m3	500.00		
D205	Gravel	m3	500.00		
D206	Lime	kg	200.00		
D207	Mortar	m3	200.00		
D208	Concrete aggregate				
D208.1	0-4 mm	m3	500.00		
D208.2	4-8 (0-8) mm	m3	500.00		
D208.3	8-16 mm	m3	500.00		
D208.4	16-32 (22) mm	m3	500.00		
D209	Asphalt aggregate, limestone				
D209.1	0-4 mm	m3	500.00		
D209.2	4-8 (0-8) mm	m3	500.00		
D209.3	8-16 mm	m3	500.00		
D209.4	16-32 (22) mm	m3	500.00		
D210	Asphalt aggregate, igneous				
D210.1	0-4 mm	m3	500.00		
D210.2	4-8 (0-8) mm	m3	500.00		
D210.3	8-16 mm	m3	500.00		
D210.4	16-22 mm	m3	500.00		
D211	Planed softwood	m3	50.00		
D212	Sawn softwood	m3	50.00		
D213	Plywood	m3	50.00		
D214	Gas oil	l	1,000.00		
D215	Bitumen	t	200.00		
	Subtotal				
D150	Allow _ percent ^a of Subtotal for Contractor’s overhead, profit, etc.				
Total for Daywork: Materials					
a. To be entered by the bidder.					

No.	Description	Nominal quantity (hours)	Basic hourly rental rate	Extended amount
D301	Excavator, face shovel, or dragline:			
D301.1	Up to and including 1 m ³	500.00		
D301.2	Over 1 m ³ to 2 m ³	400.00		
D301.3	Over 2 m ³	100.00		
D302	Tractor, including bull or angle dozer:			
D302.1	Up to and including 150 kW	500.00		
D302.2	Over 150 kW to 200 kW	400.00		
D302.3	Over 200 kW to 250 kW	200.00		
D303	Tractor with ripper:			
D303.1	Up to and including 200 kW	400.00		
D303.2	Over 200 kW to 250 kW	200.00		
D304	Roller	200.00		
D305	Shovel	200.00		
D306	Crane	200.00		
D307	Pneumatic hammer	200.00		
D308	Pneumatic drill	200.00		
D309	Draining unit	200.00		
D310	Loader	200.00		
D311	Truck:			
D311.1	up to and including 10 t	500.00		
D311.2	over 10 to 20 t	500.00		
D312	Power generator up to 25 kVA	200.00		
Total for Daywork: Equipment				

	Amount (RSD)	% Foreign
1. Total for Daywork: Labour		
2. Total for Daywork: Materials		
3. Total for Daywork: Equipment		
Total for Daywork		

Technical Proposal

- **Site Organization**
- **Method Statement**
- **Program of Works**
- **Equipment**
- **Subcontracting**
- **Traffic Management Plan**
- **Environmental Management Plan**
- **Quality Assurance Plan**
- **Sources of Materials Procurement**
- **Cash Flow (Note:Cash Flow shall be included in the Financial Bid only)**
- **Personnel**

Remark:

Technical Proposal describes details of the arrangements and methods which the Bidder proposes to adopt for the execution of the Works in sufficient detail to demonstrate his adequacy to achieve the requirements of the Contract including completion within the Time for Completion, and is not the binding contract documents, except for the Equipment and Personnel.

Site Organization

Give details (in graphic form) of the organisation chart of your site office for this contract, showing the key personnel and their responsibilities and functions. Explain clearly the links between the site office and the Company's head office organisation and in particular show the involvement of any directors, area managers or visiting staff in this particular contract. In the case of a joint venture the bidder must indicate the inter-relationships between the JVA partners.

Failure to provide detailed and acceptable technical information in accordance with the above requirements may lead to the rejection of the bid.

Method Statement

The Bidder shall provide a comprehensive work method statement in which to demonstrate a clear understanding of the Works by providing written descriptions, with drawings where applicable, of the methods proposed by the Bidder for carrying out the Works. In particular the Bidder shall indicate the number, type and capacity of all plant, equipment and labour proposed to be involved in the major activities of work; the sources of all quarries, borrow pits, spoil areas, materials suppliers and the proposed means of haulage; the sequence of work and numbers of concurrent work fronts proposed; the location of the Bidders's site offices and Engineer's offices, plant, fabrication yards, laboratory etc.; the Bidder's proposed health and safety plan; the activities of subcontractors and the Bidder's proposals for management of them; the activities of joint-venture partners; a detailed description of the procurement of utility works.

Failure to provide detailed and acceptable technical information in accordance with the above requirements may lead to the rejection of the bid.

Program of Works

Bidder shall provide a provisional programme of works showing the order of procedure and timing in which the Bidder proposes to carry out the Works. The programme shall show, inter alia: all dates and times specified in the Contract; the order and timing of the temporary and permanent work; the quantities of temporary and permanent work expected to be constructed each month; the resources (plant, equipment, labour, etc) required each month to produce these quantities of work; all utilities work; the intermediate milestones; the relationship between activities; the critical path; the date by which the Contractor requires any information or anything else the Employer is required to provide to the Contractor including possession of site. In preparing the programme of work the Bidder shall take note of prevailing climatic conditions and the requirement to obtain permits and authorisations prior to construction. Failure to provide detailed and acceptable technical information in accordance with the above requirements may lead to the rejection of the bid.

NOTES:

Works will be performed simultaneously on LOT 1 and LOT 2 and the contractors must cooperate closely and organize their works in line with instructions received from the Engineer.

Through technical part of the bid, the applicants have to show that they have capacity to start the works simultaneously with several fully equipped teams for work in specific geotechnical terrain conditions and to finish the works in the required time.

It is expected that works can be performed in 3 (three) shifts.

Failure to provide detailed and acceptable technical information in accordance with the above requirements may lead to the rejection of the bid.

Form EQU: 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.

Item 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 <input type="checkbox"/> Owned <input type="checkbox"/> Rented <input type="checkbox"/> Leased <input type="checkbox"/> Specially manufactured	

Omit the following information for equipment 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	

If the equipment is owned by the bidder, the proof of ownership (copy of working license, contract of purchase or similar) should be delivered with the Form EQU. If the equipment is rented, leased or being purchased, copy of the relevant contract for rent, leasing or purchase should be submitted with the Form EQU.

Failure to provide detailed and acceptable technical information in accordance with the above requirements may lead to the rejection of the bid.

Subcontracting

If the Bidder does not plan to sub-contract items of work, state "Not applicable".

Item(s) of Bill of Quantities	Type of work(s)	% of bid price	Name and address of sub-contractor	Similar works executed (year, location, client)

Notes:

1. The Bidder should attach subcontractors' certificates of completion signed by previous employers in order to prove the subcontractors' experience in the area of the Work proposed to be subcontracted.
2. The Bidder must submit the letter of intent issued and signed by the subcontractors.
3. Bidders must list the major utility subcontractors.

Traffic Management Plan

Bidder shall provide a Traffic Management Plan (TMP) that indicates what measures will be implemented to manage road traffic throughout the course of the Works. Such TMP shall describe, in the form of sketches accompanied by narrative details, the sequence of traffic control devices, signs, deviations, lighting, fencing, etc., to be applied to each section of road. The TMP shall clearly define advance warning signs, traffic control, separation of working areas, attendance and lighting of works, frequency of working areas and anticipated traffic queues, etc. The Bidder's TMP shall ensure that work on any area is completed as soon as possible so that the level of traffic disturbance should be minimised. Also, a detailed description of construction site roads is required.

Failure to provide detailed and acceptable technical information in accordance with the above requirements may lead to the rejection of the bid.

Environmental Management Plan

Bidder shall provide details of the site-specific Environmental Management Plan (EMP) proposed to be used in order to ensure compliance with the results and recommendations of the Environmental Impact Assessment Study (available at the web site: www.koridor10.rs or www.koridorx.rs). This EMP shall describe all procedures to be done to fulfill environmental protection requirements during works, as well as details on mitigation and monitoring activities foreseen to be done by the Contractor.

Detailed site-specific EMP shall include additional site-specific information called for in the Corridor level EIA and the preconditions, as well as management plans for specific aspects of their operations (Project induction, Traffic, Waste and wastewater management plan, Oil and fuel storage management plan, In-river works management plan, Camp management plan, Emergency response plan, Grievance mechanism). Grievance mechanism will include representatives of Employer, Engineer and Contractor in resolving various grievances that may occur during construction.

ISO Certificates or any other equivalent accreditations must be attached.

NOTE:

EMP Supervisor, to be hired under the separate contract, shall prepare a guide for contractors on implementing the EMP and a guide for the Construction Supervision Engineers on how to undertake supervision, including monitoring of effectiveness. The same consultant also has the obligation to prepare and execute a training program in support of the above two guides.

The Contractor's EMP shall be updated in accordance with the mentioned guides and received training.

Failure to provide detailed and acceptable technical information in accordance with the above requirements may lead to the rejection of the bid.

Quality Assurance Plan

Bidder shall provide details of the Quality Assurance Plan proposed to be used in order to ensure compliance with the Contract.

The details must include an outline of the Quality Assurance procedures for this Contract. ISO Certificates or any other equivalent accreditations must be attached.

Failure to provide detailed and acceptable technical information in accordance with the above requirements may lead to the rejection of the bid.

Sources of Materials Procurement

Material	Element of work	Approximate value	Country of origin	Name and address of the supplier

The Bidder shall fill this schedule with the list of the most important materials but shall include as a minimum quarry sites, sources of bitumen and cement, sources of reinforcing steel, sources of bearings, expansion joints, parapets and guardrails and any critical delivery date items.

Failure to provide detailed and acceptable technical information in accordance with the above requirements may lead to the rejection of the bid.

Cash Flow

Note: Cash Flow shall be included in the Financial Bid only.

Bidder is to detail his projected cash flow, taking into account advance, materials on site etc, as per format below:

Month	Value of work	Advance payment	Advance repayment	Payments to Contractor	
	[Euro]	[Euro]	[Euro]	Monthly total	Cumulated value
				[Euro]	[Euro]
1					
2					
3					
4					
5					
...					
TOTAL					

Personnel

Form PER-1: Proposed Personnel

Bidders should provide the names of suitably qualified personnel to meet the specified requirements stated in Section III. 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
...	

*As listed in Section III.

Failure to provide detailed and acceptable technical information in accordance with the above requirements may lead to the rejection of the bid.

Form PER-2: Resume of Proposed Personnel

Name of Bidder

Position

Personnel information	Name	Date of birth
	Professional qualifications	

Present employment	Name of employer	
	Address of employer	
	Telephone	Contact (manager / personnel officer)
	Fax	E-mail
	Job title	Years with present employer

Summarize professional experience over the last 20 years, in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

From	To	Company / Project / Position / Relevant technical and management experience

Bidders 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: Bidder's Information Sheet

Bidder's Information	
Bidder's legal name	
In case of JV, legal name of each partner	
Bidder's country of constitution	
Bidder's year of constitution	
Bidder's legal address in country of constitution	
Bidder's authorized representative (name, address, telephone numbers, fax numbers, e-mail address)	
Attached are copies of the following original documents. <input type="checkbox"/> 1. In case of single entity, articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.1 and 4.2. <input type="checkbox"/> 2. Authorization to represent the firm or JV named in above, in accordance with ITB 20.2. <input type="checkbox"/> 3. In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 4.1. <input type="checkbox"/> 4. In case of a government-owned entity, any additional documents not covered under 1 above required to comply with ITB 4.5.	

Form ELI – 2: JV Information Sheet

Each member of a JV must fill in this form

JV / Specialist Subcontractor Information	
Bidder's legal name	
JV Partner's or Subcontractor's legal name	
JV Partner's or Subcontractor's country of constitution	
JV Partner's or Subcontractor's year of constitution	
JV Partner's or Subcontractor's legal address in country of constitution	
JV Partner's or Subcontractor's authorized representative information (name, address, telephone numbers, fax numbers, e-mail address)	
Attached are copies of the following original documents. <input type="checkbox"/> 1. Articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.1 and 4.2. <input type="checkbox"/> 2. Authorization to represent the firm named above, in accordance with ITB 20.2. <input type="checkbox"/> 3. In the case of government-owned entity, documents establishing legal and financial autonomy and compliance with commercial law, in accordance with ITB 4.5.	

Form CON – 2: Historical Contract Non-Performance

[The following table shall be filled in for the Bidder and for each partner of a Joint Venture]

Bidder's Legal Name: _____

Date: _____

Joint Venture Party Legal Name: _____

ICB No. and title: CORR.X.E75.EIB.PACK1.ICB

Page _____ of _____
pages

Non-Performing Contracts in accordance with Section III, Qualification Criteria and Requirements			
<input type="checkbox"/> Contract non-performance did not occur during the last 5 (five) years specified in Section III, Qualification Criteria and Requirements, Sub-Factor 2.1.			
<input type="checkbox"/> Contract(s) not performed during the last 5 (five) years specified in Section III, Qualification Criteria and Requirements, requirement 2.1			
Year	Non performed portion of contract	Contract Identification	Total Contract Amount (current value, EURO equivalent)
		Contract Identification: Name of Employer: Address of Employer: Reason(s) for non performance:	
Pending Litigation, in accordance with Section III, Qualification Criteria and Requirements			
<input type="checkbox"/> No pending litigation in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2.			
<input type="checkbox"/> Pending litigation in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2 as indicated below.			
Year	Outcome as Percentage of Total Assets	Contract Identification	Total Contract Amount (current value, EURO equivalent)
		Contract Identification: Name of Employer: Address of Employer: Matter in dispute:	

Form FIN – 1: Financial Situation

Each Bidder or member of a JV must fill in this form

	Financial Data for Previous 3 Years [EURO Equivalent]		
	Year: 2010	Year: 2009	Year: 2008

Information from Balance Sheet

Total Assets			
Total Liabilities			
Net Worth			
Current Assets			
Current Liabilities			

Information from Income Statement

Total Revenues			
Profits Before Taxes			
Profits After Taxes			

- ☐ Attached are copies of financial statements (balance sheets including all related notes, and income statements) for the last three years, as indicated above, complying with the following conditions.
- All such documents reflect the financial situation of the Bidder or partner to a JV, and not sister or parent companies.
 - Historic financial statements must be audited by a certified accountant.
 - Historic financial statements must be complete, including all notes to the financial statements.
 - Historic financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).

Note: The information supplied should be converted to EURO at the rate of exchange at the end of the period reported (i.e. December 31).

[At the end of this form Bidder shall, for each year, state the rate of exchange used for conversion to EURO.]

Form FIN – 2: Average Annual Construction Turnover

Each Bidder or member of a JV must fill in this form

Annual Turnover Data for the Last 3 Years (Construction only)			
Year	Amount Currency	Exchange Rate	EURO Equivalent
2010			
2009			
2008			
Average Annual Construction Turnover			

Average annual construction turnover calculated as total certified payments received for work in progress or completed, divided by the number of years specified in Section III, Qualification Criteria and Requirements, Sub-Factor 2.3.2.

The information supplied should be the Annual Turnover of the Bidder or each member of a JV in terms of the amounts billed to clients for each year for work in progress or completed, converted to EURO at the rate of exchange at the end of the period reported (i.e. December 31).

Form FIN – 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 indicated in Section III (Evaluation and Qualification Criteria)

Financial Resources		
No.	Source of financing	Amount (EURO equivalent)
1		
2		
3		

☐ Attached are copies of statements of access to financial resources and complying with the requirements.

Form FIN – 4: 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.

Current Contract Commitments					
No.	Name of Contract	Employer's Contact Address, Tel, Fax	Value of Outstanding Work [Current EURO Equivalent]	Estimated Completion Date	Average Monthly Invoicing Over Last Six Months [EURO/month]
1					
2					
3					
4					
5					

Form EXP – 1: General Construction Experience

Each Bidder or member of a JV must fill in this form

General Construction Experience				
Starting Month Year	Ending Month Year	Years	Contract Identification and Name Name and Address of Employer Brief Description of the Works Executed by the Bidder	Role of Bidder

Form EXP – 2(a): Specific Construction Experience

Fill up one (1) form per contract.

Contract of Similar Size and Nature		
Contract No of	Contract Identification	
Award Date	Completion Date	
Role in Contract	Contractor	<div style="display: flex; justify-content: space-between;"> Management Contractor Subcontractor </div>
Total Contract Amount	EURO	
If partner in a JV or subcontractor, specify participation of total contract amount	Percent of Total	Amount
Employer's Name Address Telephone/Fax Number E-mail		
Description of the similarity in accordance with Criteria 2.4.2(a) of Section III		

Form EXP – 2(b): Specific Construction Experience in Key Activities

Fill up one (1) form per contract

Contract with Similar Key Activities		
Contract No of	Contract Identification	
Award Date		Completion Date
Role in Contract	<input type="checkbox"/> Contractor	<input type="checkbox"/> Management Contractor <input type="checkbox"/> Subcontractor
Total Contract Amount	EURO	
If partner in a JV or subcontractor, specify participation of total contract amount	Percent of Total	Amount
Employer's Name Address Telephone Number Fax Number E-mail		
Description of the key activities in accordance with Criteria 2.4.2(b) of Section III		

**Form EXP – 2(b-1): Summary of Specific Construction Experience in
Key Activities per year**

Each Bidder or member of a JV must fill in this form

Earthworks and rock excavation	Year / Quantity performed by the Bidder (m ³ /year)				
Project name	2006	2007	2008	2009	2010
...					
...					
Total:					

Asphalt concrete production	Year / Quantity performed by the Bidder (t/year)				
Project name	2006	2007	2008	2009	2010
...					
...					
Total:					

Structural concrete production and placement	Year / Quantity performed by the Bidder (m ³ /year)				
Project name	2006	2007	2008	2009	2010
...					
...					
Total:					

Form of Bid Security

(Bank Guarantee)

Beneficiary: Koridori Srbije d.o.o. Beograd, 21 Kralja Petra Street, 11000 Belgrade, Republic of Serbia

Date: _____

BID GUARANTEE No.: _____

We have been informed that _____ (hereinafter called "the Bidder") has submitted to you its bid dated _____ (hereinafter called "the Bid") for the execution of _____ under Invitation for Bids No. _____ ("the IFB").

Furthermore, we understand that, according to your conditions, bids must be supported by a bid guarantee.

At the request of the Bidder, we _____ hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of _____ (_____) * upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

- (a) has withdrawn its Bid during the period of bid validity specified by the Bidder in the Form of Bid; or
- (b) having been notified of the acceptance of its Bid by the Employer during the period of bid validity, (i) fails or refuses to execute the Contract Agreement or (ii) fails or refuses to furnish the performance security, in accordance with the ITB.

This guarantee will expire: (a) if the Bidder is the successful Bidder, upon our receipt of copies of the contract signed by the Bidder and the performance security issued to you upon the instruction of the Bidder; and (b) if the Bidder is not the successful Bidder, upon the earlier of (i) our receipt of a copy your notification to the Bidder of the name of the successful Bidder; or (ii) twenty-eight days after the expiration of the Bidder's bid.

Consequently, any demand for payment under this guarantee must be received by us at the office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 758.

[signature(s)]

Failure to provide Bid Security in accordance with the above form may lead to the rejection of the bid.

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

* If the Bidder is from Employer's country, due to official regulations, than the following text may be inserted: "in Serbian Dinars counter value at the official middle rate of exchange of the National Bank of Serbia prevailing on the date of payment"

Section V. Eligible Countries

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

1. In accordance with EIB's Guide to Procurement Version February 2004, Section 1 General Aspects, Para 1.3 Eligibility of Contractors and Suppliers of Goods and Services, and Section 3 Operations outside the European Union, Para 3.2 Eligibility of Providers of Works, Goods and Services, the Bank permits firms and individuals from all countries to offer goods, works and services for Bank-financed projects. As an exception, firms of a Country or goods manufactured in a Country may be excluded if:
 - (i): as a matter of law or official regulation, 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 the Goods or Works required, or
 - (ii): 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 persons or entities in that Country.
2. For the information of borrowers and bidders, at the present time firms, goods and services from the following countries are excluded from this bidding:
 - (a) With reference to paragraph 1 (i) of above:
not applicable
 - (b) With reference to paragraph 1 (ii) of above:
not applicable