



**GOVERNMENT OF ESPÍRITO SANTO STATE
PROGRAM DIRECT COMMITTEE**

Espírito Santo Integrated Sustainable Water Management Project

LN-8353-BR

Bidding Document for

**Procurement of:
Turnkey contract for the Sanitary Sewage Systems
in the Municipality of Cariacica 1 – Lot I and
Cariacica 2 – Lot II**

ICB N° CESAN 2B10 - Water and Landscape Program

Issued on: June 26, 2018

Employer: Companhia Espírito Santense de Saneamento - CESAN

Country: Brazil



The World Bank

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PART 1 – BIDDING PROCEDURES

Section I. Instructions to Bidders

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Section I. Instructions to Bidders

A. General

1. **Scope of Bid**
 - 1.1 In connection with the Invitation for Bids specified in the Bid Data Sheet (BDS), the Employer, as specified in the BDS, issues these Bidding Documents for the procurement of Works as specified in Section VII, Works Requirements. The name, identification, and number of lots (contracts) of this International Competitive Bidding (ICB) process are specified 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;
 - (c) “day” means calendar day; and
 - (d) “ESHS” means environmental, social (including sexual exploitation and abuse (SEA) and gender based violence (GBV)), health and safety.
2. **Source of Funds**
 - 2.1 The Borrower or Recipient (hereinafter called “Borrower”) **specified in the BDS** has received or has applied for financing (hereinafter called “funds”) from the International Bank for Reconstruction and Development or the International Development Association (hereinafter called “the Bank”) in an amount **specified in the BDS**, toward the project named **in the BDS**. The Borrower intends to apply a portion of the funds to eligible payments under the contract(s) for which these Bidding Documents are issued.
 - 2.2 Payment by the Bank will be made only at the request of the Borrower and upon approval by the Bank, and will be subject, in all respects, to the terms and conditions of the Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the Loan (or other financing) account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of the Bank, is prohibited by a decision of the United Nations Security

Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan (or other financing) Agreement or have any claim to the proceeds of the Loan (or other financing).

3. Corrupt and Fraudulent Practices

3.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Section VI.

3.2 In further pursuance of this policy, Bidders shall permit and shall cause its agents (whether declared or not), sub-contractors, sub-consultants, service providers, or suppliers and any personnel thereof, to permit the Bank to inspect all accounts, records and other documents relating to any prequalification process, bid submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.

4. Eligible Bidders

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

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

- (a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or
- (b) receives or has received any direct or indirect subsidy from another Bidder; or
- (c) has the same legal representative as another Bidder; or
- (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the bid of another Bidder, or influence the decisions of the Employer regarding this bidding

process; or

- (e) participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which such Bidder is involved. However, this does not limit the inclusion of the same subcontractor in more than one bid; or
- (f) any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the bid; or
- (g) any of its affiliates has been hired (or is proposed to be hired) by the Employer or Borrower as Engineer for the Contract implementation; or
- (h) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or
- (i) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved in the preparation of the bidding documents or specifications of the contract, and/or the bid evaluation process of such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Bank throughout the procurement process and execution of the contract.

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

- 4.4 A Bidder that has been sanctioned by the Bank in accordance with the above ITB 3.1, including in accordance with the Bank's Guidelines on Preventing and Combating Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants ("Anti-Corruption Guidelines"), shall be ineligible to be prequalified for, bid for, or be awarded a Bank-financed contract or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined. The list of debarred firms and individuals is available as **specified in the BDS**.
- 4.5 Bidders that are Government-owned enterprises or institutions in the Employer's Country may participate only if they can establish that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not dependent agencies of the Employer. To be eligible, a government-owned enterprise or institution shall establish to the Bank's satisfaction, through all relevant documents, including its Charter and other information the Bank may request, that it: (i) is a legal entity separate from the government (ii) does not currently receive substantial subsidies or budget support; (iii) operates like any commercial enterprise, and, inter alia, is not obliged to pass on its surplus to the government, can acquire rights and liabilities, borrow funds and be liable for repayment of its debts, and can be declared bankrupt; and (iv) is not bidding for a contract to be awarded by the department or agency of the government which under their applicable laws or regulations is the reporting or supervisory authority of the enterprise or has the ability to exercise influence or control over the enterprise or institution.
- 4.6 A Bidder shall not be under suspension from bidding by the Employer as the result of the operation of a Bid-Securing Declaration.
- 4.7 Firms and individuals may be ineligible if so indicated in Section V and (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of goods or the contracting of works or services required; or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of goods or contracting of works or services from that country, or any payments to any

country, person, or entity in that country.

- 4.8 This bidding is open only to prequalified Bidders unless **specified in the BDS.**
- 4.9 A Bidder shall provide such evidence of eligibility satisfactory to the Employer, as the Employer shall reasonably request.
- 5. Eligible Materials, Equipment, and Services**
- 5.1 The materials, equipment and services to be supplied under the Contract and financed by the Bank may have their origin in any country subject to the restrictions specified in Section V, Eligible Countries, and all expenditures under the Contract will not contravene such restrictions. At the Employer's request, Bidders may be required to provide evidence of the origin of materials, equipment and services.

B. Contents of Bidding Documents

- 6. Sections of Bidding Documents**
- 6.1 The Bidding Documents consist of Parts 1, 2, and 3, which include all the Sections specified below, and which should be read in conjunction with any Addenda issued in accordance with ITB 8.

PART 1 Bidding Procedures

- Section I. Instructions to Bidders (ITB)
- Section II. Bid Data Sheet (BDS)
- Section III. Evaluation and Qualification Criteria
- Section IV. Bidding Forms
- Section V. Eligible Countries
- Section VI. Bank Policy-Corrupt and Fraudulent Practices

PART 2 Works Requirements

- Section VII. Works Requirements

PART 3 Conditions of Contract and Contract Forms

- Section VIII. General Conditions (GC)
- Section IX. Particular Conditions (PC)
- Section X. Contract Forms

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

- 6.3 Unless obtained directly from the Employer, the Employer is not responsible for the completeness of the Bidding Documents, responses to requests for clarification, the minutes of the pre-Bid meeting (if any), or Addenda to the Bidding Documents in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Employer shall prevail.
- 6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents and to furnish with its bid all information and documentation as is required by the Bidding Documents.
- 7. Clarification of Bidding Documents, Site Visit, Pre-Bid Meeting**
- 7.1 A Bidder requiring any clarification of the Bidding Documents shall contact the Employer in writing at the Employer's address **specified in the BDS** or raise its 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 fourteen (14) 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 Documents in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. If so specified in the BDS, the Employer shall also promptly publish its response at the web page identified in the BDS. Should the clarification result in changes to the essential elements of the Bidding Documents, the Employer shall amend the Bidding Documents following the procedure under ITB 8 and ITB 22.2.
- 7.2 The Bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense.
- 7.3 The Bidder and any of its personnel or agents will be granted permission by the Employer to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the Employer and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.

- 7.4 If so specified in the BDS, the Bidder's designated representative is invited to attend a pre-bid meeting. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 7.5 The Bidder is requested to submit any questions in writing, to reach the Employer not later than one week before the meeting.
- 7.6 Minutes of the pre-bid meeting, if applicable, including the text of the questions asked by Bidders, without identifying the source, and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Bidders who have acquired the Bidding Documents in accordance with ITB 6.3. Any modification to the Bidding Documents that may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to ITB 8 and not through the minutes of the pre-bid meeting. Nonattendance at the pre-bid meeting will not be a cause for disqualification of a Bidder.

8. Amendment of Bidding 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 Documents from the Employer in accordance with ITB 6.3. The Employer shall also promptly publish the addendum on the Employer's web page in accordance with ITB 7.1.
- 8.3 To give 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, in accordance with ITB 12;
- (b) completed schedules as required, including priced Bill of Quantities, in accordance with ITB 12 and 14;
- (c) Bid Security or Bid-Securing Declaration, in accordance with ITB 19.1;
- (d) alternative bids, if permissible, in accordance with ITB 13;
- (e) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.2;
- (f) documentary evidence in accordance with ITB 17 establishing the Bidder's continued qualified status or, if post-qualification applies, as specified 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;
- (h) any other document **required in the BDS**.

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

11.3 The Bidder shall furnish in the Letter of Bid information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.

**12. Letter of Bid
and Schedules**

12.1 The Letter of Bid and Schedules, 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 specified in the BDS**, alternative bids shall not be considered.

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

13.3 Except as provided under ITB 13.4 below, Bidders wishing to offer technical alternatives to the requirements of the Bidding 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 VII, Works Requirements.

14. Bid Prices and Discounts

14.1 The prices and discounts (including any price reduction) quoted by the Bidder in the Letter of Bid and in the 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 shall be deemed covered by the rates for other items in the Bill of Quantities and will not be paid for separately by the Employer. An item not listed in the priced Bill of Quantities shall be assumed to be not included in the Bid, and provided that the Bid is determined substantially responsive notwithstanding this omission, the average price of the item quoted by substantially responsive bidders will be added to the bid price and the equivalent total cost of the bid so determined will be used for price comparison.

- 14.3 The price to be quoted in the Letter of Bid, in accordance with ITB 12.1, shall be the total price of the Bid, excluding any discounts offered.
- 14.4 The Bidder shall quote any discounts and the methodology for their application in the Letter of Bid, in accordance with ITB 12.1.
- 14.5 **Unless otherwise specified 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.
- 14.6 If so specified in ITB 1.1, bids are being invited for individual lots (contracts) or for any combination of lots (packages). Bidders wishing to offer discounts for the award of more than one Contract shall specify in their bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITB 14.4, provided the bids for all lots (contracts) are opened at the same time.
- 14.7 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 28 days prior to the deadline for submission of bids, shall be included in the rates and prices and the total Bid Price submitted by the Bidder.
- 15. Currencies of Bid and Payment**
- 15.1 The currency(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 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 – Bidding Forms, in sufficient detail to demonstrate the

adequacy of the Bidder's 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 specified in 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 specified 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 specified in accordance with ITB 33.1.

17.3 Any change in the structure or formation of a Bidder after being prequalified and invited to Bid (including, in the case of a JV, any change in the structure or formation of any member thereto) shall be subject to the written approval of the Employer prior to the deadline for submission of Bids. Such approval shall be denied if (i) a Bidder proposes to associate with a disqualified Bidder or in case of a disqualified joint venture, any of its members; (ii) as a consequence of the change, the Bidder no longer substantially meets the qualification criteria set forth in Section III, Qualification Criteria and Requirements; or (iii) in the opinion of the Employer, the change may result in a substantial reduction in competition. Any such change should be submitted to the Employer not later than fourteen (14) days after the date of the Invitation for Bids.

**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, no adjustment shall be made.
 - (c) In any case, bid evaluation shall be based on the bid price without taking into consideration the applicable correction from those indicated above.

19. Bid Security

- 19.1 The Bidder shall furnish as part of its bid, either a Bid-Securing Declaration or a bid security **as specified in the BDS**, in original form and, in the case of a bid security, in the amount and currency **specified in the BDS**.
- 19.2 A Bid-Securing Declaration shall use the form included in Section IV, Bidding Forms.
- 19.3 If a bid security is specified pursuant to ITB 19.1, the bid security shall be a demand guarantee in any of the following forms at the Bidder's option:
- (a) an unconditional guarantee issued by a bank or financial institution (such as an insurance, bonding or surety company);
 - (b) an irrevocable letter of credit;
 - (c) a cashier's or certified check; or
 - (d) another security **specified in the BDS**,

from a reputable source from an eligible country. If the unconditional guarantee is issued by a financial institution located outside the Employer's Country, the issuing financial institution shall have a correspondent financial institution located in the Employer's Country to make it enforceable. In the case of a bank guarantee, the bid security shall be submitted either using the Bid Security Form included in Section IV, Bidding Forms, or in another substantially similar format approved by the Employer prior to bid

submission. The bid security shall be valid for twenty-eight (28) days beyond the original validity period of the bid, or beyond any period of extension if requested under ITB 18.2.

- 19.4 If a bid security or Bid Securing Declaration is specified pursuant to ITB 19.1, any bid not accompanied by a substantially responsive bid security or Bid-Securing Declaration shall be rejected by the Employer as non responsive.
- 19.5 If a bid security is specified pursuant to ITB 19.1, the bid security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing the Contract and furnishing the performance security and if required in the BDS, the Environmental, Social, Health and Safety (ESHS) Performance Security pursuant to ITB 42.
- 19.6 The bid security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required performance security, and if required in the BDS, the Environmental, Social, Health and Safety (ESHS) Performance Security.
- 19.7 The bid security may be forfeited or the Bid-Securing Declaration executed:
 - (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid, or any extension thereto provided by the Bidder; or
 - (b) if the successful Bidder fails to:
 - (i) sign the Contract in accordance with ITB 41; or
 - (ii) furnish a performance security and if required in the BDS, the Environmental, Social, Health and Safety (ESHS) Performance Security in accordance with ITB 42.
- 19.8 The bid security or the Bid-Securing Declaration of a JV shall be in the name of the JV that submits the bid. If the JV has not been legally constituted into a legally enforceable JV at the time of bidding, the bid security or the Bid-Securing Declaration shall be in the names of all future members as named in the letter of intent referred to in ITB 4.1 and ITB 11.2.

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, or
- (b) if the successful Bidder fails to sign the Contract in accordance with ITB 41; or furnish a performance security and if required in the BDS, the Environmental, Social, Health and Safety (ESHS) Performance Security in accordance with ITB 42;

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

20. Format and Signing of Bid

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

20.2 The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation **as specified in the BDS** and shall be attached to the bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the bid where entries or amendments have been made shall be signed or initialed by the person signing the bid.

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

20.4 Any 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

21.1 The Bidder shall enclose the original and all copies of the bid, including alternative bids, if permitted in accordance

- Bids** 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 specified 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 **specified in the BDS. When so specified in the BDS**, bidders shall have the option of submitting their bids electronically. Bidders submitting bids electronically shall follow the electronic bid submission procedures **specified in the BDS**.
- 22.2 The Employer may, at its discretion, extend the deadline for the submission of bids by amending the Bidding 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 Except in the cases specified in ITB 23 and 24, the Employer shall publicly open and read out in accordance with ITB 25.3 all bids received by the deadline, at the date, time and place **specified in the BDS**, in the presence of Bidders` designated representatives and anyone who choose to attend. Any specific electronic bid opening procedures required if electronic bidding is permitted in accordance with ITB 22.1, shall be **as specified in the BDS**.

25.2 First, envelopes marked “WITHDRAWAL” shall be opened and read out and the envelope with the corresponding bid shall not be opened, but returned to the Bidder. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening. Next, envelopes marked “SUBSTITUTION” shall be opened and read out and exchanged with the corresponding bid being substituted, and the substituted bid shall not be opened, but returned to the Bidder. No bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at bid opening. Envelopes marked “MODIFICATION” shall be opened and read out with the corresponding bid. No bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at bid opening. Only 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 total Bid Price, per lot (contract) if applicable, including any discounts and alternative bids; the presence or absence of a bid security, if required; and any other details as the Employer may consider appropriate. Only discounts and alternative bids read out at bid opening shall be considered for evaluation. The Letter of Bid and the Bill of Quantities are to be initialed by representatives of the Employer attending bid opening in the manner **specified in the BDS**. The Employer shall neither discuss the merits of any bid nor reject any bid (except for late bids, in accordance with ITB 23.1).
- 25.4 The Employer shall prepare a record of the bid opening that shall include, as a minimum: the name of the Bidder and whether there is a withdrawal, substitution, or modification; the Bid Price, per lot (contract) if applicable, including any discounts and alternative bids; and the presence or absence of a bid security, if one was required. The Bidders' representatives who are present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders.

E. Evaluation and Comparison of Bids

- 26. Confidentiality**
- 26.1 Information relating to the evaluation of bids and recommendation of contract award shall not be disclosed to Bidders or any other persons not officially concerned with the bidding process until information on Contract award is communicated to all Bidders in accordance with ITB 40.
- 26.2 Any attempt by a Bidder to influence the Employer in the evaluation of the bids or Contract award decisions may result in the rejection of its bid.
- 26.3 Notwithstanding ITB 26.2, from the time of bid opening to the time of Contract award, if a Bidder wishes to contact the Employer on any matter related to the bidding process, it shall do so in writing.
- 27. Clarification of Bids**
- 27.1 To assist in the examination, evaluation, and comparison of the bids, and qualification of the Bidders, the Employer may, at its discretion, ask any Bidder for a clarification of its bid, given a reasonable time for a response. Any clarification submitted by a Bidder that is not in response to a request by the Employer shall not be considered. The Employer's

request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease, in the prices or substance of the bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the bids, in accordance with ITB 31.

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

**28. Deviations,
Reservations,
and Omissions**

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

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

**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 Documents 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 Documents, 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 Documents, 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.
- 30.2 Provided that a bid is substantially responsive, the Employer may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.
- 30.3 Provided that a bid is substantially responsive, the Employer shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price 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 specified in Section III, Evaluation and Qualification Criteria.
- 31. Correction of Arithmetical Errors**
- 31.1 Provided that the bid is substantially responsive, the Employer shall correct arithmetical errors on the following basis:
- (a) if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected, unless in the opinion of the Employer there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected;

- (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.
- 31.2 Bidders shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with ITB 31.1, shall result in the rejection of the Bid.
- 32. Conversion to Single Currency** 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.
- 33. Margin of Preference** 33.1 **Unless otherwise specified in the BDS,** a margin of preference for domestic bidders¹ shall not apply.
- 34. Subcontractors** 34.1 **Unless otherwise stated in the BDS,** the Employer does not intend to execute any specific elements of the Works by subcontractors selected in advance by the Employer.
- 34.2 In case of Prequalification, the Bidder's Bid shall name the same specialized subcontractor as submitted in the prequalification application and approved by the Employer.
- 34.3 In case of Postqualification, the Employer may permit subcontracting for certain specialized works as indicated in Section III 4.2. When subcontracting is permitted by the Employer, the specialized sub-contractor's experience shall be considered for evaluation. Section III describes the qualification criteria for sub-contractors.

¹ An individual firm is considered a domestic bidder for purposes of the margin of preference if it is registered in the country of the Employer, has more than 50 percent ownership by nationals of the country of the Employer, and if it does not subcontract more than 10 percent of the contract price, excluding provisional sums, to foreign contractors. JVs are considered as domestic bidders and eligible for domestic preference only if the individual member firms are registered in the country of the Employer or have more than 50 percent ownership by nationals of the country of the Employer, and the JV shall be registered in the country of the Borrower. The JV shall not subcontract more than 10 percent of the contract price, excluding provisional sums, to foreign firms. JVs between foreign and national firms will not be eligible for domestic preference.

35. Evaluation of Bids

- 34.4 Bidders may propose subcontracting up to the percentage of total value of contracts or the volume of works as **specified in the BDS**.
- 35.1 The Employer shall use the criteria and methodologies listed in this Clause. No other evaluation criteria or methodologies shall be permitted.
- 35.2 To evaluate a bid, the Employer shall consider the following:
- (a) the bid price, excluding Provisional Sums and the provision, if any, for contingencies in the Summary Bill of Quantities, 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 additional evaluation factors are specified in Section III, Evaluation and Qualification Criteria;
- 35.3 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.
- 35.4 If these Bidding Documents allows Bidders to quote separate prices for different 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.
- 35.5 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.

- 36. Comparison of Bids** 36.1 The Employer shall compare the evaluated prices of all substantially responsive bids established in accordance with ITB 35.2 to determine the lowest evaluated bid.
- 37. Qualification of the Bidder** 37.1 The Employer shall determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated and substantially responsive bid either continues to meet (if prequalification applies) or meets (if postqualification applies) the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.
- 37.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17.1.
- 37.3 An affirmative determination shall be a prerequisite for award of the Contract to the Bidder. A negative determination shall result in disqualification of the bid, in which event the Employer shall proceed to the next lowest evaluated bid to make a similar determination of that Bidder's qualifications to perform satisfactorily.
- 38. Employer's Right to Accept Any Bid, and to Reject Any or All Bids** 38.1 The Employer reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all bids submitted and specifically, bid securities, shall be promptly returned to the Bidders.

F. Award of Contract

- 39. Award Criteria** 39.1 Subject to ITB 38.1, the Employer shall award the Contract to the Bidder who has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Documents, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

- 40. Notification of Award**
- 40.1 Prior to the expiration of the period of bid validity, the Employer shall notify the successful Bidder, in writing, 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”). At the same time, the Employer shall also notify all other Bidders of the results of the bidding and shall publish in *UNDB online* the results identifying the bid and lot (contract) numbers and the following information:
- (i) name of each Bidder who submitted a Bid;
 - (ii) bid prices as read out at Bid Opening;
 - (iii) name and evaluated prices of each Bid that was evaluated;
 - (iv) name of bidders whose bids were rejected and the reasons for their rejection; and
 - (v) name of the successful Bidder, and the Price it offered, as well as the duration and summary scope of the contract awarded.
- 40.2 Until a formal contract is prepared and executed, the notification of award shall constitute a binding Contract.
- 40.3 The Employer shall promptly respond in writing to any unsuccessful Bidder who, after notification of award in accordance with ITB 40.1, requests in writing the grounds on which its bid was not selected.
- 41. Signing of Contract**
- 41.1 Promptly upon notification, the Employer shall send the successful Bidder the Contract Agreement.
- 41.2 Within twenty-eight (28) days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Employer.
- 42. Performance Security**
- 42.1 Within twenty-eight (28) days of the receipt of notification of award from the Employer, the successful Bidder shall furnish the performance security and, if required in the BDS, the Environmental, Social, Health and Safety (ESHS) Performance Security in accordance with the General Conditions of Contract, subject to ITB 35.5, using for that purpose the Performance Security and ESHS Performance

Security Forms included in Section X, 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.

- 42.2 Failure of the successful Bidder to submit the above-mentioned Performance Security and, if required in the BDS, the Environmental, Social, Health and Safety (ESHS) 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: 001/2018 CESAN 2.B10
ITB 1.1	The Employer is: Companhia Espiritosantense de Saneamento – CESAN
ITB 1.1	The name of the ICB is: Turnkey Contract for the Sanitary Sewage Systems in the Municipality of Cariacica 1 (Lot I) and Cariacica 2 (Lot II) The identification number of the ICB is: 001/2018 CESAN 2.B10 The number and identification of lots (contracts) comprising this ICB is: Cariacica 1 (Lot I) and Cariacica 2 (Lot II)
ITB 2.1	The Borrower is: Espírito Santo State Government
ITB 2.1	Loan or Financing Agreement amount: US\$225,000,000 (two hundred twenty five million dollars)
ITB 2.1	The name of the Project is: Espírito Santo Integrated Sustainable Water Management Project
ITB 4.1	Maximum number of members in the JV shall be: not limited.
ITB 4.4	A list of debarred firms and individuals is available on the Bank's external website: http://www.worldbank.org/debarr .
ITB 4.8	This Bidding Process is not subject to prequalification.
B. Bidding Documents	
ITB 7.1	For clarification purposes only, the Employer's address is: Attention: Mr. Helio Sousa, President of Special Bidding Committee Street Address: Rua 7 de Setembro, 362, Palácio da Fonte Grande - Centro Floor/Room number: 7º andar, sala 709 City: Vitória - ES ZIP Code: 29.015-000 Country: Brazil Telephone: (55) (0xx27) 3636-1166 Electronic mail address: gestaogestao@seg.es.gov.br
ITB 7.1	Web page: https://www.cesan.com.br/investimentos/programa-de-gestao-integrada-das-aguas-e-da-paisagem-do-estado-do-espírito-santo/ICB001/2018/

ITB 7.4	A Pre-Bid meeting <u>will not</u> take place at the following date, time and place:
C. Preparation of Bids	
ITB 10.1	<p>The language of the bid is: English In addition, the bidding documents are translated into Portuguese language.</p> <p>Bids shall have the option to submit their bid in any one of the languages stated above. Bidders shall not submit Bids in more than one language.</p> <p>All correspondence exchange shall be in English or Portuguese languages.</p> <p>Languages for translation of supporting documents and printed literature are English or Portuguese.</p>
ITB 11.1 (h)	<p>The Bidder shall submit the following additional documents in its Bid:</p> <p>I - BRAZILIAN BIDDERS:</p> <ol style="list-style-type: none"> 1. proof of registration in the “Cadastro Nacional de Pessoas Jurídicas – CNPJ; 2. current Act of Constitution duly registered accompanied by the list of the relevant authority; 3. proof of fiscal regularity before the Social Security “INSS”, and the National Treasury, jointly issued by the Federal Revenue Service of Brazil (RFB) and the General Attorney of the National Treasury (PGFN); 4. proof of regularity with the FGTS; 5. proof of tax regularity before the State Treasury, in relation to ICMS of the Bidder’s domicile and from its headquarters; 6. proof of fiscal regularity before the Municipal Treasury, consisting of the certificate of securities from the Bidder’s domicile and from its headquarters; 7. certification of not having entered into bankruptcy or other failure proceeds, issued by the appropriate authorities for the Bidder itself and its headquarters issued not later than 180 (one hundred and eighty) days prior to the date of receipt of the bids: <ol style="list-style-type: none"> a) in the event that the certificate submitted is positive for judicial recovery, the Bidder shall present the approval by the appropriate court of its judicial recovery plan; b) if the Bidder is a subsidiary, it must also present the certificate of its headquarters, that is, both;

8. a statement that there are no supervening facts impeding the award of the contract to the Bidder, nor it is or was not considered inapt by the Government preventing it to participate in a bidding process or signing a contract with any agency or entities of the Federal, State and/or Municipal Public Administrations;
9. proof of non-existence of any type of debts in the Labor Court, by presenting a Certificate with Negative Debt of Labor Effects (CNDT);
10. a certificate of compliance with the Brazilian Labor Law, which prohibits the night, dangerous or harmful work to minors under 18 years of age, as well as the employment of minors under 14 years of age;
11. use the labor force from the prison system during the execution of the Works and/or Services, whenever it is applicable.
12. updated certificate of Legal Entity issued by the Regional Council of Engineering and Agronomy - CREA;
13. provide public or private consortium agreement, signed by all consortium members, stating their commitments to each other and to the object of this bidding, by including the following:
 - a) the given name for the consortium, which shall be composed by: ordering the social status of the companies which constitutes the consortium (summarized), starting with the name of the lead company and followed by the names of all other members;
 - b) the composition of the consortium indicating the participant's percentage of each consortium member;
 - c) the objective of the consortium;
 - d) the indication of the lead company that will represent the consortium in this current Bidding;
 - e) the power of attorney signed by all members of the Consortium granting the leader the authority to represent them in this Bidding process;
 - f) the statement of commitment to present the registry of the consortium, if contract is awarded.

II - FOREIGN BIDDERS:

Where available in their countries of origin, foreign bidders shall submit the following documents with its bid:

- a) proof of Bidder's Legal Status issued by the appropriated authorities in the Country where its headquarters is located, demonstrating the legal existence of the company in addition to the authorization to work abroad.
- b) certification of not having entered into bankruptcy or any other form of insolvency issued by the appropriated authorities;
 - (i) the Bidder may submit the above requirement in its original or

	<p style="text-align: center;">copies;</p> <p>the documents must be accompanied by a translation into English or Portuguese in accordance with the chosen language for its bid.</p> <p>III - ALL BIDDERS:</p> <p>Code of Conduct (ESHS)</p> <p>The Bidder shall submit its Code of Conduct that will apply to Contractor’s Personnel (as defined in Sub-clause 1.1.2.7 of the GC), to ensure compliance with its Environmental, Social, Health and Safety (ESHS) obligations under the contract, including but not limited to risks associated with labor influx, spread of communicable diseases, sexual harassment, gender based violence, sexual exploitation and abuse, illicit behavior and crime, and maintaining a safe environment etc.</p> <p>In addition, the Bidder shall detail how this Code of Conduct will be implemented. This will include: how it will be introduced into conditions of employment/engagement, what training will be provided, how it will be monitored and how the Contractor proposes to deal with any breaches.</p> <p>The Contractor shall be required to implement the agreed Code of Conduct.</p> <p>Management Strategies and Implementation Plans (MSIP) to manage the (ESHS) risks</p> <p>The Bidder shall submit Management Strategies and Implementation Plans (MSIP) to manage the following key Environmental, Social, Health and Safety (ESHS) risks:</p> <ul style="list-style-type: none"> • Traffic Management Plan to ensure safety of local communities from construction traffic; • Water Resource Protection Plan to prevent contamination of drinking water; • Boundary Marking and Protection Strategy for mobilization and construction to prevent offsite adverse impacts; • Strategy for obtaining Consents/Permits prior to the start of relevant works such as opening a quarry or borrow pit; • Gender based violence and sexual exploitation and abuse (GBV/SEA) prevention and response action plan. <p>The Contractor shall be required to submit for approval, and subsequently implement, the Contractor’s Environment and Social Management Plan (C-ESMP), in accordance with the Particular Conditions of Contract Sub-Clause 4.1, that includes the agreed Management Strategies and Implementation Plans described here.</p>
ITB 13.1	Alternative bids are not permitted.
ITB 13.2	Alternative times for completion are not permitted.
ITB 13.4	Alternative technical solutions are not permitted.

ITB 14.5	The prices quoted by the bidder shall be: subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract
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 reais, the name of the currency of the Employer’s country, 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 the Bidder for the payment of such foreign currency requirements, limited to no more than three foreign currencies.</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 shall apply for all payments under the Contract so that no exchange risk will be borne by the successful Bidder.</p>
ITB 18.1	The bid validity period shall be 120 (one hundred and twenty) days.
ITB 18.3 (a)	Not Applicable
ITB 19.1	<p>A <i>Bid Security</i> is required.</p> <p>A Bid-Securing Declaration is not required.</p> <p>If a bid security shall be required, the amount and currency of the bid security shall be:</p> <p>LOT I: US\$1,000,000.00 (one million American Dollars) or R\$ 3.200.000,00 (three million and two hundred thousand reais) or its equivalent in a convertible currency and;</p> <p>LOT II: US\$250,000.00 (two hundred and fifty thousand American Dollars) or R\$ 800.000,00 (eight hundred thousand reais) or its equivalent in a convertible currency;</p> <p>NOTE:</p> <p>(i) For both Lots the amounts for each Lot security should be summed up as they are accumulative;</p>
ITB 19.3 (d)	Other types of acceptable securities: None

ITB 19.9	Not Applicable
ITB 20.1	In addition to the original of the bid, the number of copies is: 01 (one) In addition, an electronic copy shall be presented in “PDF” format saved in a CD or pen drive. This version shall be equally signed, sealed and delivered within the same envelope of the printed ones.
ITB 20.2	The written confirmation of authorization to sign on behalf of the Bidder shall consist of: a Letter of Attorney
D. Submission and Opening of Bids	
ITB 22.1	For bid submission purposes only, the Employer’s address is : Attention: SPECIAL BIDDING COMMITTEE Executive-Secretariat of the Steering Committee of the Program Secretaria de Estado de Governo/Subsecretaria de Captação de Recursos Street Address: Rua 7 de Setembro, 362, Palácio da Fonte Grande - Centro Floor/Room number: 7º andar, sala 709 City: Vitória, ES ZIP Code: 29.015-000 Country: Brazil The deadline for bid submission is: Date: August 28, 2018 Time: 10:00 a.m. Bidders shall not have the option of submitting their bids electronically.
ITB 25.1	The bid opening shall take place at: Secretaria de Estado de Governo/Subsecretaria de Captação de Recursos Executive-Secretariat of the Steering Committee of the Program Street Address Rua 7 de Setembro, 362, Palácio da Fonte Grande - Centro Floor/Room number: 7º andar, sala 709 City: Vitória, ES Country: Brazil Date: August 28, 2018 Time: 10:00 a.m.
ITB 25.3	The Letter of Bid and Priced Bill of Quantities shall be initialed by 03 (three) representatives of the Employer conducting Bid opening.

E. Evaluation, and Comparison of Bids	
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: R\$ (Brazilian Real)</p> <p>The source of exchange rate shall be: <i>Banco Central do Brasil</i></p> <p>The date for the exchange rate shall be: 28 days before the Bid Opening Ceremony – or August 28, 2018.</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 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 33.1	A margin of preference will not apply.
ITB 34.1	At this time the Employer <i>does not</i> intend to execute certain specific parts of the Works by sub-contractors selected in advance.
ITB 34.4	<p>Contractor’s proposed subcontracting: Maximum percentage of subcontracting permitted is: 30% (thirty percent) of the total contract amount.</p> <p>Bidders planning to subcontract more than 10% (ten percent) of total volume of work shall specify, in the Letter of Bid, the activity (ies) or parts of the works to be subcontracted along with complete details of the sub-contractors and their qualification and experience. The qualification and experience of the sub-contractors must meet the minimum criteria for the relevant work to be subcontracted failing which such sub-contractors will not be permitted to participate.</p> <p>Sub-contractors’ qualification and experience will not be considered for evaluation of the Bidder. The Bidder on its own (without taking into account the qualification and experience of the sub-contractor) should meet the qualification criteria.</p>
ITB 42.1 and 42.2	An Environmental, Social, Health and Safety (ESHS) Performance Security is not required.

Section III. Evaluation and Qualification Criteria (Without Prequalification)

This Section contains all the criteria that the Employer shall use to evaluate bids and qualify Bidders. In accordance with ITB 35 and ITB 37, no other factors, methods or criteria shall be used. The Bidder shall provide all the information requested in the forms included in Section IV, Bidding Forms.

Wherever a Bidder is required to state a monetary amount, Bidders should indicate the USD equivalent using the rate of exchange determined as follows:

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

Exchange rates shall be taken from the publicly available source identified in the ITB 32.1. Any error in determining the exchange rates in the Bid may be corrected by the Employer.

1. Domestic Preference

Not Applicable

2. Evaluation

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

2.1 Assessment of adequacy of Technical Proposal with Requirements

2.2 Multiple Contracts, if permitted under ITB 35.4, will be evaluated as follows:

Award Criteria for Multiple Contracts [ITB 35.4:

Lots

Bidders have the option to Bid for any one or more lots. Bids will be evaluated lot-wise, taking into account discounts offered, if any, for combined lots. The contract(s) will be awarded to the Bidder or Bidders offering the lowest evaluated cost to the Employer for combined lots, subject to the selected Bidder(s) meeting the required qualification criteria for lot or combination of lots as the case may be.

Qualification Criteria for Multiple Contracts:

Section III describes criteria for qualification for each lot (contract) for multiple lots (contracts). The criteria for qualification is aggregate minimum requirement for respective lots as specified under items 3.1, 3.2, 4.2(a) and 4.2(b). However, with respect to the specific experience under item 4.2 (a) of Section III:

N is the minimum number of contracts

V is the minimum value of a single contract

(a) For one Contract:

(i) N contracts, each of minimum value V; or

(ii) Less than or equal to N contracts, each of minimum value V, but with total value of all contracts equal or more than $N \times V$.

(b) For multiple Contracts

(i) Minimum requirements for combined contract(s) shall be the aggregate requirements for each contract for which the bidder has submitted bids as follows, and N1,N2,N3, etc. shall be different contracts:

Lot 1: N1 contracts, each of minimum value V1;

Lot 2: N2 contracts, each of minimum value V2;

----etc, **or**

(ii) Lot 1: N1 contracts, each of minimum value V1; or number of contracts less than or equal to N1, each of minimum value V1, but with total value of all contracts equal or more than $N1 \times V1$.

Lot 2: N2 contracts, each of minimum value V2; or number of contracts less than or equal to N2, each of minimum value V2, but with total value of all contracts equal or more than $N2 \times V2$.

2.3 Alternative Completion Times are not permitted

2.4 Technical alternatives are not permitted

2.5 Specialized Subcontractors

Only the specific experience of sub-contractors for specialized works permitted by the Employer will be considered. The general experience and financial resources of the specialized sub-contractors shall not be added to those of the Bidder for purposes of qualification of the Bidder.

The specialized sub-contractors proposed shall be fully qualified for their work proposed, and meet the following criteria:

3. Qualification

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

Eligibility and Qualification Criteria		Compliance Requirements					Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
2. Historical Contract Non-Performance							
2.1	History of Non-Performing Contracts	Non-performance of a contract ² did not occur as a result of contractor default since 1 st January 2016.	Must meet requirement ¹²	Must meet requirements	Must meet requirement ³	N/A	Form CON-2
2.2	Suspension Based on Execution of Bid Securing Declaration by the Employer or withdrawal of the Bid within Bid validity	Not under suspension based on execution of a Bid Securing Declaration pursuant to ITB 4.6 or withdrawal of the Bid pursuant ITB 19.9.	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Bid Submission Form
2.3	Pending Litigation	Bidder's financial position and prospective long term profitability sound according to criteria established in 3.1 below and assuming that all pending litigation will be resolved against the Bidder	Must meet requirement	N/A	Must meet requirement	N/A	Form CON – 2
2.4	Litigation History	No consistent history of court/arbitral award	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Form CON – 2

² Non performance, as decided by the Employer, shall include all contracts where (a) non performance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Non performance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Non performance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation 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.

³ This requirement also applies to contracts executed by the Bidder as JV member.

Eligibility and Qualification Criteria		Compliance Requirements			Documentation		
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
		decisions against the Bidder ⁴ since 1 st January 2016					
2.5	Declaration: Environmental, Social, Health, and Safety (ESHS) past performance	Declare any civil work contracts that have been suspended or terminated and/or performance security called by an employer for reasons related to the non-compliance of any environmental, or social, (including sexual exploitation and abuse (SEA) and gender based violence (GBV)), or health or safety requirements or safeguard in the past five years ⁵ .	Must make the declaration. Where there are Specialized Sub-contractor/s, the Specialized Sub-contractor/s must also make the declaration.	N/A	Each must make the declaration. Where there are Specialized Sub-contractor/s, the Specialized Sub-contractor/s must also make the declaration.	N/A	Form CON-3 ESHS Performance Declaration

⁴ The Bidder shall provide accurate information on the letter of Bid about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last five years. A consistent history of court/arbitral awards against the Bidder or any member of a joint venture may result in disqualifying the Bidder.

⁵ The Employer may use this information to seek further information or clarifications in carrying out its due diligence.

Eligibility and Qualification Criteria		Compliance Requirements			Documentation		
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
3. Financial Situation and Performance							
3.1	Financial Capabilities	<p>(i) The Bidder shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements estimated as</p> <p>For Lot I - US\$4.500.000,00 (four million and five hundred American dollars);</p> <p>For Lot II – US\$ 1.400.000,00 (one million and four hundred American dollars), for contract(s) deducting other Bidder’s commitments.</p> <p>(ii) The Bidders shall also demonstrate, to the satisfaction of the Employer, that it has adequate sources of finance to meet the cash flow requirements on works currently in</p>	<p>Must meet requirement</p> <p>Must meet requirement</p>	<p>Must meet requirement</p> <p>Must meet requirement</p>	<p>Must meet 20% (twenty percent) of the requirement</p> <p>N/A</p>	<p>Must meet 40% (fourty percent) of the requirement</p> <p>N/A</p>	<p>Form FIN – 3.1, with attachments</p>

Eligibility and Qualification Criteria		Compliance Requirements				Documentation	
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
		progress and for future contract commitments. (iii) The audited balance sheets or, if not required by the laws of the Bidder's country, other financial statements acceptable to the Employer, for the last 5 (five) years shall be submitted and must demonstrate the current soundness of the Bidder's financial position and indicate its prospective long-term profitability.	Must meet requirement	N/A	Must meet requirement	N/A	
3.2	Average Annual Construction Turnover	Minimum average annual construction turnover of LOT I: of US\$27,000,000.00 (twenty seven million American dollars); LOT II: of US\$8,400,000.00 (eight million and four hundred thousand American dollars), calculated as total certified payments received for contracts in progress and/or completed within the	Must meet requirement	Must meet requirement	Must meet 20% (twenty percent) of the requirement	Must meet 40% (fourty percent) of the requirement	Form FIN – 3.2

Eligibility and Qualification Criteria		Compliance Requirements			Documentation		
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
		last 5 (five) years, divided by 5 (five) years					

Eligibility and Qualification Criteria		Compliance Requirements			Documentation		
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
4. Experience							
4.1 (a)	General Construction Experience	Experience under construction contracts in the role of prime contractor, JV member, sub-contractor, or management contractor for at least the last 5 (five) years, starting 1 st January 2013 _____.	Must meet requirement	N/A	Must meet requirement	N/A	Form EXP – 4.1
4.2 (a)	Specific Construction & Contract Management Experience	(i) A minimum number of similar ⁶ contracts specified below that have been satisfactorily and substantially ⁷ completed as a prime contractor, joint venture member ⁸ , management contractor or sub-contractor ⁸ between 1st January 2013 and application submission	Must meet requirement	Must meet requirement ⁹	N/A	N/A	Form EXP 4.2(a)

⁶ The similarity shall be based on the physical size, complexity, methods/technology and/or other characteristics described in Section VII, Work's Requirements. Summation of number of small value contracts (less than the value specified under requirement) to meet the overall requirement will not be accepted.

⁷ Substantial completion shall be based on 80% or more works completed under the contract.

⁸ For contracts under which the Bidder participated as a joint venture member or sub-contractor, only the Bidder's share, by value, shall be considered to meet this requirement.

⁹ In the case of JV, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity. In determining whether the JV meets the requirement of total number of contracts, only the number of contracts completed by all members each of value equal or more than the minimum value required shall be aggregated.

Eligibility and Qualification Criteria		Compliance Requirements			Documentation		
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
		deadline: (i) N = 2 (two) contracts, each of minimum value V = US\$41,000,000.00 (fourty one million American dollars) for Lot I ; and US\$11,800,000.00 (eleven million and eight hundred American dollars) for Lot II ; Or (ii) Less than or equal to N contracts, each of minimum value V, but with total value of all contracts equal or more than N x V					
4.2 (b)		For the above and any other contracts completed and under implementation as prime contractor, joint venture member, management contractor or sub-contractor ¹⁰ on or after the first day of the calendar year during	Must meet requirements	Must meet requirements	Must meet the following requirements for the key activities listed below Lot I: 26 km of sewage collection networks, 4 sewage pumping station of 20 l/s, 3	Must meet the following requirements for the key activities listed below Lot I: 52 km of sewage collection networks, 8 sewage pumping station of 20 l/s, 5	Form EXP – 4.2 (b)

¹⁰ For contracts under which the Bidder participated as a joint venture member or sub-contractor, only the Bidder’s share shall be counted to meet this requirement.

Eligibility and Qualification Criteria		Compliance Requirements			Documentation		
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
		the period stipulated in 4.2 (a) above ¹¹ , a minimum construction experience in the following key activities successfully completed ¹² : Lot I: 130 km of sewage collection networks, 19 sewage pumping station of at least 20 l/s, 12 km of pressure sewer line. Lot II: 23 km of sewage collection networks, 2 sewer pumping station of at least 80 l / s, 8 km of pressure sewer line.			km of pressure sewer line. Lot II: 4 km of sewage collection networks, 1 sewer pumping station of 80 l/s, 2 km of pressure sewer line	km of pressure sewer line. Lot II: 9 km of sewage collection networks, 1 sewer pumping station of 80 l/s, 3 km of pressure sewer line	

¹¹ The required construction quantities to support the minimum construction experience requirement are the result of the average annual volumes for the five year period.

¹² Volume, number or rate of production of any key activity can be demonstrated in one or more contracts combined if executed during same time period. The rate of production shall be the annual production rate for the key construction activity (or activities).

3.5 Contractor's Representative and Key Personnel

The Bidder must demonstrate that it will have a suitably qualified Contractor's Representative and suitably qualified (and in adequate numbers) Key Personnel, as described in the table below.

The Bidder shall provide details of the Contractor's Representative and Key Personnel and such other Key Personnel that the Bidder considers appropriate to perform the Contract, together with their academic qualifications and work experience. The Bidder shall complete the relevant Forms in Section IV, Bidding Forms.

The Contractor shall require the Employer's consent to substitute or replace the Contractor's Representative (reference General Conditions of Contract Sub Clause 4.3) and any of the Key Personnel (reference the Particular Conditions of Contract Sub Clause 1.1.2.7).

Contractor's Representative and Key Personnel for LOT 1

Item No.	Position/ specialization	Relevant academic qualifications	Minimum years of relevant work experience
1	Contract Coordinator / Enterprise Management	Graduation in Engineering (BA) with a minimum of fifteen (15) years experience in coordinating and implementating a project of equivalent size.	Minimum of ten (10) years experience in coordinating the works of sewage systems with equivalent size of the lot in urban areas, particularly streets.
2	Contract Manager	Graduation in Engineering (BA) with a minimum of ten (10) years experience in coordinating and implementating a project of equivalent size	Minimum of five (05) years experience in coordinating the works of sewage systems with equivalent size of the lot in urban areas, particularly streets.
3	Environmental Specialist	Professional graduate environmental engineering or with specialization in the environment. Minimum of five (05) years experience in the sanitation area	Demonstrate experience of participating in, at least, two (02) works contract with complexity and similar size to the present specification.
4	Social Specialist	Professional graduate in social worker or with specialization in the social area. Minimum of five (05) years of experience in community relations and sanitation area.	Demonstrate experience in, at least, one (01) contract of works in sanitary sewage system with intervention in urban areas.

Contractor's Representative and Key Personnel for LOT 2

Item No.	Position/ specialization	Relevant academic qualifications	Minimum years of relevant work experience
1	Contract Coordinator / Enterprise Management	Graduation in Engineering (BA) with a minimum of fifteen (15) years experience in coordinating and implementating a project of equivalent size.	Minimum of ten (10) years experience in coordinating the works of sewage systems with equivalent size of the lot in urban areas, particularly streets.
2	Contract Manager	Graduation in Engineering (BA) with a minimum of ten (10) years experience in coordinating and implementating a project of equivalent size	Minimum of five (05) years experience in coordinating the works of sewage systems with equivalent size of the lot in urban areas, particularly streets.
3	Environmental Specialist	Professional graduate environmental engineering or with specialization in the environment. Minimum of five (05) years experience in the sanitation area	Demonstrate experience of participating in, at least, two (02) works contract with complexity and similar size to the present specification.
4	Social Specialist	Professional graduate in social worker or with specialization in the social area. Minimum of five (05) years of experience in community relations and sanitation area.	Demonstrate experience in, at least, one (01) contract of works in sanitary sewage system with intervention in urban areas.

3.6 Equipment

The Bidder must demonstrate that it has the key equipment listed hereafter:

For LOT I

No.	Equipment Type and Characteristics	Minimum Number required
1	Retro Excavator	10
2	Heavy-Duty Excavator	<u>2</u>
3	Munck Truck 3 ton capacity	<u>2</u>
4	Dump Truck	<u>12</u>

For LOT II

No.	Equipment Type and Characteristics	Minimum Number required
1	Retro Excavator	2
2	Heavy-Duty Excavator	<u>1</u>
3	Munck Truck 3 ton capacity	<u>1</u>
4	Dump Truck	<u>3</u>

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

Section IV. Bidding Forms

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Letter of Bid

Date: _____
 ICB No.: **001/2018 CESAN 2.B10**
 Invitation for Bid No.: **001/2018 CESAN 2.B10**
 Alternative No.: _____

To: _____

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB 8) _____;
- (b) We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;
- (c) We have not been suspended nor declared ineligible by the Employer based on execution of a Bid Securing Declaration in the Employer's country in accordance with ITB 4.6.
- (d) We offer to execute in conformity with the Bidding Documents the following Works: _____;
- (e) The total price of our Bid, excluding any discounts offered in item (f) below is:
 In case of only one lot, total price of the Bid _____
 In case of multiple lots, total price of each lot _____
 In case of multiple lots, total price of all lots (sum of all lots) _____;
- (f) The discounts offered and the methodology for their application are:
 i) The discounts offered are: _____
 ii) The exact method of calculations to determine the net price after application of discounts is shown below: _____
 _____;
- (g) Our bid shall be valid for a period of 120 (one hundred and twenty) days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

- (h) If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents;
- (i) We are not participating, as a Bidder or as a subcontractor, in more than one bid in this bidding process in accordance with ITB 4.2(e), other than alternative bids submitted in accordance with ITB 13;
- (j) We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by a member of the World Bank Group or a debarment imposed by the World Bank Group in accordance with the Agreement for Mutual Enforcement of Debarment Decisions between the World Bank and other development banks. Further, we are not ineligible under the Employer's country laws or official regulations or pursuant to 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;¹³
- (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 any type of fraud and corruption.

¹³ Bidder to use as appropriate.

Name of the Bidder* _____
Name of the person duly authorized to sign the Bid on behalf of the Bidder** _____

Title of the person signing the Bid _____

Signature of the person named above _____

Date signed _____ day of _____,

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

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

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_____
INCC Mão-de-Obra COL.1	Works	Fundação Getulio Vargas – FGV	Base date is the month before the deadline for bid submission		B: 0.18 to 0.26
INCC Materiais de Construção COL.2	Materials	Fundação Getulio Vargas – FGV			C: 0.58 to 0.68
IPA16EP-DI Máquinas, aparelhos e equipamentos (1416650)	Machinery	Fundação Getulio Vargas – FGV			D: 0.10 to 0.20
Total					1.00

Table B. Foreign Currency (FC)

State type: [If the Bidder is allowed to receive payment in foreign currencies this table shall be used. If Bidder wishes to quote in more than one foreign currency (up to three currencies permitted) then 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: _____ B: _____ C: _____ D: _____ E: _____
Total						1.00

Table C. Summary of Payment Currencies

Table: Alternative A

For[insert name of Section of the Works]

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 Total Bid Price (TBP) $\frac{100 \times C}{TBP}$
Local currency _____		1.00		
Foreign currency #1 _____				
Foreign currency #2 _____				
Foreign currency # _____				
Total Bid Price				100.00
Provisional sums expressed in local currency	Not applicable		Not applicable	
TOTAL BID PRICE (including provisional sum)				

Bill of Quantities

Bill No. 1: General Items

For Lot I – Cariacica 1:

<i>Item no.</i>	<i>Description</i>	<i>Unit</i>	<i>Quantity</i>	<i>Rate</i>	<i>Amount</i>
1	Technical Documentation (Upon delivery and acceptance, in each stage, at the completion of the product).				
1.1	Restoration Project of the Sewage Treatment Plant at <i>Cariacica Sede</i> (headquarters)	Unit	1		
1.2	Sewage Collection System Projects	Unit	1		
1.3	As Built	Unit	1		
1.4	Environmental and social study of the systems to be executed and installed in accordance with the respective guidelines, published in the World Bank website for Project ID No.: P130682 and Management Strategies and Implementation Plans (MSIP) to manage the (ESHS) risks.	Unit	1		
1.5	Plan for the involuntary resettlement / expropriation of the systems that will be executed and installed in compliance with the guidelines published in the World Bank website for project ID No.: P130682. Except payments for the acquisition and expropriation of the areas.	Unit	1		
2	Sewer pumping stations - EEEB (Upon delivery and acceptance, in each stage, at the completion of the product). The bid price should consider all sewage pumping stations required for the collector systems).				
2.1	Infra and Super structure in rein-forced concrete. Sewer pumping stations for flow up to 3 l/ s	Unit	26		
2.2	Electromechanical assembly, hydraulic, commissioning and urbanization. Sewer pumping stations for flow up to 3 l/ s.	Unit	26		
2.3	Infra and Super structure in rein-forced concrete. Sewer pumping stations for flow rate above 3 l/ s	Unit	24		

2.4	Electromechanical assembly, hydraulic, commissioning and urbanization. Sewer pumping stations for flow rate above 3 l / s.	Unit	24		
3	Sewage Collector System and Pressure Sewer Line (Upon delivery and acceptance, in each stage, at the completion of the product and in the units of the effective connections).				
3.1	Sewage network and trunk collectors (including PV's ² and building connection boxes).	M	162.918		
3.2	Pressurized Sewage	M	15.000		
3.3	Pressurized sewage, non-destructive method execution	M	100		
3.4	Social Work: Customers and properties identified by the label " Can Connect ", will receive a sewage connection.	Unit	10.429		
3.5	Submission of a quarterly report demonstrating that the actions which are part of the Social Communication and Adhesion Plan, is being implemented in line with the schedule of the works currently in execution. For this item, Bidders should predict the entire cost of the Plan activities.	Unit	13		
3.6	Sewage connections: Properties connected to the sewage networks (home and residence sewer inter connection) duly registered in the CESAN commercial system. Required at least 10,429 connections.	Unit	10.429		
4	Complementary Services: (Upon delivery and acceptance, in each stage, at the completion of the product).				
4.1	Complete Cariacica Sede (headquarters) Sewage Treatment System , comprised of a sewer pumping station, a pressure sewer line, renovation with a recovery and complementing the steel installations (ETE), implementation of the interceptor sewer, the area urbanization and their respective accesses.	Unit	1		
4.2	Implementation of telemetry at the sewer pumping station (EEEEB's) with flow over 4 l / s, with the interface of the ETE Bandeirantes supervisory	Unit	24		
4.3	Deactivation of the current Mocambo ETE (3 l / s), implementation of a sewage and sewer pumping station interconnecting it to the Cariacica Sede (headquarters) system.	Unit	1		

4.4	Deactivation of the current <i>ETE Padre Gabriel</i> , and implementation of a pressure sewer line, and sewer pumping station, which will be interconnected with <i>Bandeirantes ETE</i> .	Unit	1		
4.5	Urban improvements in the area of <i>Bandeirantes ETE</i> , landscape, pavement, lighting and other services.	Unit	1		
4.6	Completion of the sewer pumping station and pressure sewer line of the <i>Nova Rosa da Penha</i> Neighborhood.	Unit	1		
4.7	Urbanization and Improvements of <i>Nova Rosa da Penha ETE</i> .	Unit	1		
Total for Bill No. 1 – Lot I (carried forward to Summary, p. ____)					

Bill No. 1: General Items

For Lot II – Cariacica 2:

<i>Item no.</i>	<i>Description</i>	<i>Unit</i>	<i>Quantity</i>	<i>Rate</i>	<i>Amount</i>
1	Technical Documentation (Upon delivery and acceptance, in each stage, at the completion of the product).				
1.1	Sewage Collection System Projects	Unit	1		
1.2	As Built	Unit	1		
1.3	Environmental and social study of the systems to be executed and installed in accordance with the respective guidelines, published in the World Bank website for Project ID No.: P130682 and Implementation Plans (MSIP) to manage the (ESHS) risks.	Unit	1		
1.4	Plan for the involuntary resettlement / expropriation of the systems that will be executed and installed in compliance with the guidelines published in the World Bank website for project ID No.: P130682. Except payments for the acquisition and expropriation of the areas.	Unit	1		
2	Sewer pumping stations - EEEB (Upon delivery and acceptance, in each stage, at the completion of the product). The bid price should consider all sewage pumping stations required for the collector systems).				
2.1	Infra and Super structure in rein-forced concrete. Sewer pumping stations for flow up to 3 l / s	Unit	3		
2.2	Electromechanical assembly, hydraulic, commissioning and urbanization. Sewer pumping stations for flow up to 3 l / s.	Unit	3		
2.3	Infra and Super structure in rein-forced concrete. Sewer pumping stations for flow rate above 3 l / s	Unit	8		
2.4	Electromechanical assembly, hydraulic, commissioning and urbanization. Sewer pumping stations for flow rate above 3 l / s.	Unit	8		

3	Sewage Collector System and Pressure Sewer Line (Upon delivery and acceptance, in each stage, at the completion of the product and in the units of the effective connections).				
3.1	Sewage network and trunk collectors (including PV's ² and building connection boxes).	M	29.265		
3.2	Pressurized Sewage	M	10.673		
3.3	Pressurized sewage, non-destructive method execution	M	100		
3.4	Social Work: Customers and properties identified by the label " <i>Can Connect</i> ", will receive a sewage connection.	Unit	3.070		
3.5	Submission of a quarterly report demonstrating that the actions which are part of the Social Communication and Adhesion Plan, is being implemented in line with the schedule of the works currently in execution. For this item, Bidders should predict the entire cost of the Plan activities.	Unit	13		
3.6	Sewage connections: Properties connected to the sewage networks (home and residence sewer inter connection) duly registered in the CESAN commercial system. Required at least 3,070 connections.	Unit	3.070		
Total for Bill No. 1 – Lot II					
(carried forward to Summary, p. ____)					

Bill No. 2: Earthworks

Not applicable

Bill No. 3: Culverts and Bridges

Not applicable

Schedule of Daywork Rates:

1. Labour

Not applicable

Schedule of Daywork Rates:

2. Materials

Not applicable

Schedule of Daywork Rates:

3. Contractor's Equipment

Not applicable

Daywork Summary

Not applicable

Summary of Specified Provisional Sums

Not Applicable

Grand Summary

Contract Name:

Contract No.:

<i>General Summary</i>	<i>Page</i>	<i>Amount</i>
Bill No. 1:		
Bill No. 2:		
Bill No. 3:		
—etc.—		
<i>Subtotal of Bills</i>	<i>(A)</i>	
<i>Total for Daywork (Provisional Sum)*</i>	<i>(B)</i>	<i>Not applicable</i>
<i>Specified Provisional Sums included in subtotal of billsⁱⁱ</i>	<i>(C)</i>	<i>Not applicable</i>
<i>Total of Bills Plus Provisional Sums (A + B + C)ⁱ</i>	<i>(D)</i>	
<i>Add Provisional Sum for Contingency Allowance (if any)ⁱⁱ</i>	<i>(E)</i>	<i>Not applicable</i>
<i>Bid Price (D + E) (Carried forward to Letter of Bid)</i>	<i>(F)</i>	

i) All Provisional Sums are to be expended in whole or in part at the direction and discretion of the Engineer in accordance with Sub-Clause 13.5 of the Conditions of Contract.

ii) To be entered by the Employer.

* For evaluation purposes, Provisional Sum, other than Daywork will be excluded

Technical Proposal

- Site Organization
- Method Statement
- Mobilization Schedule
- Construction Schedule
- ESHS Management Strategies and Implementation Plans
- Code of Conduct (ESHs)
- Equipment
- Key Personnel Schedule
- Others

Site Organization

Method Statement

Mobilization Schedule

Construction Schedule

ESHS Management Strategies and Implementation Plans

(ESHS-MSIP)

The Bidder shall submit comprehensive and concise Environmental, Social, Health and Safety Management Strategies and Implementation Plans (ESHS-MSIP) as required by ITB 11.1 (h) of the Bid Data Sheet. These strategies and plans shall describe in detail the actions, materials, equipment, management processes etc. that will be implemented by the Contractor, and its subcontractors.

In developing these strategies and plans, the Bidder shall have regard to the ESHS provisions of the contract including those as may be more fully described in the Works Requirements described in Section VII.

Code of Conduct: Environmental, Social, Health and Safety (ESHS)

The Bidder shall submit the Code of Conduct that will apply to the Contractor's employees and subcontractors as required by ITB 11.1 (h) of the Bid Data Sheet. The Code of Conduct shall ensure compliance with the ESHS provisions of the contract, including those as may be more fully described in the *Works Requirements described in Section VII*.

In addition, the Bidder shall submit an outline of how this Code of Conduct will be implemented. This will include: how it will be introduced into conditions of employment/engagement, what training will be provided, how it will be monitored and how the Contractor proposes to deal with any breaches.

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	

Personnel

Form PER -1

Contractor's Representative and Key Personnel Schedule

Bidders should provide the names and details of the suitably qualified Contractor's Representative and Key Personnel to perform the Contract. The data on their experience should be supplied using the Form PER-2 below for each candidate.

Contractor' Representative and Key Personnel

1.	Title of position: Contractor's Representative	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
2.	Title of position: <i>[Environmental Specialist]</i>	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
3.	Title of position: <i>[Health and Safety Specialist]</i>	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>

	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
4.	Title of position: <i>[Social Specialist]</i>	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
5.	Title of position: <i>[insert title]</i>	
	Name of candidate	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>

**Form PER-2:
Resume and Declaration
Contractor's Representative and Key Personnel**

Name of Bidder											
Position [#1]: <i>[title of position from Form PER-1]</i>											
Personnel information	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">Name:</td> <td style="width: 20%;">Date of birth:</td> </tr> <tr> <td>Address:</td> <td>E-mail:</td> </tr> <tr> <td colspan="2" style="height: 40px; vertical-align: top;">Professional qualifications:</td> </tr> <tr> <td colspan="2" style="height: 40px; vertical-align: top;">Academic qualifications:</td> </tr> <tr> <td colspan="2" style="height: 40px; vertical-align: top;">Language proficiency:<i>[language and levels of speaking, reading and writing skills]</i></td> </tr> </table>	Name:	Date of birth:	Address:	E-mail:	Professional qualifications:		Academic qualifications:		Language proficiency: <i>[language and levels of speaking, reading and writing skills]</i>	
Name:	Date of birth:										
Address:	E-mail:										
Professional qualifications:											
Academic qualifications:											
Language proficiency: <i>[language and levels of speaking, reading and writing skills]</i>											
details	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="height: 40px; vertical-align: top;">Address of employer:</td> </tr> <tr> <td style="width: 40%;">Telephone:</td> <td>Contact (manager / personnel officer):</td> </tr> <tr> <td>Fax:</td> <td></td> </tr> <tr> <td>Job title:</td> <td>Years with present employer:</td> </tr> </table>	Address of employer:		Telephone:	Contact (manager / personnel officer):	Fax:		Job title:	Years with present employer:		
Address of employer:											
Telephone:	Contact (manager / personnel officer):										
Fax:											
Job title:	Years with present employer:										

Summarize professional experience in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

Project	Role	Duration of involvement	Relevant experience
<i>[main project details]</i>	<i>[role and responsibilities on the project]</i>	<i>[time in role]</i>	<i>[describe the experience relevant to this position]</i>

Declaration

I, the undersigned *[insert either “Contractor’s Representative” or “Key Personnel” as applicable]*, certify that to the best of my knowledge and belief, the information contained in this Form PER-2 correctly describes myself, my qualifications and my experience.

I confirm that I am available as certified in the following table and throughout the expected time schedule for this position as provided in the Bid:

Commitment	Details
Commitment to duration of contract:	<i>[insert period (start and end dates) for which this Contractor’s Representative or Key Personnel is available to work on this contract]</i>
Time commitment:	<i>[insert period (start and end dates) for which this Contractor’s Representative or Key Personnel is available to work on this contract]</i>

I understand that any misrepresentation or omission in this Form may:

- (a) be taken into consideration during Bid evaluation;
- (b) result in my disqualification from participating in the Bid;
- (c) result in my dismissal from the contract.

Name of Contractor’s Representative or Key Personnel: *[insert name]*

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Bidder:

Signature: _____

Date: (day month year): _____

Bidders Qualification without prequalification

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

Form ELI -1.1

Bidder Information Form

Date: _____
 ICB No. and title: _____
 Page _____ of _____ pages

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

Form ELI -1.2

Bidder's JV Information Form (to be completed for each member of Bidder's JV)

Date: _____

ICB No. and title: _____

Page _____ of _____ pages

Bidder's JV name:
JV member's name:
JV member's country of registration:
JV member's year of constitution:
JV member's legal address in country of constitution:
JV member's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
1. Attached are copies of original documents of <ul style="list-style-type: none"> <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.3. <input type="checkbox"/> In case of a Government-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and absence of dependent status, in accordance with ITB 4.5.
2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

Form CON – 2

Historical Contract Non-Performance, Pending Litigation and Litigation History

Bidder's Name: _____
 Date: _____
 JV Member's Name _____
 ICB No. and title: _____
 Page _____ of _____ pages

Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria			
<input type="checkbox"/> Contract non-performance did not occur since 1 st January <i>[insert year]</i> specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.1.			
<input type="checkbox"/> Contract(s) not performed since 1 st January <i>[insert year]</i> specified in Section III, Evaluation and Qualification Criteria, requirement 2.1			
Year	Non-performed portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and US\$ equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for non performance: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>
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 2.3.			
<input type="checkbox"/> Pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3 as indicated below.			

Year of dispute	Amount in dispute (currency)	Contract Identification	Total Contract Amount (currency), USD Equivalent (exchange rate)
		Contract Identification: _____ Name of Employer: _____ Address of Employer: _____ Matter in dispute: _____ Party who initiated the dispute: _____ Status of dispute: _____	
<input type="checkbox"/> No pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3. <input type="checkbox"/> Pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3 as indicated below.			
Year of award	Outcome as percentage of Net Worth	Contract Identification	Total Contract Amount (currency), USD Equivalent (exchange rate)
		Contract Identification: Name of Employer: Address of Employer: Matter in dispute: Party who initiated the dispute: Status of dispute:	

Form CON – 3

Environmental, Social, Health, and Safety Performance Declaration

[The following table shall be filled in for the Bidder, each member of a Joint Venture and each Specialized Subcontractor]

Bidder’s Name: *[insert full name]*
 Date: *[insert day, month, year]*
 Joint Venture Member’s or Specialized
 Subcontractor’s Name: *[insert full name]*
 ICB No. and title: *[insert ICB number and title]*
 Page *[insert page number]* of *[insert total number]*
 pages

Environmental, Social, Health, and Safety Performance Declaration in accordance with Section III, Qualification Criteria, and Requirements			
<input type="checkbox"/> No suspension or termination of contract: An employer has not suspended or terminated a contract and/or called the performance security for a contract for reasons related to Environmental, Social, Health, or Safety (ESHS) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Factor 2.5.			
<input type="checkbox"/> Declaration of suspension or termination of contract: The following contract(s) has/have been suspended or terminated and/or Performance Security called by an employer(s) for reasons related to Environmental, Social, Health, or Safety (ESHS) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Factor 2.5. Details are described below:			
Year	Suspended or terminated portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and US\$ equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for suspension or termination: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>

<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for suspension or termination: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>
...	...	<i>[list all applicable contracts]</i>	...

Performance Security called by an employer(s) for reasons related to ESHS performance

Year	Contract Identification	Total Contract Amount (current value, currency, exchange rate and US\$ equivalent)
<i>[insert year]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for calling of performance security: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>

Form FIN - 3.1:

Financial Situation and Performance

Bidder's Name: _____

Date: _____

JV Member's Name _____

ICB No. and title: _____

Page _____ of _____ pages

1. Financial data

Type of Financial information in (currency)	Historic information for previous _____ years, _____ (amount in currency, currency, exchange rate*, USD equivalent)				
	Year 1	Year 2	Year 3	Year 4	Year 5
Statement of Financial Position (Information from Balance Sheet)					
Total Assets (TA)					
Total Liabilities (TL)					
Total Equity/Net Worth (NW)					
Current Assets (CA)					
Current Liabilities (CL)					
Working Capital (WC)					
Information from Income Statement					
Total Revenue (TR)					
Profits Before Taxes (PBT)					

Cash Flow Information					
Cash Flow from Operating Activities					

*Refer to ITB 15 for the exchange rate

2. Sources of Finance

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

No.	Source of finance	Amount (US\$ equivalent)
1		
2		
3		

3. Financial documents

The Bidder and its parties shall provide copies of financial statements for _____years pursuant Section III, Evaluation and Qualifications Criteria, Sub-factor 3.1. The financial statements shall:

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

Attached are copies of financial statements¹⁴ for the _____years required above; and complying with the requirements

¹⁴ If the most recent set of financial statements is for a period earlier than 12 months from the date of bid, the reason for this should be justified.

Form FIN - 3.2:
Average Annual Construction Turnover

Bidder's Name: _____

Date: _____

JV Member's Name _____

ICB No. and title: _____

Page _____ of _____ pages

Annual turnover data (construction only)			
Year	Amount Currency	Exchange rate	USD equivalent
<i>[indicate year]</i>	<i>[insert amount and indicate currency]</i>		
Average Annual Construction Turnover *			

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

Form FIN - 3.3:
Financial Resources

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

Financial Resources		
No.	Source of financing	Amount (US\$ equivalent)
1		
2		
3		

Form FIN - 3.4:
Current Contract Commitments / Works in Progress

Bidders and each member 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 US\$ Equivalent]	Estimated Completion Date	Average Monthly Invoicing Over Last Six Months [US\$/month]
1					
2					
3					
4					
5					

Form EXP - 4.1 General Construction Experience

Bidder's Name: _____

Date: _____

JV Member's Name _____

ICB No. and title: _____

Page ____ of ____ pages

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

Form EXP - 4.2(a)

Specific Construction and Contract Management Experience

Bidder's Name: _____

Date: _____

JV Member's Name _____

ICB No. and title: _____

Page _____ of _____ pages

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

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

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

Form EXP - 4.2(b)

Construction Experience in Key Activities

Bidder's Name: _____

Date: _____

Bidder's JV Member Name: _____

Sub-contractor's Name¹⁵ (as per ITB 34.2 and 34.3) _____

ICB No. and title: _____

Page _____ of _____ pages

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

1. Key Activity No One: _____

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

¹⁵ If applicable

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

2. Activity No. Two

3.

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

Form of Bid Security (Demand Guarantee)

Beneficiary: _____

Invitation for Bids No: _____

Date: _____

BID GUARANTEE No.: _____

Guarantor: _____

We have been informed that _____ (hereinafter called "the Applicant") has submitted or will submit to the Beneficiary its bid (hereinafter called "the Bid") for the execution of _____ under Invitation for Bids No. _____ ("the IFB").

Furthermore, we understand that, according to the Beneficiary's conditions, bids must be supported by a bid guarantee.

At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ (_____) upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:

- (a) has withdrawn its Bid during the period of bid validity set forth in the Applicant's Letter of Bid ("the Bid Validity Period"), or any extension thereto provided by the Applicant; or
- (b) having been notified of the acceptance of its Bid by the Beneficiary during the Bid Validity Period or any extension thereto provided by the Applicant, (i) has failed to execute the contract agreement, or (ii) has failed to furnish the performance security and, if required, the Environmental, Social, Health and Safety (ESHS) Performance Security, in accordance with the Instructions to Bidders ("ITB") of the Beneficiary's bidding document.

This guarantee will expire: (a) if the Applicant is the successful bidder, upon our receipt of copies of the contract agreement signed by the Applicant and the performance security and, if required, the Environmental, Social, Health and Safety (ESHS) Performance Security, issued to the Beneficiary in relation to such contract agreement; or (b) if the Applicant is not the successful bidder, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the bidding process; or (ii) twenty-eight days after the end of the Bid Validity Period.

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

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758.

[signature(s)]

Form of Bid-Securing Declaration

Not applicable

Section V. Eligible Countries

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

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

Under ITB 4.7(a) and 5.1: None

Under ITB 4.7(b) and 5.1: None

Section VI.

Bank Policy - Corrupt and Fraudulent Practices

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

“Fraud and Corruption:

1.16 It is the Bank’s policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.¹⁶ In pursuance of this policy, the Bank:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;¹⁷
 - (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;¹⁸
 - (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;¹⁹
 - (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;²⁰

¹⁶ In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

¹⁷ For the purpose of this sub-paragraph, “*another party*” refers to a public official acting in relation to the procurement process or contract execution. In this context, “*public official*” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

¹⁸ For the purpose of this sub-paragraph, “*party*” refers to a public official; the terms “*benefit*” and “*obligation*” relate to the procurement process or contract execution; and the “*act or omission*” is intended to influence the procurement process or contract execution.

¹⁹ For the purpose of this sub-paragraph, “*parties*” refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are plying to each other’s bid prices or other conditions.

- (v) "obstructive practice" is
- (aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or
 - (bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 1.16(e) below.
- (b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- (c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- (d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank's sanctions procedures,²¹ including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated²²;

²⁰ For the purpose of this sub-paragraph, "party" refers to a participant in the procurement process or contract execution.

²¹ A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank's sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

²² A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

- (d) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank.”

PART 2 –WORKS REQUIREMENTS

Section VII. Works Requirements

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Scope of Works, Specifications and Drawings

LOT I

TURNKEY PROJECT TECHNICAL SPECIFICATIONS FOR CARIACICA 1 MUNICIPALITY'S SEWERAGE SYSTEM DESIGN AND WORKS EXECUTION

Short scope and obligatory documentation

The scope of the works refers to implementation and complementation of Bandeirantes Sewerage Treatment System, Cariacica Sede and Nova Rosa da Penha, as delimited by polygonal in the plants of Table 1: DRAWINGS. The following documents should be considered as part of the Technical Specification of this Bidding Document:

- Arcabouço para o Gerenciamento Ambiental e Social do Programa (Vol. 1 main)
<http://pubdocs.worldbank.org/en/550541496937642539/Arcabouço-para-o-Gerenciamento-Ambiental-e-Social-do-Programa-Vol-1-main>
- Relatório de Avaliação Ambiental e Social – RAAS e Arcabouço para o Gerenciamento Ambiental e Social do Programa (Relatório Final Vol. 2 Anexos)
<http://pubdocs.worldbank.org/en/237001486152397410/Relatório-de-Avaliação-Ambiental-e-Social-RAAS-e-Arcabouço-para-o-Gerenciamento-Ambiental-e-Social-do-Programa-Relatório-Final-Vol-2-Anexos>
- Environmental and Social Assessment Report - RAAS and Framework for the Program's Environmental and Social Management - EXECUTIVE SUMMARY
<http://pubdocs.worldbank.org/en/466401496937887144/Environmental-and-Social-Assessment-Report-RAAS-and-Framework-for-the-Program-s-Environmental-and-Social-Management-EXECUTIVE-SUMMARY>
- Brazil - Espírito Santo Integrated Sustainable Water Management Project : resettlement plan : Marco Conceitual da Política de Reassentamento Involuntário
<http://documents.worldbank.org/curated/en/264851468015575157/Marco-Conceitual-da-Política-de-Reassentamento-Involuntário>
- Brazil - Espírito Santo Integrated Sustainable Water Management Project : resettlement plan (Vol. 2) : Plano de reassentamento involuntário (only in Portuguese)
<http://documents.worldbank.org/curated/en/454351468015570506/Plano-de-reassentamento-involuntário>

The present Specifications refers to ABNT (*Associação Brasileira de Normas Técnicas*) the Brazilian Standards but AWWA (American Water Works Association) standards can be used if the firm is not in obligation to use Brazilian Standards.

In this case, the firm should provide the equivalent norm to be used and the explanation of equivalence of the two norms, upfront the use of the AWWA norm. This is relevant for goods to be supplied, designs to be prepared, and works to constructed.

Specification

LOT I

TURNKEY PROJECT TECHNICAL SPECIFICATIONS FOR CARIACICA 1 MUNICIPALITY'S SEWERAGE SYSTEM DESIGN AND WORKS EXECUTION

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1- INTRODUCTION

The State Government of Espírito Santo, through its Government State Secretariat and *Companhia Espírito Santense de Saneamento* (CESAN), which is the executing agency for the works, signed a financing agreement with the World Bank, for the implementation of the Espírito Santo Integrated Sustainable Water Management Project, whose main objectives are to expand the coverage of sanitary sewage services, water resources management and reduction of water pollution. The implementation of Sanitary Sewage Systems in *Cariacica* (*Cariacica* 1), a municipality located in the State of Espírito Santo, associated with environmental and institutional management programs are structural actions capable of providing an effective sustainable development policy.

2- PURPOSE

To establish the technical specifications to contract studies, projects and the works execution for *Cariacica* Municipality, in Espírito Santo (Lot I).

These technical specifications and its attachments were prepared and are part of the International Competitive Bidding - ICB Nr: 001/2018 CESAN 2.B10, guided by "Guidelines - Procurement of Goods, Works, and Non-consulting Services Under IBRD Loans and IDA Credits & Grants by World Bank Borrowers (2011)".

3- OBJECT CONTEMPLATED BY THE AGREEMENT

The scope of the Lot I project to be implemented in *Cariacica* 1, provides for Sewerage System's Implementation/Complementation of *Bandeirantes*, *Cariacica* Sede and *Nova Rosa da Penha*, whose intervention areas are delimited by the plants annexed to this document, "Table 1: DRAWINGS".

4- SERVICE'S EXECUTION STAGES

The services that constitute the object of ICB 001/2018 Lot I are divided into two distinct phases and detailed below:

- **1st stage – Studies, Projects and Licenses:** develop studies and sewerage system's basic projects. The basic project's complete elaboration of *Cariacica*'s Sewerage Treatment Plant's refit should be prioritized.
The conception study and the basic projects should be presented to CESAN.

After the basic project has been completed, the Contractor must require to the municipal and environmental agencies for the respective project licenses, and will be responsible for follow-up until documents issuance, without prejudice to the schedule presented by the bidder neither to the maximum deadlines set forth in this document.

Prepare and deliver to CESAN, estates plans that will be expropriated for sanitary sewerage systems implementation, containing all documentation and its evaluation in accordance with the guidelines of the program's Involuntary Resettlement Framework (denominated "Framework for the Program's Environmental and Social Management", available at http://www.cesan.com.br/wp-content/uploads/2013/10/18-Arcabouco_para_o_Gerenciamento_SocioAmbiental_ES.pdf). From these documents, CESAN will carry out the expropriations, and the works beginning will only take place after the areas release by sub-basin.

The Contractor shall prepare system's environmental and social studies to be implemented and analyze the possibility of interference with cultural heritages and archaeological sites, in accordance with the criteria established in the manuals "Framework for the Program's Environmental and Social Management" and "Involuntary Resettlement Framework" (available in <http://www.cesan.com.br/wp-content/uploads/2013/10/6-Anexo-2-RAAS-Marco-Conceitual-de-Reassentamento.pdf>).

The Contractor links the beginning of phase 2 to compliance with phase 1. Failure to observe this condition shall not create a burden on the Employer.

- **2nd stage – The Works:** before the beginning of the works, the Contractor shall present the executive projects, as well as the environmental and social planning of the works in accordance with the procedures set out in the "Framework for Environmental and Social Management of the Program ", available on the CESAN website.

The Contractor shall arrange with the municipality the licensing for the execution of the works that are part of the contract, as well as fulfilling the requirements laid down in permits issued in the 1st. Phase.

5- MAIN SERVICES

5.1 Services Deployment

- a) The elaboration of the surveys, projects and execution of the engineering works must have engineers and technicians responsible registered in the "*Conselho Regional de Engenharia e Agronomia - CREA*" (<http://www.creaes.org.br/creaes/>) as determined by the national legislation;
- b) The Contractor must elaborate system's studies and projects in accordance with the bidding deed;

- c) The Contractor should consider the following premises to formulate its proposal: design the main structures in reinforced concrete, in accordance with NBR 15575-1 standard (<http://www.abntcatalogo.com.br/>) for a 50 (fifty) years of useful life and consider the Environmental Aggression Class (CAA) IV (very high level) of the NBR 6118: 2014 norm (<http://www.abntcatalogo.com.br/>). Environmental Aggression Class (CAA) III (high level) may be used in specific situations, provided that the justification presented is accepted by CESAN. From these conditions, the designer must adopt strength class of concrete, water:cement ratio and concrete cover for reinforcement according to NBR 6118: 2014 norm (<http://www.abntcatalogo.com.br/>). The admission of ACI 318-95 Construction Code Requirements for Structural Concrete or other US standards may be allowed provided that the high environmental aggression's conditions for corrosion protection of reinforcement for a 50-year useful life are obeyed;
- d) In order to ensure water tightness and delay attack of gases and chemical elements harmful to concrete and reinforcement, the bidder must provide waterproofing paints or concrete structure's waterproofing systems added to the Project measures;
- e) In accordance with the Program's documentation, the bidder must develop studies and environmental and social reports for actions and mitigating measures implementation in view of the impacts generated by the activities
- f) The Contractor must detail and implement the Program's Social Communication Plan and Adhesion (as described in item 5.3) with the objective of offering environmental and social technical support for the execution of engineering works, especially of residence sewer connection and residence sewer inter-connection. All impacts should be presumed, among them: alteration of vehicular traffic and bus routes, access, water and electricity supply interruption, among others;
- g) Other conditions that imply the issuance of authorizations or consent of public bodies (such as municipality, DER-ES / DNIT, Public Utility Companies, IEMA and others), are also Bidder responsibility;
- h) Determine sewer pumping stations and pipelines areas (sanitary sewer, pressure sewer line and interceptor sewer) for expropriation or easement purposes and carry out investigations at the Real Estate Registry Office if necessary. The contractor will be responsible for the elaboration of the expropriation plans, the social record of the beneficial owners or squatters, the area's subdivision, the technical specifications and the area's appraisal reports. For the area's evaluations, the "Método Comparativo Direto de Dados de Mercado – MCDDM" should be adopted, in accordance with current norm NBR 14653 - Parts I and II (available at <http://www.abntcatalogo.com.br/>) which governing evaluation of urban real estate, accompanied by the "Atestado de Responsabilidade Técnica - ART". Public areas, technically and economically viable should be prioritized in this definition;

- i) Execution of the following constructions disciplines: civil, hydraulic, electrical, mechanical, electromechanical, automation and complementary constructions such as urbanization, drainage, landscaping and others resulting of mitigating measures;
- j) For lighting implementation of the STPs and accesses of Bandeirantes, Nova Rosa da Penha, Cariacica Sede and raw sewage pumping stations of Nova Rosa da Penha's, must be considered 10 lux as the minimum luminance limit and obligatorily use the LED lighting system;
- k) For Cariacica Sede STP, a gas treatment and odor control system generated at all proces's stages should be designed and implemented to eliminate odors;
- l) In every pumping stations to be implemented and/or refurbished, a treatment of the generated gases and odor control must be foreseen through the installation of biofilters;
- m) Supply of materials and equipment for the complete implementation of the sanitary sewer pipeline, residence sewer connections and inter-connections, raw sewer pumping stations and its discharge pipelines, sewage and waste treatment plants, pipelines and other units for final disposal treated sewage and sludge;
- n) Supply and installation of telemetry system in pumping stations to be built or reformed which flow is over 4 l/s; open source supervisory software; Programmable Logic Controller. Such systems must operate in an integrated and compatible manner, allowing the exchange of information with CESAN's current telemetry system, as well as the sending of information from each Sewage Treatment Plant - STP to the CESAN's Central Control of Operations (CCO);
- o) Supply and installation of Remote control (only in the pumping stations that bombs directly to STPs); Open source supervisory software; Programmable Logic Controller and other equipment. These systems must operate in an integrated and compatible manner, allowing the information exchange with CESAN's current telemetry / remote control system, with supervision and command from each STP and also information sending from each STP to the CESAN's Central Control of Operations (CCO);
- p) Elaboration of technical book of the works (Data book) containing all the technical information of the systems as implemented, and presented in PLANS "As Built", filed in format ".dwg (Auto Cad)" and sent to CESAN Technical File, with digital signatures;
- q) Other necessary and sufficient measures for the full and satisfactory operation of the system described in Lot 1.

5.2 Contractual Obligations required for Cariacica Sede STP's Reform:

- Elaboration of the Manuals and Operation Flowcharts;
- Elaboration of the Predictive Maintenance Program;
- Preparation of the Preventive Maintenance Program.

5.3 Communication Plan and Program Accession

This plan's elaboration is a bidder's obligation (as set forth in letter "f" of item 5.1) and aims to provide environmental and social technical support for engineering work's execution, especially sewer connections²³, as well as to guide the community in the benefited area on the importance of use, conservation and adherence to Sanitary Sewage Systems (SES). The Social Communication Plan and Program Accession should contemplate five operation areas:

a) **Community Mobilization:** aims to inform the residents about the work's beginning, in order to minimize the impacts caused by the project's implementation, as well as to inform about the importance of the sewerage system. To achieve this objective, the following activities must be carried out during the construction:

- ✓ Structured Network Diagnostics and Disclosure of the Service' s beginning
- ✓ Community Meetings
- ✓ Sewer Connections Monitoring Local Group
- ✓ Community Cinema
- ✓ Plumber Training Course
- ✓ Technical visit

b) **Accompaniment the community demands and work intermediation:** its objective is to monitor and handle the demands *in loco* in edifications where the sewer connections will be executed. For Residence Sewer Connection it should be evidenced on the outside of the property the contact with the resident informing about the benefit received and future sewer collection future rate. For Residence Sewer Inter-connection, the customer's authorization must be obtained for this procedure. The clients already approached and whose properties were authorized to receive the sewer connection will be identified by a seal fixed on the external facade of the property with the statement "*PODE LIGAR*" and after the established sewage connections, the property will be

²³ Sewer connection comprises residences sewer connection (whose property's sewage pipelines link to the CESAN's collection network from property's sidewalk) and Residence Sewer Inter-connections (those that have intervention inside the land/property of the client).

identified as "*TÔ LIGADO*".

The following situations will be measured:

- ✓ Forecast of Connection Execution Proposal's rejection (5%);
 - ✓ Signature forecast of the Term of Acceptance of the Residence Sewer Inter-connection free (95%).
- c) **Environmental Education:** objective to train multipliers of information about the enterprise, its function and benefits. The target group is the leadership that works in the project scope (health agents, environmental and endemic agents, community leaders, city councilors and civil servants in general), as well as acting in schools.
- ✓ "Agente na Rede": Visit to Sewerage Treatment Station;
 - ✓ Environmental Sanitation Training;
 - ✓ Environmental and social events;
 - ✓ Writing Contests;
 - ✓ "Jogo do Rio": Environmental Education in primary schools.
- d) **Customer service:** its main objective is to establish a daily communication channel with clients, to resolve doubts, receive suggestions and complaints about Company's works and other services.
- d.1) Local office: reception and treatment of customer demands of Cariacica; technical support in action's monitoring of Program's works; labor assistance place to the responsible team and workers; actions planning and distribution in the project's coverage areas and public attendance that needs doubts clarification. This office must provide conditions for the new customers registration in CESAN's system for the sewer collection rate. The offices should be established in a large circulation area, such as: large shopping centers, urban terminals, community centers, etc. and operate during the local business hours and present accessibility conditions for people with physical disabilities and special needs.
- The local office should be on the ground floor of the property, be air conditioned, with bathroom and furnished with two office tables and chairs, two computers connected to the internet, with multimedia equipment (notebooks, data show and TV) for projection of audiovisual material to be reproduced by the Bidder, disponibilize orientation's folders and pamphlets, minimum area of 30.00 m² and a specific room for CESAN.
- d.2) Institutional support mobile unit: A Van adapted and transformed into a moving unit of institutional support to the project. The main objectives are to disseminate the Program through the project's areas, to inform the population about the services provided, to raise

awareness of the residence sewer inter-connection effectiveness and to facilitate access to clients and communities on the actions being developed.

The mobile unit must have at least one professional, with experience in the sanitation and qualified to conduct this vehicle category, to provide care and clarification required. Each mobile unit should operate Monday through Friday from 1:00 p.m. to 7:00 p.m. and Saturdays from 8:00 p.m. to 1:00 p.m.

Minimum requirements:

- 01 Van adapted (Figure 1 - Support Mobile Unit Example), with air conditioning, support table, locker and 20 plastic seats with storage space;
- 02 50 - inch TVs for transmitting images and videos
- Covering;
- 02 Notebooks;
- 01 Electric Power Generator;



Figure 1 - Support Mobile Unit Example

d.3) **Call Center:** channel of relationship with the population and attendance of the demands for free through the telephone number 115. This call center will also be available for the requests coming from the works of this enterprise.

Internally, CESAN will create a procedure to maintain complaints/suggestions traceability that will be forwarded to the contracting party, who must train specific

staff to meet the demands and meet the deadline defined according to the indicators monitored by the Regulatory Agency - ARSP and others which CESAN considers relevant and in accordance with these specifications.

- e) **Commercial:** is exclusively dedicated to the commercial actions of Residence Sewer connections and inter-connections activation in the CESAN's Commercial System (Cadastro e Sistema Comercial da CESAN). CESAN will provide training to the Bidders' designated employees. Each month, the Bidder shall submit a consolidated report of the demands.

5.3.1 Target Public

- Population of the region served by the enterprise;
- CESAN's Customers;
- Schools;
- Social, environmental and cultural NGOs;
- Local Government Authority and City Council;
- Government-Owned And Private Companies;
- Formal and Informal Leadership;
- Other interest publics.

5.3.2 Technical and Social Work for Accession and Activation of Sewer Connections

During the services implementation of the sewerage system, the Bidder will carry out informative, educational and dissemination actions in the neighborhoods, according to the operation areas defined in the Social Communication Plan and Program Accession. The realization of meetings with leaderships (formal, informal and community), training in sanitation, visits to the construction workplaces, among other activities, to address the importance of universal collection and sanitary sewer treatment for environmental preservation, improvement of health and quality of life, aiming to persuade the population to authorize the free residence sewer connection execution.

In order to monitor the community demands, workplaces intermediation and Sewer Connections implementation, the bidder's environmental and social technical team will make residential approaches, to inform about the importance of works, of the services implementation's Program and so that the client allows the residence sewer inter-connection in the property to CESAN's sewer collection pipeline (*TERMO DE ACEITE PARA EXECUÇÃO DA LIGAÇÃO DE ESGOTO* - Acceptance Term For Residence Sewer Connection Execution). For residence sewer connection, a report must be prepared (*COMUNICADO LIGAÇÃO DOMICILIAR*), proving that the customer will be aware of the connection execution and subsequent charging of rate.

In cases where the customer rejects, the Bidder shall receive the signed a refusal term (*TERMO DE RECUSA DA LIGAÇÃO DE ESGOTO*). In some situations, it will take more than one home visit to locate the client, carry out approaches, obtain the signed forms and intermediate situations between client and works executing company.

Properties that have their sewage connected to urban drainage system, have septic tanks or located below the street level will have a specific treatment, according to CESAN's guidelines and procedures.

All the residents of the benefited area by the works must be approached and free connection execution offered to all of them. Subsequently, the residency status should be identified with the appropriate stamp.

A systematic dialogue with local leaders should also be instituted with the aim of minimizing the inconvenience caused by Sewerage System work's implementation.

5.3.3 Goals and Indicators of Social Communication Plan and Program Accession

The Bidder shall receive and handle all the demands arising from works implementation, in addition to producing quarterly reports with performed activities evidences. The actions and reports should be systematically monitored by the Supervisor with CESAN's support.

The executive schedule of the activities of the Social Communication Plan and Program Accession activities, graphic materials, communications, forms and informative flyers shall be submitted for prior approval by CESAN.

The environmental and social, engineering and construction teams must work in agreement, so that any problems prevent the proper sewage connection implementation.

Upon actions completion, the Bidder shall conduct a qualitative assessment of the activity with the participating public.

At the contract's end, all the equipment and didactic material acquired for the shares development shall be transferred to CESAN.

The final disciplines evaluation requires actions broken down as follows:

- **Community Mobilization:** mobilization activities should be carried out in all neighborhoods in the area benefiting from the project.
- **Accompaniment the community demands and work intermediation:** present evidence that 95% of the customers that benefited from the sewage connection were approached. The expected index for sewage connection implementation refusal is 5%. Therefore, in cases where customers refuse the approach, the sewage connection should be executed from the sidewalk (residence sewer connection) in possible places.

- **Environmental Education:** conducting environmental education activities in all benefited area's neighborhoods;
- **Customer service:** submission of routing records of all incoming customer requests. For more complex situations, the deadline for service will be up to 90 days. Also, to verify that the Mobile Units were made available according to the established requirements;
- **Commercial:** present evidence that 100% of sewage rates were implemented.

In order to evaluate the actions effectiveness and the satisfaction of the target public, the satisfaction index should be measured and reach values equal to or greater than 70% of the excellent and optimal according to survey participant's evaluation.

6- SYSTEMS TO BE IMPLEMENTED: BANDEIRANTES / NOVA ROSA DA PENHA / CARIACICA-SEDE (HEADQUARTERS)

6.1Bandeirantes Sewerage System Expansion

Bandeirantes Sewerage System will benefit neighborhoods that are part of the Bandeirantes subsystems, according to PLANTA 01 annexed.

The Sewerage System to be implanted will collect all sewage generated by the project's referenced area's properties and will be directed to the Bandeirantes STP by means of the set of sewer pumping stations to be implanted. In certain circumstances, existing sewer pumping stations in operation may be used, provided that their capacity is verified.

In case the bidder choose to use the existing sewer pumping station system, it will be responsible for the resizing of the system's units, the sewer collector pipeline and the pressure sewer line, in order to guarantee the system's operating performance.

In order to sewer flow from sewer pipelines located in the Vila Capixaba neighborhood, the bidder may use the existing DN 150mm crossing located on the BR-262 highway (in front of the Moxuara mall) after evaluating its operational condition or may also implement a new sewer collection pipeline in BR-262.

The collected sewage treatment will take place in the existing Bandeirantes STP, with project flow equal to 250 L/s. However, the average annual flow treated in 2016 was 97 L/s, or 38% of the projected capacity. This STP operates through the Conventional Activated Sludge System with biological Nitrogen removal, going back into Campo Grande stream, wich is a Rio Marinho's affluent.

In order to maintain control over the directed collected sewage volume to the STP, the bidder should consider a telemetry system implementation in pumping stations which flow is over 4 l/s, as well as a remote control system implementation for the pumping station that bomb to STP. These systems to be deployed should have an interface with the existing supervisory system at Bandeirantes STP.

The Contractor must consider the Bandeirantes STP area enclosure (according to PLANTA 02). The wall will be built with concrete blocks with compressive strength of 3.0 MPa and dimensions 14x19x39; 60 cm high concrete base from the soil. On the wall, will be installed galvanized steel grate and coated by polyester electrostatic painting, 2.00 meters of high, net of 5,0x20,0 cm and wire diameter of 5 mm.

The Contractor will also provide the STP access pavement (Figure 2). The base must be compacted to receive concrete interlocked floor (thickness of 8.00 cm), 6.00 meters wide road and edge restraint on both sides of the road. Consider the service of planting grass to 3.00 meters width on the both sides of this pavement street road and recover the existing drainage, when necessary. Also include illumination for this stretch.



Figure 1 - Access Area Delimitation to BANDEIRANTES STP.

Effluent reuse technology should be implemented at Bandeirantes STP. This will require the installation of a sand filter with 20m³/hour capacity, an elevated reservoir with 30m³ capacity (for water trucks supply), a water tap of at least 3 inches and other items for its proper functioning.

Consider the replanting with palm trees and Atlantic Forest species in STP surrounding area, as an urban improvement, being an action of urban improvement, with a view to the humanization of the place and insertion in an urban environment.

6.2 Padre Gabriel STP Deactivation

In order to centralize sewage treatment systems and increase the treated effluent quality, it is necessary to deactivate the current Padre Gabriel STP, located at Av. Padre Gabriel, in Cariacica / ES.

Therefore, the bidder shall provide raw Sewage Pumping Station's installation capable of bombing 32.00 L/s and a cast-iron pressure sewer line to connect Padre Gabriel to Bandeirantes Sewage Collection System.

The current STP's reactor should be deactivated and the area recovered and prepared for the Sewage Pumping Station installation.

6.3 Rosa da Penha Sewerage System Expansion

6.3.1 Sewage Collection System to be implemented

The Sewerage System to be implanted will collect all generated sewage according to polygonal annexed (PLANTA 04). The set of pumping stations will lead this sewage to the Nova Rosa Da Penha STP (existing), with the possibility of employing the existing Sewer Pumping Station system in operation.

If the bidder chooses to use the existing sewer pumping station system, the company will be responsible for the necessary resizing of the pumping stations, sanitary sewer pipelines and pressure sewer line to increase existing system's flow capacity and maintain its current operational performance.

All collected sewage treatment will take place in the existing Nova Rosa Da Penha STP operated through the Australian system of stabilization ponds, consisting of an anaerobic lagoon, followed by a facultative pond with a capacity of 48.0 L/s, conventional grating devices, sand filter and flowmeter. The final effluent will be dumped in the Vasco Coutinho stream.

6.3.2 Nova Rosa da Penha's Raw Sewage Pumping Station

The Cariacica's Municipality implanted Sanitary Sewer Pipeline stretches in the Nova Rosa da Penha neighborhood (PLANTA 05), but due to the non-completion of the Pumping Station along with the failure to access it, the collector system could not be put into operation.

The contractor shall perform all the hydraulic installations, the installation of two pumps and all electrical installations of the current unfinished pump station and execute the access street to the pump house. (Figure 3).

In the Sewer Collection System's area built by Cariacica's Municipality, the bidder must connect all properties to the Sewer Pipeline. The payment will be according to the connection unit installed and put into operation.

For sewer collection pipelines constructed by Cariacica's Municipality, the responsibility is limited to services complementation, and the bidder will not be imputed any defects or construction problems of the existing pipelines. However, it must promote cleaning and unobstruction for system's perfect operation.



Figure 2 –Sewer Collection Pipeline's stretches identification implemented by Cariacica's Municipality and Nova Rosa da Penha Raw Sewer Pumping Station's location

Nova Rosa da Penha Raw Sewage Pumping Station was built by the municipality, the bidder is responsible for the electromechanical and hydraulic systems complementation. Therefore, it will be necessary to design, supply and assemble 02 (two) submersible motor pumps, pipe complementation (connections, valves, suction cups and others) for interconnection to the existing pressure sewer line, urbanization, structure's cleaning and repairs. For electrical installations, all component's provision and assembly, including control panel and complete electrical substation, will be provided.

During the project phase, the bidder must verify quotas *in loco*, check the flow and size the motor-pump of Nova Rosa da Penha Raw Sewage Pumping Station.

The Contractor must consider the sewer pumping stations area enclosure. The wall will be built with concrete blocks with compressive strength of 3.0 MPa and dimensions 14x19x39;

concrete base (as specified in CESAN's Standard Project A1.5 and A.1.8) and install razor wire around its perimeter.

The Contractor must also provide pavement for the access to the STP, performing compacted base to receive the pavement in interlocked blocks of concrete (thickness of 8.00 cm) with a path of 6.00 meters wide and curb on both sides. Planting grass on the sides of this paved road with a width of 2.00 meters on each side should be provided and, if necessary, recovering existing drainage. Also, envisage the night lightening of this route.

Route's location can be visualized in PLANTA 05 (annexed document) and will connect the existing paved road to the sewer pumping station area. In addition, a maneuvering area should be considered for vehicle's return within pumping station area. This route should follow the direction of Trunk Line that will drive the sanitary sewer to the pumping station.

6.3.3 Nova Rosa da Penha STP's Urbanization and Improvements

Nova Rosa da Penha STP is located between the Contorno Highway and the Padre Matias neighborhood, so the population uses it as a shortcut and transits within this area, which represents a risk to the local community. To improve the situation, the bidder must provide for the enclosure of Nova Rosa da Penha STP area with a wall to be built with concrete blocks with compressive strength of 3.0 MPa and dimensions 14x19x39; 60 cm high concrete base from the soil. On the wall, will be installed galvanized steel grate and coated by polyester electrostatic painting, 2.00 meters of high, net of 5,0x20,0 cm and wire diameter of 5 mm.

For STP's urbanization services, provision should be made for a pavement execution around the area (PLANTA 06), base must be compacted to receive concrete interlocked floor (thickness of 8.00 cm), 5.00 meters wide road and edge restraint on both sides of the road. Consider the service of planting grass in the non-paving area, water tap and external lighting.

The Contractor must also provide for the pavement of the access street to STP (PLANTA 06) as illustrated in Figure 4, base must be compacted to receive concrete interlocked floor (thickness of 8.00 cm), 5.00 meters wide road and edge restraint on both sides of the road. Consider the service of planting grass to 3.00 meters width on the both sides of this pavement street and recover the existing drainage, when necessary.



Figure 3 - Nova Rosa da Penha STP's access and sidewalk

Consider the revegetation implementation with *palmáceas* and Atlantic Forest species in STP surrounding area, as an urban improvement.

Due to STP's flow substantial increase from the expansion of the sanitary sewer collection pipeline, the bidder must provide the repair Rip Rap's damaged or uneven concrete plates replacement around the facultative pond so that Nova Rosa da Penha STP has full operating's condition.

The bidder shall prepare the project and execution of Nova Rosa da Penha STP's Interceptor to Bubu River, and evaluate the necessity to implement a treated sewage pumping station (PLANTA 07).

6.4 Cariacica Sede Sewerage System Expansion

Interconnect the Cariacica Sede's Sewage Collection System to the Sewerage Treatment Plant, partially implemented by the Municipality and out of operation. The bidder must consider in its proposal the elaboration of project and execution of all the services necessary to operate the system, delimited as follows:

- Build a raw Sewage Pumping Station and cast-iron Pressure Sewer Line, which will route all sewage collected in the basin through the pipeline, implemented by the Municipality, for the STP. For this pumping station must be considered all urbanization (execution of block wall, lighting, access gate and pavement);
- The sewer collection pipeline built by the Municipality has approximately 2 km extension to STP, and must be confirmed by the bidder, (PLANTA 08);

- The bidder must evaluate sewer collection pipeline's condition built by the Municipality, and in the occasion of its operation, must carry out pipeline's cleaning and desobstruction;
- The installed STP is dimensioned to attend to satisfy an average flow of 35 L/s and needs complementation for its proper functioning. The bidder should consider complementary works of reform in the steel structure with anticorrosive treatment and painting; electromechanical and hydraulic installations in order to guarantee STP's efficiency and urbanization of the area. The STP shall contain the following units:
 - Preliminary Treatment;
 - UASB Reactor;
 - Gas Burner;
 - Biofilter;
 - Drying bed;
 - Final Interceptor.
- The Contractor must consider the Bandeirantes STP area enclosure (according to PLANTA 02). The wall will be built with concrete blocks with compressive strength of 3.0 MPa and dimensions 14x19x39; 60 cm high concrete base from the soil. On the wall, will be installed galvanized steel grate and coated by polyester electrostatic painting, 2.00 meters of high, net of 5,0x20,0 cm and wire diameter of 5 mm;
- The Contractor will also provide the Sewerage Treatment Plant's access pavement. The base must be compacted to receive concrete interlocked floor (thickness of 8.00 cm), 6.00 meters wide road and edge restraint on both sides of the road. Consider the service of planting grass to 3.00 meters width on the both sides of this paved street and recover the existing drainage, when necessary. Also include illumination for this stretch;
- PLANTA 08 represents the Sewage Collection System built by the Municipality and the area where the properties with available sewer collection pipeline will be interconnected. The unit cost of the connection will be according to the amount presented in proposal that deals with residence sewer connection and interconnection, and each will be accounted for to get 10,439 units;
- Consider project's elaboration and services execution of Cariacica Sede interceptor with launch in the Bubu River with possible need of a sewage pumping station.

For Cariacica Sede Sewerage System constructed by Cariacica's Municipality, the responsibility is limited to services complementation, and the bidder will not be imputed any defects or construction problems of the existing pipelines. However, it must promote cleaning and unobstruction for system's perfect operation.

6.5 Mocambo STP Deactivation

In order to deactivate Mocambo STP, now in operation with 03 (three) L/s, the bidder must consider in its proposal the implementation of a raw sewage pumping station and approximately a 1,5 km Pressure Sewer Line to connect this pumping station to Cariacica Sede neighborhood 's Sewage Collection System.

The current STP's reactor should be deactivated, the structure removed to adequate destination, the area recovered and suitable for pumping station deployment.

7- GUIDELINES AND CONDITIONS FOR SERVICE'S EXECUTION

These technical specifications prepared and its attachments will be part of the International Public Bidding - ICB 001/2018 in the fixed-price turn-key contract model, guided by "Guidelines - Procurement of Goods, Works, and Non-consulting Services Under IBRD Loans and IDA Credits & Grants by World Bank Borrowers (2011)".

The bidders must prepare studies and quantitative surveys to substantiate the proposals, considering coverage area; compliance with technical, legal and economic requirements; operational efficiency and other necessary elements. The company selected in the bidding process, when signing the contract, will prepare the projects and execute the works as established in this Technical Specification and in the environmental licenses.

Proposals should consider all project scope; established goals; works, materials and equipment quality and; operational and energy efficiency; useful life; environmental premises and licenses; relationship with the community and other as provided in this document.

The technical elements necessary to fulfill the scope will be Bidder's responsibility, subject to the Technical Specifications and Appendices.

It is Bidder's responsibility to analyze the technical referenced documents in these Technical Specifications, adopting the elements it deems appropriate and sufficient to its project, complementing and adapting those that it deems necessary, in order to elaborate its proposal for contracting determined modality.

The bidder must consider in its proposal all the quantities of materials, equipment, labor and other inputs necessary for the complete execution of each stages of the work and installations described in the Bill of Quantities. The Bill of Quantities shall be read in conjunction with the Instructions to Bidders, General and Special Conditions of Contract, Technical Specifications and Drawings. The brief description in the BoQ shall not modify nor supersede the descriptions and requirements gives in the Conditions of Contract Specifications and Drawings.

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.

A rate or price shall be entered against each item in the priced Bill of Quantities, whether quantities are stated or not. The cost of Items against which the Contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities.

The execution of sewer collection pipelines, residence sewer connection, sewage pumping station, trunk line, interceptors, pressure sewer line and sewage treatment plant will be evaluated after their completion in 180 days commissioning period, for final receipt.

7.1 Projects

Sanitary sewage is constituted by the activities, infrastructures and operational facilities of adequate collection, transportation, treatment and final disposition, according to sanitation federal law 11.445 / 2007.

The studies, projects, calculation memories and technical specifications will be developed for full implementation of the works and will provide information on services, supply of materials, equipment, installations (civil, hydraulic, electrical, mechanical, electromechanical, electronic, telemetry and remote control, among others) that are necessary in accordance with the National (*Lei Federal 11.445/2007*), State (*Lei Estadual 9.096/2008*) and Municipal guidelines; ARSP - ES (*Agência de Regulação de Serviços Públicos do Espírito Santo*) legislation and ABNT (*Associação Brasileira de Normas Técnicas*) standards. In the absence of Brazilian standards, they must comply with the AWWA (American Water Works Association) standards. The projects should follow the "*Diretrizes Gerais de Projeto de Esgotamento Sanitário da CESAN*" (A-000-000-90-0-RT-0002).

CESAN's Operational Procedure "*Apresentação de Projetos*" should be used for technical document's issuance related to the project. The objective of the procedure is to establish standards for Plan's presentation and technical reports for engineering projects in water supply, sewage and other systems.

The projects must be delivered in a digital format with designer's electronic signature, to be provided by the bidder, for inclusion in the CESAN's Technical File system, in addition to their *Atestado de Responsabilidade Técnica* (ART).

The bidder must carry out a topographic survey and drill diagram of the area for STP's implementation carry out the projects.

At the end of services execution, in addition to the projects, the "As Built" Georeferenced Plans must be provided, taking into account the standard of project's issuance.

7.1.1 Sewerage System

The civil structures of Sewage Pumping Station and Pressure Sewer Lines should be designed to withstand 30 (thirty) years of population growth. Motor-pumps and electric panels should be designed for a period of 10 (ten) years.

The "per capita" coefficient of treated water consumption to be adopted should be 145 liters / day.

Flow variation coefficients to be used should be:

- Maximum daily flow coefficient $K1 = 1,2$.
- Maximum hourly flow coefficient $K2 = 1,5$.

These values are recommended by NBR ABNT 9.649 - Sewer Collection Pipeline Projects. Return coefficient value of 0.80 should be used, that is recommended by NBR ABNT 9.649 - Sewer Collection Pipeline Projects.

The infiltration coefficient should consider 14% of sewage volume generated by the population served, even considering the sewer manhole's expected watertightness.

In areas with a refuge island or more than 12 meters wide, two (02) Sewer Collection Pipeline (one on each side of the street) should be designed.

Sewer Cleanouts, executed in unpaved areas, shall be designed enclosed by a plate sized to withstand the stresses caused by moving loads (vehicles) and shall not allow retraction and displacement.

Sewer Manhole must be fully watertight, and designed with surface extension's possibility, in order to promote leveling with future runway asphalt paving.

"Sewer collection Pipeline's Domain" is characterized by the availability of Sewer Pipeline and Sewer Cleanout in front of the property, provided it has conditions for connection to the sewage collection system.

The "service" is characterized by the effective Residence Sewer Connection to Sewer Cleanout, which flows sewage to the collection and treatment system.

Residence sewer connection must be made, regardless of authorization, provided it is established on a public road (including sidewalk), as established by State Law (*Lei Estadual Nº. 9 096, artigo 40, parágrafo nono*), which determines:

It is possible for sanitation utilities companies providing Residence Sewer Connection to the public Sewer Collection Pipeline, independently of authorization of its owner, when the property extension is available in public area and technically apt to the connection.

Residence Sewer Inter-connections depend on the specific technical condition for its execution and the owner's authorization. It will be necessary to execute this connection type in order to comply with minimum service established level of properties effectively connected to sanitary sewer collection pipeline. The Bidder must make efforts with the owners, who depend on this connection type, to obtain their consent and carry them out, including carrying out social actions with local leaders and authorities, in order to make the population aware of works importance.

ARSP-ES's Resolution n° 008, of 7th December 2010, defines Connection and Economy as:

Economy: property or subdivision, with an interdependent and autonomous consumption occupation in relation to the others, perfectly identifiable and/or verifiable in function of occupation and destination's purpose, served by an own or shared extension line with other economies;

Active connection: property with water and/or sewage connection connected to the public pipelines and registered regularly with the service renderer;

Connection: is the interconnection of the water transmission line and/or Sewer collection Pipeline to the spot of water transmission and/or sewage collection.

In polygons established as project area in Cariacica, the goal is to set up Sewer Pipelines, including the connection spots on the sidewalks, and reach 100% coverage of the properties with water connection. It is mandatory to carry out the Residence Sewer Connection and Inter-connections, in order to meet the minimum number of 10,439 (ten thousand four hundred and thirty nine) properties effectively connected to Sanitary Sewer Pipeline.

Sewer Pipeline design should be developed based on a intervention area's population study to be prepared by the bidder, using the IBGE 2010 Census or data from *Instituto Jones dos Santos Neves* and adopting the projection for 30 years.

The bidder must consider the sewer pumping stations area enclosure. The wall will be built with concrete blocks with compressive strength of 3.0 MPa and dimensions 14x19x39; concrete base. On the wall, will be installed galvanized steel grate and coated by polyester electrostatic painting, 2.00 meters of high, net of 5,0x20,0 cm and wire diameter of 5 mm (as specified in CESAN's Standard Project A1.5 and A.1.8) and install razor wire around its perimeter.

Pumping station access gate must have a free opening of 4.00 meters wide and be built according to CESAN's standard project.

Consideration should be given to sidewalk implementation around the pumping station wall, where there is a public road bordering to obey municipal legislation.

The area destined to pumping stations implementation must be endowed with a surface drainage system, in order to avoid any precipitation water's accumulation and the grouping of these waters in a single point, which will lauched in the existing drainage system in the stretch.

For pumping station's electric pumps consider a minimum of two units (one in active drive and another spare). Direct starter, soft starter or frequency inverter must be considered in accordance with A-000-000-00-0-CP-0003 CESAN's standard and Electric Power Utility Regulations. For engines up to 5 hp can be with direct starting. For engines from 5 to 30 CV must be with Soft Starter. For engines above 30 CV must be with Frequency Inverter.

Pumping Station's motors control panels will be housed in a building designed solely for this purpose, with an aluminum shutter door.

Aiming to maintain full control over the volume of sewage collected that is sent to STP (sewage treatment plant), the bidder should consider supply and installation of telemetry system; open source supervisory software; Programmable Logic Controller. Such systems must operate in an integrated and compatible manner, allowing the exchange of information with CESAN's current telemetry system, as well as the sending of information from each STP to the CESAN's Central Control of Operations (CCO).

Sanitary Sewer Pipeline shall be made of PVC EB-644 (*Tube PVC NBR 7362*) with a minimum diameter of 150 mm. Trunk sewer lines with a diameter of more than 300 mm must be made of cast-iron.

Pressure Sewer Lines in all diameters shall be constructed in cast-iron, DN 80 mm being the minimum acceptable diameter.

Cariacica Sede Sewage Treatment Plant should guarantee the efficiency established in the environmental licenses.

7.2 Works

The works must comply with ABNT standards (*Associação Brasileira de Normas Técnicas*) and CESAN's guidelines and technical prescriptions, which concern: preliminary services, construction site installations, technical services, earthmoving, shoring, sewerage system, foundation and structures, pipes and connections laying, paving, closure, electromechanical installations and miscellaneous services.

After implementation work's completion (Sewer Pipeline, Trunk Line, Interceptor Sewer), the Bidder must carry out tests in the pipelines to make sure that there are no crumpled sections and that is in perfect conditions, making use of cylindrical spheres of diameter compatible with the pipes and of internal filming. Such tests shall be carried out in the presence of a CESAN's representative or to whom it appoints.

Sewer Manholes should be impermeable and will mainly be observed its internal finish and pipe's inside fittings, besides the occurrence of water infiltration and other construction problems that deviate from CESAN's works execution standard.

Asphalt pavement recomposition should have a minimum base layer thickness of 20 cm, a minimum asphalt layer thickness of 5 cm and a total thickness necessary to meet the roads classification in which the pipelines will be implanted.

7.2.1 Planning

The Bidder shall have specific staff to carry out the activities of planning, monitoring and reporting, whose structure must be installed in the municipality of Cariacica, close to the work's sites, providing a minimum area of 20.00 m² for CESAN's Inspection (including bathroom, two office desks and chairs, two computers connected to the internet, a telephone line, a closet and air conditioning).

The central office will have the function of hosting the supervision and Inspection team, in order to provide the necessary information for the management of the work and CESAN's supervision and to plan, detect deviations and propose solutions, so that the contractual objectives are fulfilled. For Lot 1 the bidder must plan at least 10 work teams for simultaneous execution of networks, equipped with separated tools, equipment (excavator, trucks, and others), security equipment for the workers, and all necessary to effectively and safely execute the works.

The Contractor must previously inform the inspection the entire schedule and detailed planning of works, electromechanical installations, operation and maintenance services of each operational unit for prior approval.

Every month the schedule should be updated, the inconsistencies and difficulties recorded and actions planned to comply with the steps in the agreed initial deadlines.

Any partial or total interruption of operational unit for services execution of any nature shall be previously or immediately communicated to CESAN's inspection, which shall evaluate the need for communication to the *Agência de Regulação de Serviço Público - ARSP-ES* or the environmental control agencies.

The Inspection, during the execution of the Works and Services, will be carried out according to *Manual Ambiental da Construção – MAC, Relatório de Avaliação Ambiental e Social – RAAS*, Framework for the Program's Environmental and Social Management, CESAN's Minimum Technical Recommendations, Technical standards (national and international), Contract Management document, as well as the *Caderno de Procedimentos Padrões de Obras*, which contains: *Fiscalização de Obras* (PO-OBR-001), *Movimentação de Materiais* (PO-MAT-001), *Sinalização de Obras e Unidades Internas* (PO-SIN-001), *Concretagem* (PO-CON-001) and *Pintura Industrial* (PO-PIN-001), available on https://www.cesan.com.br/site/portal-de-licitacoes/download/Procedimentos_Padrees_Obras.pdf.

The requirements defined in this document "Technical Specifications For The Project Elaboration And Work Execution Concerning The Sewage Collection System Of Cariacica Municipality" are in line with the guidelines of the World Bank documents and prevail over the CESAN's "*Caderno de Procedimentos Padrões de Obras*".

7.2.2 Commissioning

After the communication to CESAN about works and installations completion, a joint survey will be carried out, with the presence of the agents involved, for the definitive works receipt. In this survey, the Contractor shall provide adequate equipment to test all pipelines with ball and water passage, verifying completeness and operation according to specifications and design.

After the due verifications and proven system's quality and operability, the Form of Completion Certificate will be issued. At this stage, the commissioning will commence for a period of 180 days, for verification and operational tests of all the equipment and installations.

During the commissioning phase, any problem in the operation of the equipment must be repaired by the Contractor, regardless of being notified.

8- APPENDICES

Tabela 1: DRAWINGS;

Manual Ambiental da Construção – MAC do BIRD;

Relatório de Avaliação Ambiental e Social – RAAS e Arcabouço para o Gerenciamento Ambiental e Social do Programa;

Diretrizes Gerais de Projeto de Esgotamento Sanitário da CESAN (A-000-000-90-0-RT-0002);

Procedimento Operacional CESAN “Apresentação de Projetos” nº PO-APJ-001;

Cadernos de Fiscalização de Obras (PO-OBR-001), Movimentação de Materiais (PO-MAT-001), Sinalização de Obras e Unidades Internas (PO-SIN-001), Concretagem (PO-CON-001) e Pintura Industrial (PO-PIN-001);

Table 1: Drawings

DESCRIPTIONS (PLANS / DRAWINGS)	
PLANTA Nº 01	Área de abrangência para implantação de redes coletoras no SES Bandeirantes - Cariacica
PLANTA Nº 02	Lay-out da área e do acesso a ETE Bandeirantes – Cariacica
PLANTA Nº 03	Caminhamento e ponto de lançamento do recalque para desativar ETE Padre Gabriel
PLANTA Nº 04	Área de abrangência para implantação de redes coletoras no SES Nova Rosa da Penha - Cariacica
PLANTA Nº 05	Sistema coletor implantado pela Prefeitura de Cariacica e localização EEEB Nova Rosa da Penha
PLANTA Nº 06	Lay-out da ETE Nova Rosa da Penha com identificação do acesso e calçada lateral
PLANTA Nº 07	Visualização da localização da ETE Nova Rosa Penha e do rio Bubu
PLANTA Nº 08	Localização da ETE existente a ser recuperada, desativação da ETE mocambo e construção de elevatórias no sistema de Cariacica Sede

Scope of Supply of Plant and Installation Services by the Bidder

LOT II

**TURNKEY PROJECT TECHNICAL SPECIFICATIONS
FOR CARIACICA 2 MUNICIPALITY'S SEWERAGE
SYSTEM DESIGN AND WORKS EXECUTION**

Short scope and obligatory documentation

The scope of the enterprise refers to implementation and complementation of Cariacica 2 Sewerage System, as delimited by polygonals in the plants of Table 2: DRAWINGS. The following documents, should be considered as part of the Technical Specification of this Bidding Document.:

It is basically composed by the following items, detailed in the Technical Specification of this public notice:

1. Arcabouço para o Gerenciamento Ambiental e Social do Programa (Vol. 1 main)
<http://pubdocs.worldbank.org/en/550541496937642539/Arcabouço-para-o-Gerenciamento-Ambiental-e-Social-do-Programa-Vol-1-main>
2. Relatório de Avaliação Ambiental e Social – RAAS e Arcabouço para o Gerenciamento Ambiental e Social do Programa (Relatório Final Vol. 2 Anexos)
<http://pubdocs.worldbank.org/en/237001486152397410/Relatório-de-Avaliação-Ambiental-e-Social-RAAS-e-Arcabouço-para-o-Gerenciamento-Ambiental-e-Social-do-Programa-Relatório-Final-Vol-2-Anexos>
3. Environmental and Social Assessment Report - RAAS and Framework for the Program's Environmental and Social Management - EXECUTIVE SUMMARY
<http://pubdocs.worldbank.org/en/466401496937887144/Environmental-and-Social-Assessment-Report-RAAS-and-Framework-for-the-Program-s-Environmental-and-Social-Management-EXECUTIVE-SUMMARY>
4. Brazil - Espirito Santo Integrated Sustainable Water Management Project : resettlement plan : Marco Conceitual da Política de Reassentamento Involuntário
<http://documents.worldbank.org/curated/en/264851468015575157/Marco-Conceitual-da-Política-de-Reassentamento-Involuntário>
5. Brazil - Espirito Santo Integrated Sustainable Water Management Project : resettlement plan (Vol. 2) : Plano de reassentamento involuntário (Portuguese)
<http://documents.worldbank.org/curated/en/454351468015570506/Plano-de-reassentamento-involuntário>

The present Specifications refers to ABNT (*Associação Brasileira de Normas Técnicas*) the Brazilian Standards but AWWA (American Water Works Association) standards can be used if the firm is not in obligation to use Brazilian Standards.

In this case, the firm should provide the equivalent norm to be used and the explanation of equivalence of the two norms, upfront the use of the AWWA norm. This is relevant for goods to be supplied, designs to be prepared, and works to be constructed.

Specification

LOT II

TURNKEY PROJECT TECHNICAL SPECIFICATIONS FOR CARIACICA 2 MUNICIPALITY'S SEWERAGE SYSTEM DESIGN AND WORKS EXECUTION

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1- INTRODUCTION

Espírito Santos's Government, through the Government State Office and Companhia Espírito Santense de Saneamento (CESAN), signed a financing contract with the World Bank to implant the Water and Landscape Integrated Management Program, whose main objectives are: sanitary sewage service's coverage expansion, water resource's management and water pollution's reduction. The Sewerage Systems implementation in Cariacica1 and 2, located in the Espírito Santo's state, associated with environmental and institutional management programs are actions able to provide an effective policy for sustainable development.

2- PURPOSE

It defines the technical specifications for the elaboration of the projects and execution of works of the sewage system.

These technical specifications and its attachments were prepared and are part of the International Competitive Bidding - ICB 001/2018, procedures specified in the World Bank's Guidelines: Procurement under IBRD Loans and IDA Credits & Grants by World Bank Borrowers (2011)".

3- OBJECT CONTEMPLATED BY THE AGREEMENT

The scope of the Lot II project to be implemented in Cariacica 2, provides for Sewerage System's Implementation/Complementation of Cariacica 2 whose intervention areas are delimited by the plants attached to this document, "Table 2: DRAWINGS"

4- SERVICE'S EXECUTION STAGES

The services that constitute the object of ICB 001/2018 Lot II are divided into two distinct phases and detailed below:

- **1st stage – Studies, Projects and Licenses:** develop studies and sewerage system's basic projects.

The conception study and the basic projects should be presented to CESAN.

After the basic project has been completed, the Contractor must require to the municipal and environmental agencies for the respective project licenses, and will be

responsible to follow-up until documents are issued, without prejudice to the schedule presented by the bidder neither to the maximum deadlines set forth in this document.

Prepare and deliver to CESAN, the real estates plants that will be expropriated for sanitary sewerage systems implementation, containing all documentation and its evaluation in accordance with the guidelines of the program's Involuntary Resettlement Framework (denominated "Framework of the Program's Environmental and Social Management", available at [http://www.cesan.com.br/wp-content/uploads/2013/10/18-](http://www.cesan.com.br/wp-content/uploads/2013/10/18-Arcabouco_para_o_Gerenciamento_SocioAmbiental_ES.pdf)

[Arcabouco_para_o_Gerenciamento_SocioAmbiental_ES.pdf](http://www.cesan.com.br/wp-content/uploads/2013/10/18-Arcabouco_para_o_Gerenciamento_SocioAmbiental_ES.pdf)). From these documents, CESAN will carry out the expropriations, and the works beginning will only take place after the areas release by sub-basin.

The bidder shall prepare system's environmental and social studies to be implemented and analyze the possibility of interference with cultural heritages and archaeological sites, in accordance with the criteria established in the manuals "Framework for the Program's Environmental and Social Management" and "Involuntary Resettlement Framework" (available in <http://www.cesan.com.br/wp-content/uploads/2013/10/6-Anexo-2-RAAS-Marco-Conceitual-de-Reassentamento.pdf>).

The beginning of the 2nd stage is linked to compliance with 1st stage by the Bidder. Failure to comply with this condition shall not impose any burden on the Employer.

- **2nd stage – Engineering works:** executive projects required for the work's beginning and the environmental and social planning in accordance with the procedures of the "Framework for the Program's Environmental and Social Management" (available on CESAN's website) must be introduced and approved before the service's initiation.

The Contractor must present the licensing to the municipality to carry out the works inherent to the contract, as well as comply with the license requirements set forth in the 1st stage.

5- MAIN SERVICES

5.1 Services Deployment:

- a) The elaboration of the surveys, projects and execution of the engineering works must have engineers and technicians responsible registered in the "*Conselho Regional de Engenharia e Agronomia - CREA*" (<http://www.creaes.org.br/creaes/>) as determined by the national legislation;
- b) The Contractor should consider the following premises to formulate its proposal: design the main structures in reinforced concrete, in accordance with NBR 15575-1 standard (<http://www.abntcatalogo.com.br/>) for a 50 (fifty) years of useful life and consider the Environmental Aggression Class (CAA) IV (very high level) of the NBR 6118: 2014 norm (<http://www.abntcatalogo.com.br/>). Environmental Aggression Class

(CAA) III (high level) may be used in specific situations, provided that the justification presented is accepted by CESAN. From these conditions, the designer must adopt strength class of concrete, water:cement ratio and concrete cover for reinforcement according to NBR 6118: 2014 norm (<http://www.abntcatalogo.com.br/>). The admission of ACI 318-95 Construction Code Requirements for Structural Concrete or other US standards may be allowed provided that the high environmental aggression's conditions for corrosion protection of reinforcement for a 50-year useful life are obeyed;

- c) In order to ensure watertightness and delay attack of gases and chemical elements harmful to concrete and reinforcement, the bidder must provide waterproofing paints or concrete structure's waterproofing systems added to the Project measures;
- d) In accordance with the Program's documentation, the bidder must develop studies and environmental and social reports for actions and mitigating measures implementation in view of the impacts generated by the activities
- e) The Contractor shall detail and implement the Program's Social Communication Plan and Adhesion (as described in item 5.3) with the objective of offering environmental and social technical support for the execution of engineering works, especially of residence sewer connection and residence sewer inter-connection. All impacts should be presumed, among them: alteration of vehicular traffic and bus routes, access, water and electricity supply interruption, among others;
- f) Other conditions that imply the issuance of authorizations or consent of public bodies (such as municipality, DER-ES / DNIT, Public Utility Companies, IEMA and others), are also Bidder responsibility;
- g) Determine sewer pumping stations and pipelines areas (sanitary sewer, pressure sewer line and interceptor sewer) for expropriation or easement purposes and carry out investigations at the Real Estate Registry Office if necessary. The contractor will be responsible for the elaboration of the expropriation plans, the social record of the beneficial owners or squatters, the division of areas, the technical specifications and the area's appraisal reports. For the area's evaluations, the "Método Comparativo Direto de Dados de Mercado – MCDDM" should be adopted, in accordance with current norm NBR 14653 - Parts I and II (available at <http://www.abntcatalogo.com.br/>) which governing evaluation of urban real estate, accompanied by the "Atestado de Responsabilidade Técnica - ART". Public areas, technically and economically viable should be prioritized in this definition;
- h) Execution of the following constructions disciplines: civil, hydraulic, electrical, mechanical, electromechanical, automation and complementary constructions such as urbanization, drainage, landscaping and others resulting of mitigating measures;
- i) In all pumping stations to be built or reformed a treatment of generated gases and odor control should be included through a biofilter installation;

- j) Supply of materials and equipment for the complete implementation of the sanitary sewer pipeline, residence sewer connections and inter-connections, raw sewer pumping stations and its discharge pipelines, sewage and waste treatment plants, pipelines and other units for final disposal treated sewage and sludge;
- k) Supply and installation of telemetry system in pumping stations to be built or reformed which flow is over 4 l/s; open source supervisory software; Programmable Logic Controller. Such systems must operate in an integrated and compatible manner, allowing the exchange of information with CESAN's current telemetry system, as well as the sending of information from each STP to the CESAN's Central Control of Operations (CCO);
- l) Supply and installation of Remote control (only in the pumping station that bombs directly to Bandeirantes STP); Open source supervisory software; Programmable Logic Controller and other equipment. These systems must operate in an integrated and compatible manner, allowing the information exchange with CESAN's current telemetry / remote control system, with supervision and command from each STP and also information sending from each STP to the CESAN's Central Control of Operations (CCO);
- m) Technical workbook (Databook) elaboration containing all system's technical information as implanted, presented in plans "As Built", in file format .dwg (Auto Cad) and sent to CESAN's Technical File, with digital signatures;
- n) Other necessary and sufficient measures for the full and satisfactory operation of the system described in Lot 2.

5.2 Communication Plan and Program Accession

This plan's elaboration is a bidder's obligation (as set forth in letter "f" of item 5.1) and aims to provide environmental and social technical support for engineering work's execution, especially sewer connections²⁴, as well as to guide the community in the benefited area on the importance of use, conservation and adherence to Sanitary Sewage Systems (SES). The Social Communication Plan and Program Accession should contemplate five operation areas:

- a) **Community Mobilization:** aims to inform the residents about the work's beginning, in order to minimize the impacts caused by the project's implementation, as well as to inform about the importance of the sewerage system. To achieve this objective, the following activities must be carried out during the construction:

²⁴ Sewer connection comprises residences sewer connection (whose property's sewage pipelines link to the CESAN's collection network from property's sidewalk) and Residence Sewer Inter-connections (those that have intervention inside the land/property of the client).

- ✓ Structured Network Diagnostics and Disclosure of the Service' s beginning
- ✓ Community Meetings
- ✓ Sewer Connections Monitoring Local Group
- ✓ Community Cinema
- ✓ Plumber Training Course
- ✓ Technical visit

- b) Accompaniment the community demands and work intermediation:** its objective is to monitor and handle the demands *in loco* in edifications where the sewer connections will be executed. For Residence Sewer Connection it should be evidenced on the outside of the property the contact with the resident informing about the benefit received and future sewer collection future rate. For Residence Sewer Inter-connection, the customer's authorization must be obtained for this procedure. The clients already approached and whose properties were authorized to receive the sewer connection will be identified by a seal fixed on the external facade of the property with the statement "PODE LIGAR" and after the established sewage connections, the property will be identified as "TÔ LIGADO".

The following situations will be measured:

- ✓ Forecast of Connection Execution Proposal's rejection (5%);
 - ✓ Signature forecast of the Term of Acceptance of the Residence Sewer Inter-connection free (95%).
- c) Environmental Education:** objective to train multipliers of information about the enterprise, its function and benefits. The target group is the leadership that works in the project scope (health agents, environmental and endemic agents, community leaders, city councilors and civil servants in general), as well as acting in schools.
- ✓ "Agente na Rede": Visit to Sewerage Treatment Station;
 - ✓ Environmental Sanitation Training;
 - ✓ Environmental and social events;
 - ✓ Writing Contests;
 - ✓ "Jogo do Rio": Environmental Education in primary schools.
- d) Customer service:** its main objective is to establish a daily communication channel with clients, to resolve doubts, receive suggestions and complaints about Company's works and other services.
- d.1) Local office: reception and treatment of customer demands of Cariacica; technical support in action's monitoring of Program's works; labor assistance place to

the responsible team and workers; actions planning and distribution in the project's coverage areas and public attendance that needs doubts clarification. This office must provide conditions for the new customers registration in CESAN's system for the sewer collection rate. The offices should be established in a large circulation area, such as: large shopping centers, urban terminals, community centers, etc. and operate during the local business hours and present accessibility conditions for people with physical disabilities and special needs.

The local office should be on the ground floor of the property, be air conditioned, with bathroom and furnished with two office tables and chairs, two computers connected to the internet, with multimedia equipment (notebooks, data show and TV) for projection of audiovisual material to be reproduced by the Bidder, disponibilize orientation's folders and pamphlets, minimum area of 30.00 m² and a specific room for CESAN.

d.2) Institutional support mobile unit: A Van adapted and transformed into a moving unit of institutional support to the project. The main objectives are to disseminate the Program through the project's areas, to inform the population about the services provided, to raise awareness of the residence sewer inter-connection effectiveness and to facilitate access to clients and communities on the actions being developed.

The mobile unit must have at least one professional, with experience in the sanitation and qualified to conduct this vehicle category, to provide care and clarification required. Each mobile unit should operate Monday through Friday from 1:00 p.m. to 7:00 p.m. and Saturdays from 8:00 p.m. to 1:00 p.m.

Minimum requirements:

- 01 Van adapted (Figure 1- Support Mobile Unit Example),, with air conditioning, support table, locker and 20 plastic seats with storage space;
- 02 50-inch TVs for transmitting images and videos
- Covering;
- 02 Notebooks;
- 01 Electric Power Generator;



Figure 1- Support Mobile Unit Example

d.3) **Call Center:** channel of relationship with the population and attendance of the demands for free through the telephone number 115. This call center will also be available for the requests coming from the works of this enterprise.

Internally, CESAN will create a procedure to maintain complaints/suggestions traceability that will be forwarded to the contracting party, who must train specific staff to meet the demands and meet the deadline defined according to the indicators monitored by the Regulatory Agency - ARSP and others which CESAN considers relevant and in accordance with these specifications.

- e) **Commercial:** is exclusively dedicated to the commercial actions of Residence Sewer connections and inter-connections activation in CESAN's Cadastre and Commercial System. CESAN will provide training to the Bidders' designated employees. Each month, the Bidder shall submit a consolidated report of the demands.

5.2.1 Target Public

- Population of the region served by the enterprise;
- CESAN's Customers;
- Schools;
- Social, environmental and cultural NGOs;
- Local Government Authority and City Council;
- Government-Owned And Private Companies;
- Formal and Informal Leadership;
- Other interest publics.

5.2.2 Technical and Social Work for Accession and Activation of Sewer Connections

During the services implementation of the sewerage system, the Bidder will carry out informative, educational and dissemination actions in the neighborhoods, according to the operation areas defined in the Social Communication Plan and Program Accession. The realization of meetings with leaderships (formal, informal and community), training in sanitation, visits to the construction workplaces, among other activities, to address the importance of universal collection and sanitary sewer treatment for environmental preservation, improvement of health and quality of life, aiming to persuade the population to authorize the free residence sewer connection execution.

In order to monitor the community demands, workplaces intermediation and Sewer Connections implementation, the bidder's environmental and social technical team will make residential approaches, to inform about the importance of works, of the services implementation's Program and so that the client allows the residence sewer inter-connection in the property to CESAN's sewer collection pipeline (*TERMO DE ACEITE PARA EXECUÇÃO DA LIGAÇÃO DE ESGOTO* - Acceptance Term For Residence Sewer Connection Execution). For residence sewer connection, a report must be prepared (*COMUNICADO LIGAÇÃO DOMICILIAR*), proving that the customer will be aware of the connection execution and subsequent charging of rate.

In cases where the customer rejects, the Bidder shall receive the signed a refusal term (*TERMO DE RECUSA DA LIGAÇÃO DE ESGOTO*). In some situations, it will take more than one home visit to locate the client, carry out approaches, obtain the signed forms and intermediate situations between client and works executing company.

Properties that have their sewage connected to urban drainage system, have septic tanks or located below the street level will have a specific treatment, according to CESAN's guidelines and procedures.

All the residents of the benefited area by the works must be approached and free connection execution offered to all of them. Subsequently, the residency status should be identified with the appropriate stamp.

A systematic dialogue with local leaders should also be instituted with the aim of minimizing the inconvenience caused by Sewerage System work's implementation.

5.2.3 Goals and Indicators of Social Communication Plan and Program Accession

The Contractor shall receive and handle all the demands arising from works implementation, in addition to producing quarterly reports with performed activities evidences. The actions and reports should be systematically monitored by the Supervisor with CESAN's support.

The executive schedule of the activities of the Social Communication Plan and Program Accession activities, graphic materials, communications, forms and informative flyers shall be submitted for prior approval by CESAN.

The environmental and social, engineering and construction teams must work in agreement, so that any problems prevent the proper sewage connection implementation.

Upon actions completion, the Bidder shall conduct a qualitative assessment of the activity with the participating public.

At the contract's end, all the equipment and didactic material acquired for the shares development shall be transferred to CESAN.

The final disciplines evaluation requires actions broken down as follows:

- **Community Mobilization:** mobilization activities should be carried out in all neighborhoods in the area benefiting from the project.
- **Accompaniment the community demands and work intermediation:** present evidence that 95% of the customers that benefited from the sewage connection were approached. The expected index for sewage connection implementation refusal is 5%. Therefore, in cases where customers refuse the approach, the sewage connection should be executed from the sidewalk (residence sewer connection) in possible places.
- **Environmental Education:** conducting environmental education activities in all benefited area's neighborhoods;
- **Customer service:** submission of routing records of all incoming customer requests. For more complex situations, the deadline for service will be up to 90 days. Also, to verify that the Mobile Units were made available according to the established requirements;
- **Commercial:** present evidence that 100% of sewage rates were implemented.

In order to evaluate the actions effectiveness and the satisfaction of the target public, the satisfaction index should be measured and reach values equal to or greater than 70% of the excellent and optimal according to survey participant's evaluation.

6- CARIACICA 2 - SANITARY SEWERAGE SYSTEM EXPANSION

The project will expand the domain and service of the sewage collection in the areas delimited by the polygonal according to PLANTA 09, deactivate the Marcilio de Noronha, Vila Betânia and Soteco Sewage Treatment Plants, and pump the collected sewer in these systems for treatment in Bandeirantes STP.

Sewerage System to be implemented will complement Marcilio de Noronha, Vila Betânia and Soteco existing independent systems. Works include the construction of Sanitary Sewer Collection Pipelines, Residence Sewer Connections and Inter-connections, sewage pumping stations, Pressure Sewer Lines, Trunk Sewer Collectors and Sewer Cleanouts installation on the sidewalks. Sanitary Sewer Pipelines should be preferably built on public roads.

The areas established for system expansion are delimited by polygons as illustrated in Figure 2 (PLANTA 09) below:

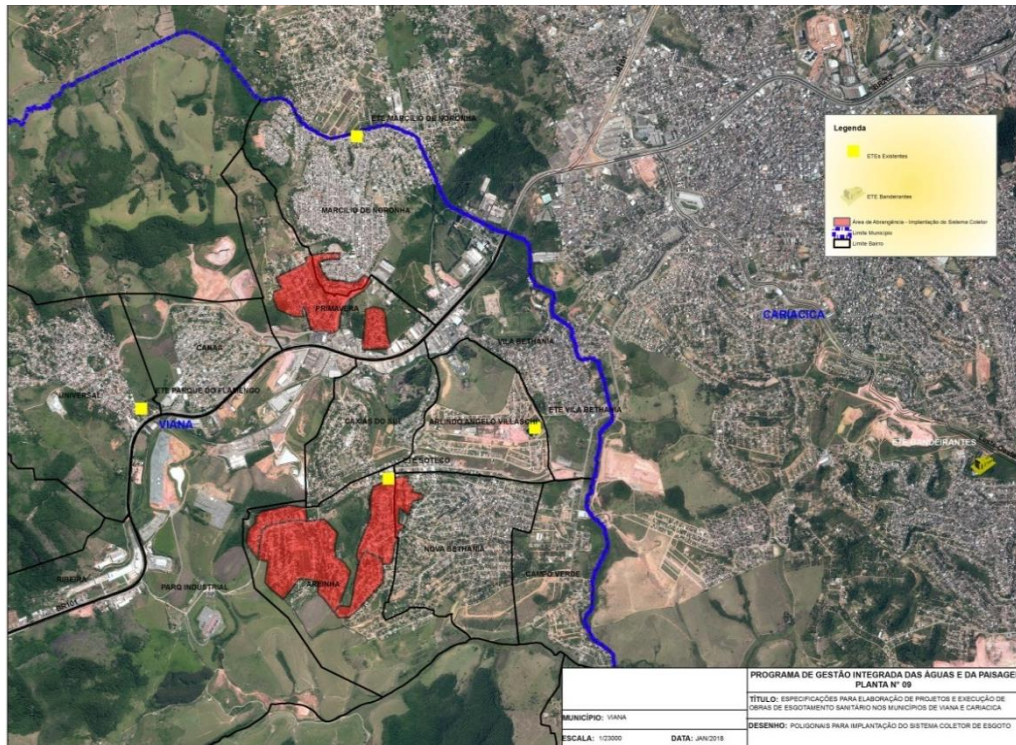


Figure 2 - Area Benefited by Sanitary Sewer Pipeline Implementation

There are 1,355 customers in the current systems that have the sewage collection service available that are not yet connected to the sewerage system, so called "feasible". In this case, it will be necessary to connect them to the sewerage system; 236 of them have sewer cleanouts in front of properties, while 1,119 do not. It is mandatory to implement residence sewer connection and inter-connection in order to achieve the minimum number of 3,070 sewer connections (including "feasible" customers and that customers in areas covered by the polygons) where sewer collection pipeline will be built.

The current systems and their complements will have the sewage collected and transported by raw sewer pumping systems, and the main ones will be installed in sewage treatment plants areas that will be deactivated. This initiative will allow independent system's unification. The sewage pumping station responsible for the reversion to Bandeirantes STP will be installed in Vila Bethânia STP's area, close to the border of Cariacica and Viana municipalities. It will be necessary to install an electromagnetic flow meter in the Pressure

Sewer Line and also the crossing construction on the River Formate that will cross both municipalities.

For Marcílio de Noronha Sewerage System, it will be necessary to change the Marcilio de Noronha and Casarão existing Sewage Pumping Station's flow direction, in order to promote the system's reversal. It will be possible for the builder to use existing sewage pumping systems, but will be responsible for re-scaling and works required to ensure system carrying capacity.

Viana Municipality will implement a sewage collection system in the Universal neighborhood and will expand Canaã neighborhood's existing system, aiming to unify the sewage collection from these neighborhoods. To serve this system, a Raw Sewer Pumping Station near the Canaã neighborhood must be built by the bidder.

Existing system's main units are represented in Figure 3 (PLANTA 10) below:

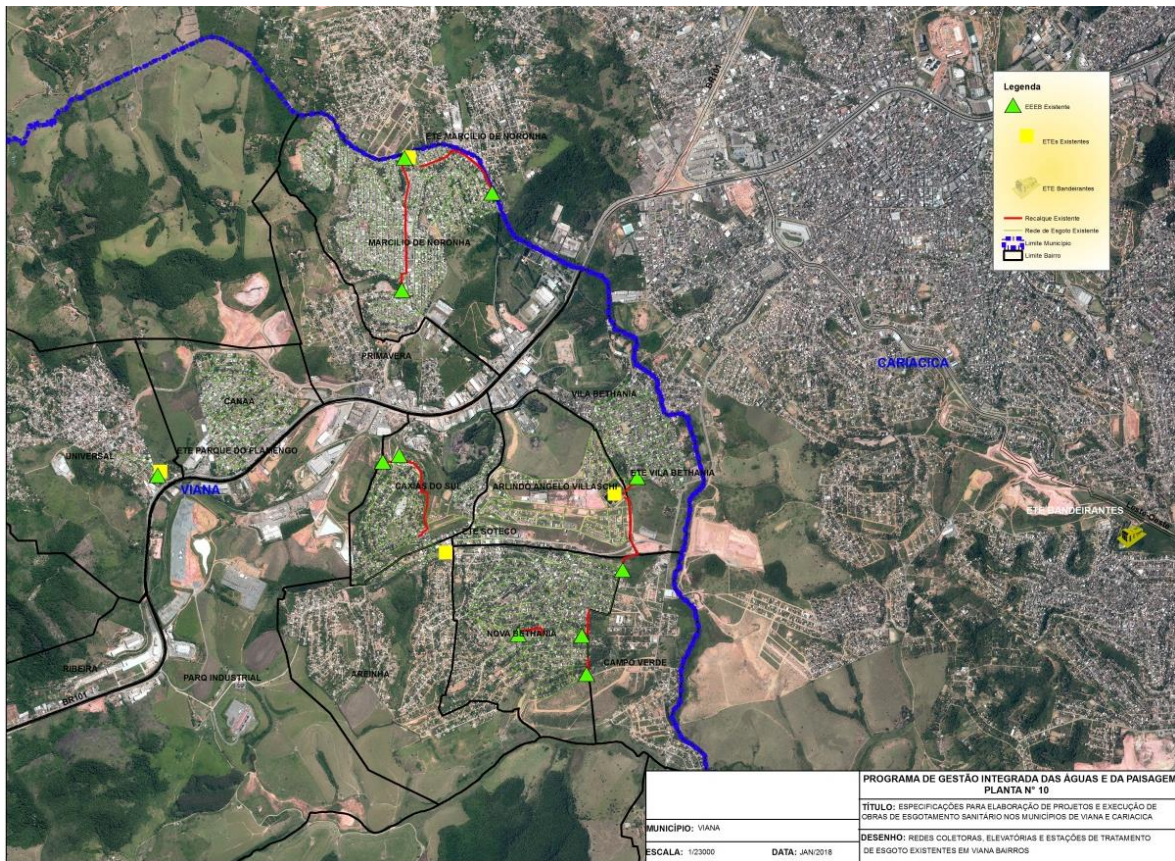


Figure 3 - Existing systems

Figure 4 illustrates the reference solution suggested by Cesan. The bidder shall evaluate and present its detailed proposal in compliance with the conceptual scope of Vila Bethânia's reversion pumping station implementation to Bandeirantes STP. The other pumping units

Table 1: Pumping Stations Flows proposed in the Reference Solution

RAW SEWAGE PUMPING STATION	Q (l/s) 10 years	Q (l/s) 30 years	Qmax (l/s) 10 years	Qmax (l/s) 30 years	PUMPING STATION
Canaã 1 RSPS	19.4	26.2	35.0	47.2	TO BE IMPLEMENTED
Marcílio de Noronha STP's RSPS	21.9	26.2	39.4	47.1	TO BE IMPLEMENTED IN EXISTING AREA
Marcílio de Noronha (Casarão) RSPS	33.2	41.5	59.8	74.6	TO BE IMPLEMENTED IN EXISTING AREA
Primavera 3 RSPS	0.8	1.1	1.4	1.9	TO BE IMPLEMENTED
Primavera 1 RSPS (Reversion)	57.2	73.8	103.0	132.9	TO BE IMPLEMENTED
Areinha 5 RSPS	0.5	0.7	1.0	1.3	TO BE IMPLEMENTED
Areinha 3 RSPS	0.9	1.2	1.5	2.1	TO BE IMPLEMENTED
Areinha 2 RSPS	3.7	5.0	6.6	8.9	TO BE IMPLEMENTED
Soteco STP's RSPS (Reversion)	68.2	88.6	122.7	159.6	TO BE IMPLEMENTED IN EXISTING AREA
Vila Bethânia STP's RSPS (Reversion to Bandeirantes STP)	99.6	131.0	179.2	235.8	TO BE IMPLEMENTED IN EXISTING AREA

7- GUIDELINES AND CONDITIONS FOR SERVICE'S EXECUTION

These technical specifications prepared and its attachments will be part of the International Public Bidding - ICB 001/2018 in the fixed-price turn-key contract model, guided by “Guidelines - Procurement of Goods, Works, and Non-consulting Services Under IBRD Loans and IDA Credits & Grants by World Bank Borrowers (2011)”.

The Bidders must prepare studies and quantitative surveys to substantiate the proposals, considering coverage area; compliance with technical, legal and economic requirements; operational efficiency and other necessary elements. The company selected in the bidding process, when signing the contract, will prepare the projects and execute the works as established in this Technical Specification and in the environmental licenses.

Proposals should consider all project scope; established goals; works, materials and equipment quality; operational and energy efficiency; useful life; environmental premises and licenses; relationship with the community and other as provided in this document.

The technical elements necessary to fulfill the scope will be Bidder's responsibility, subject to the Technical Specifications and Appendices.

It is Bidder's responsibility to analyze the technical referenced documents in these Technical Specifications, adopting the elements it deems appropriate and sufficient to its project, complementing and adapting those that it deems necessary, in order to elaborate its proposal for contracting determined modality.

The Bidder must consider in its proposal all the quantities of materials, equipment, labor and other inputs necessary for the complete execution of each stages of the work and installations. Described in the Bill of Quantities. The Bill of Quantities shall be read in conjunction with the Instructions to Bidders, General and Special Conditions of Contract, Technical Specifications and Drawings. The brief description in the BoQ shall not modify nor supersede the descriptions and requirements gives in the Conditions of Contract Specifications and Drawings.

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.

A rate or price shall be entered against each item in the priced Bill of Quantities, whether quantities are stated or not. The cost of Items against which the Contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities.

The execution of sewer collection pipelines, residence sewer connection, sewage pumping station, trunk line, interceptors, pressure sewer line and sewage treatment plant will be evaluated after their completion during 180 days commissioning period, for final receipt.

7.1 Projects

Sanitary sewage is constituted by the activities, infrastructures and operational facilities of adequate collection, transportation, treatment and final disposition, according to sanitation federal law 11.445 / 2007.

The studies, projects, calculation memories and technical specifications will be developed for full implementation of the works and will provide information on services, supply of materials, equipment, installations (civil, hydraulic, electrical, mechanical, electromechanical, electronic, telemetry and remote control, among others) that are necessary in accordance with the National (*Lei Federal 11.445/2007*), State (*Lei Estadual 9.096/2008*) and Municipal guidelines; ARSP - ES (*Agência de Regulação de Serviços Públicos do Espírito Santo*) legislation and ABNT (*Associação Brasileira de Normas Técnicas*) standards. In the absence of Brazilian standards, they must comply with the AWWA (American Water Works Association) standards. The projects should follow the "*Diretrizes Gerais de Projeto de Esgotamento Sanitário da CESAN*" (A-000-000-90-0-RT-0002).

CESAN's Operational Procedure "*Apresentação de Projetos*" should be used for technical document's issuance related to the project. The objective of the procedure is to establish standards for Plan's presentation and technical reports for engineering projects in water supply, sewage and other systems.

The projects must be delivered in a digital format with designer's electronic signature, to be provided by the bidder, for inclusion in the CESAN's Technical File system, in addition to their *Atestado de Responsabilidade Técnica* (ART).

The Bidder must carry out a topographic survey and drill diagram of the area for STP's implementation carry out the projects.

At the end of services execution, in addition to the projects, the "As Built" Georeferenced Plans must be provided, taking into account the standard of project's issuance.

7.1.1 Sewerage System

The civil structures of Sewage Pumping Station and Pressure Sewer Lines should be designed to withstand 30 (thirty) years of population growth. Motor-pumps and electric panels should be designed for a period of 10 (ten) years.

The "per capita" coefficient of treated water consumption to be adopted should be 145 liters / day.

Flow variation coefficients to be used should be:

- Maximum daily flow coefficient $K1 = 1,2$.
- Maximum hourly flow coefficient $K2 = 1,5$.

These values are recommended by NBR ABNT 9.649 - Sewer Collection Pipeline Projects.

Return coefficient value of 0.80 should be used, that is recommended by NBR ABNT 9.649 - Sewer Collection Pipeline Projects.

The infiltration coefficient should consider 14% of sewage volume generated by the population served, even considering the sewer manhole's expected watertightness.

In areas with a refuge island or more than 12 meters wide, two (02) Sewer Collection Pipeline (one on each side of the street) should be designed.

Sewer Cleanouts, executed in unpaved areas, shall be designed enclosed by a plate sized to withstand the stresses caused by moving loads (vehicles) and shall not allow retraction and displacement.

Sewer Manhole must be fully watertight, and designed with surface extension's possibility, in order to promote leveling with future runway asphalt paving.

"Sewer collection Pipeline's Domain" is characterized by the availability of Sewer Pipeline and Sewer Cleanout in front of the property, provided it has conditions for connection to the sewage collection system.

The "service" is characterized by the effective Residence Sewer Connection to Sewer Cleanout, which flows sewage to the collection and treatment system.

Residence sewer connection must be made, regardless of authorization, provided it is established on a public road (including sidewalk), as established by State Law (*Lei Estadual Nº. 9 096, artigo 40, parágrafo nono*), which determines:

It is possible for sanitation utilities companies providing Residence Sewer Connection to the public Sewer Collection Pipeline, independently of authorization of its owner, when the property extension is available in public area and technically apt to the connection.

Residence Sewer Inter-connections depend on the specific technical condition for its execution and the owner's authorization. It will be necessary to execute this connection type in order to comply with minimum service established level of properties effectively connected to sanitary sewer collection pipeline. The Bidder must make efforts with the owners, who depend on this connection type, to obtain their consent and carry them out, including carrying out social actions with local leaders and authorities, in order to make the population aware of works importance.

ARSP-ES's Resolution n° 008, of 7th December 2010, defines Connection and Economy as:

Economy: property or subdivision, with an interdependent and autonomous consumption occupation in relation to the others, perfectly identifiable and/or verifiable in function of occupation and destination's purpose, served by an own or shared extension line with other economies;

Active connection: property with water and/or sewage connection connected to the public pipelines and registered regularly with the service renderer;

Connection: is the interconnection of the water transmission line and/or Sewer collection Pipeline to the spot of water transmission and/or sewage collection.

In polygons established as project area in Cariacica, the goal is to set up Sewer Pipelines, including the connection spots on the sidewalks, and reach 100% coverage of the properties with water connection. It is mandatory to carry out the Residence Sewer Connection and Inter-connections, in order to meet the minimum number of 10,439 (ten thousand four hundred and thirty nine) properties effectively connected to Sanitary Sewer Pipeline.

Sewer Pipeline design should be developed based on a intervention area's population study to be prepared by the bidder, using the IBGE 2010 Census or data from *Instituto Jones dos Santos Neves* and adopting the projection for 30 years.

The Bidder must consider the sewer pumping stations area enclosure. The wall will be built with concrete blocks with compressive strength of 3.0 MPa and dimensions 14x19x39; concrete base. On the wall, will be installed galvanized steel grate and coated by polyester electrostatic painting, 2.00 meters of high, net of 5,0x20,0 cm and wire diameter of 5 mm (as specified in CESAN's Standard Project A1.5 and A.1.8) and install razor wire around its perimeter.

Pumping station access gate must have a free opening of 4.00 meters wide and be built according to CESAN's standard project.

Consideration should be given to sidewalk implantation around the pumping station wall, where there is a public road bordering to obey municipal legislation.

The area destined to pumping stations implementation must be endowed with a surface drainage system, in order to avoid any precipitation water's accumulation and the grouping of these waters in a single point, which will be launched in the existing drainage system in the stretch.

For pumping station's electric pumps consider a minimum of two units (one in active drive and another spare). Direct starter, soft starter or frequency inverter must be considered in

accordance with A-000-000-00-0-CP-0003 CESAN's standart and Electric Power Utility Regulations.

For engines up to 5 hp can be with direct starting. For engines from 5 to 30 CV must be with Soft Starter. For engines above 30 CV must be with Frequency Inverter.

Pumping Station's motors control panels will be housed in a building designed solely for this purpose, with a aluminum shutter door.

Aiming to maintain full control over the volume of sewage collected that is sent to TEE for treatment , the bidder should consider supply and installation of telemetry system; open source supervisory software; Programmable Logic Controller. Such systems must operate in an integrated and compatible manner, allowing the exchange of information with CESAN's current telemetry system, as well as the sending of information from each STP to the CESAN's Central Control of Operations (CCO).

Sanitary Sewer Pipeline shall be made of PVC EB-644 (*Tube PVC NBR 7362*) with a minimum diameter of 150 mm. Trunk sewer lines with a diameter of more than 300 mm must be made of cast-iron.

Pressure Sewer Lines in all diameters shall be constructed in cast-iron, DN 80 mm being the minimum acceptable diameter.

7.2 Works

The works must comply with ABNT standards (*Associação Brasileira de Normas Técnicas*) and CESAN's guidelines and technical prescriptions, which concern: preliminary services, construction site installations, technical services, earthmoving, shoring, sewerage system, foundation and structures, pipes and connections laying, paving, closure, electromechanical installations and miscellaneous services.

After implementation work's completion (Sewer Pipeline, Trunk Line, Interceptor Sewer), the Bidder must carry out tests in the pipeline to make sure that there is no crumpled sections and that is in perfect conditions, making use of cylindrical spheres of diameter compatible with the pipes and of internal filming. Such tests shall be carried out in the presence of a CESAN's representative or to whom it appoints.

Sewer Manholes should be impermeable and will mainly be observed its internal finish and pipe's inside fittings, besides the occurrence of water infiltration and other construction problems that deviate from CESAN's works execution standard.

Asphalt pavement recomposition should have a minimum base layer thickness of 20 cm, a minimum asphalt layer thickness of 5 cm and a total thickness necessary to meet the roads classification in which the pipelines will be implanted.

7.2.1 Planning

The Bidder shall have specific staff to carry out the activities of planning, monitoring and reporting, whose structure must be installed in the municipality of Cariacica, close to the work's sites, providing a minimum area of 20.00 m² for CESAN's Inspection (including bathroom, two office desks and chairs, two computers connected to the internet, a telephone line, a closet and air conditioning).

The central office will have the function of hosting the supervision and Inspection team, in order to provide the necessary information for the management of the work and CESAN's supervision and to plan, detect deviations and propose solutions, so that the contractual objectives are fulfilled. For Lot 2 the bidder must plan at least 3 work teams for simultaneous execution of networks equipped with separated tools, equipment (excavator, trucks, and others), security equipment for the workers, and all necessary to effectively and safety execute the works.

The bidder must previously inform the inspection the entire schedule and detailed planning of works, electromechanical installations, operation and maintenance services of each operational unit for prior approval.

Every month the schedule should be updated, the inconsistencies and difficulties recorded and actions planned to comply with the steps in the agreed initial deadlines.

Any partial or total interruption of operational unit for services execution of any nature shall be previously or immediately communicated to CESAN's inspection, which shall evaluate the need for communication to the *Agência de Regulação de Serviço Público - ARSP-ES* or the environmental control agencies.

The Inspection, during the execution of the Works and Services, will be carried out according to *Manual Ambiental da Construção – MAC, Relatório de Avaliação Ambiental e Social – RAAS*, Framework for the Program's Environmental and Social Management, CESAN's Minimum Technical Recommendations, Technical standards(national and international), Contract Management document, as well as the *Caderno de Procedimentos Padrões de Obras*, which contains: *Fiscalização de Obras* (PO-OBR-001), *Movimentação de Materiais* (PO-MAT-001), *Sinalização de Obras e Unidades Internas* (PO-SIN-001), *Concretagem* (PO-CON-001) and *Pintura Industrial* (PO-PIN-001), available on https://www.cesan.com.br/site/portal-de-licitacoes/download/Procedimentos_Padros_Obras.pdf.

The requirements defined in this document "Technical Specifications For The Project Elaboration And Work Execution Concerning The Sewage Collection System Of Cariacica Municipality" are in line with the guidelines of the World Bank documents and prevail over the CESAN 's "*Caderno de Procedimentos Padrões de Obras*".

7.2.2 Commissioning

After the communication to CESAN about works and installations completion, a joint survey will be carried out, with the presence of the agents involved, for the definitive works receipt. In this survey, the Bidder shall provide adequate equipment to test all pipelines with ball and water passage, verifying completeness and operation according to specifications and design.

After the due verifications and proven system's quality and operability, the Form of Completion Certificate will be issued, after this stage the commissioning will commence for a period of 180 days, for verification and operational tests of all the equipment and installations.

During the commissioning phase, any problem in the operation of the equipment must be repaired by the Contractor, regardless of being notified.

8- APPENDICES

Table 2: DRAWINGS;
Manual Ambiental da Construção – MAC do BIRD;

Relatório de Avaliação Ambiental e Social – RAAS e Arcabouço para o Gerenciamento Ambiental e Social do Programa;

Diretrizes Gerais de Projeto de Esgotamento Sanitário da CESAN” (A-000-000-90-0-RT-0002);

Procedimento Operacional CESAN “Apresentação de Projetos” nº PO-APJ-001;

Cadernos de Fiscalização de Obras (PO-OBR-001), Movimentação de Materiais (PO-MAT-001), Sinalização de Obras e Unidades Internas (PO-SIN-001), Concretagem (PO-CON-001) e Pintura Industrial (PO-PIN-001);

Table 2: Drawings

DESCRIPTION (PLANS / DRAWINGS)	
PLANTA N° 09	Área de abrangência para implantação de redes coletoras no SES Bandeirantes – Cariacica 2
PLANTA N° 10	Sistemas existentes Cariacica 2
PLANTA N° 11	Solução de Referência

Environmental, social, health and safety requirements

CONTRACTOR'S RESPONSIBILITIES

The Contractor is fully responsible for the compliance of these Environmental, Social, Health and Safety Management Requirements (ESHS) as described in this section. Subcontracting of works does not relieve the Contractor from full responsibility for the compliance of these ESHS.

The Contractor, before starting of works, shall prepare and submit to the Employer's approval the Implementation Plan of the Environmental, Social, Health and Safety Management Strategies and Implementation Plans (ESHS-MSIP) (the one required by ITB 11.1 (h) of the Bid Data Sheet and previously submitted).

The ESHS Implementation Plan shall describe in detail the actions, materials, equipment, management processes, methodologies, resources, timetable, monitoring system, etc. that will be used by the Contractor, and its subcontractors to meet the ESHS requirements herewith described in the following provisions.

All of the regulations, laws, decrees, applicable standards are detailed in "Short scope and obligatory documentation" of "Section VII. Works Requirements". In especial, the Contractor must carefully know the regulations, laws, decrees, applicable standards described in the Environmental and Social Assessment Report - RAAS and Framework for the Program's Environmental and Social Management; in the Environmental and Social Management Plan contained in the RAAS; in the Environmental Manual of Works; and the Conceptual Framework for Involuntary Resettlement. It should be noted that these studies and plans also cover most of the social, health and safety requirements, but in the event of a lack or conflict between these Requirements and the requirements of the studies and plans cited, these ESHS will prevail.

The Contractor shall know, comply with and enforce all regulations, laws, decrees, specifications and other governmental regulations of environmental, the ones of federal, state and municipal levels that in one way or another are related to the works object of this contract. The lack of knowledge of one or more of these rules, or other not specifically mentioned and their corresponding updates, does not release from the responsibility to comply with these ESHS requirements.

The Contractor is responsible for obtaining of the licenses and permits.

REQUIREMENTS FOR MITIGATION OF ENVIRONMENTAL RISKS AND IMPACTS

The Contractor shall ensure the protection and minimize the impact to the environment in the work area of intervention. In order to do this, the Contractor shall promote the installation of equipment that contribute to energy and water use efficiency and water use and implement environmental control standards in the work, using machinery with sustainable technology. (low emission of air pollutants and noise generation and consumption fuels).

The Contractor shall comply with the following provisions.

Removal of vegetation and Intervention in Permanent Preservation Areas

The activities of removal of vegetation and intervention in Permanent Preservation Areas - APP should follow the following instructions:

- a. Obtain the Vegetation Suppression Authorization (ASV, because of its acronyms in Portuguese) and Intervention Authorization in APP;
- b. The Contractor shall keep a copy of ASV and Intervention in APP - ASV in the work. Should also install boards containing information about ASV;
- c. The contractor shall carry out the demarcation of trees and delimit the vegetation fragments whose removal is authorized by the environmental agency.
- d. The Contractor shall carry out the demarcation of the area authorized for intervention in APP and is prohibited to perform activities beyond this limit.
- e. The Contractor shall perform activities of suppression of vegetation with monitoring of a qualified professional (biologist, agronomist engineer, forester engineer or environmental engineer), responsible for the supervision of such activities.
- f. The Contractor shall use chainsaw duly registered and licensed in the Brazilian Institute of Environment and Renewable Natural Resources - IBAMA, considering that the responsible officials for suppression must have training to use the equipment.
- g. The lumber from the suppression activities should be segregated (antlers, roots, trunks and branches). The trunks and branches should be cut into logs and placed in windrows within the field range of the Contractor, or as defined by the Employer. The antlers and roots must be aimed at local authorized to receive such waste. It is forbidden to bury them, abandon them or burn them.

Areas of support – Construction site and surplus material deposits

The location, use and recovery of the support areas (construction sites and materials' deposit areas) is a full responsibility of the Contractor, who must select areas without environmental restrictions.

The support areas located outside the domain range must be registered in the environmental agency, according to current law, and the Environmental Specialist conducts their registration and control.

The above referred areas of support shall be identified with signs and delimited in order to prevent third party access.

The construction sites, properly licensed, should receive special attention and environmental protection measures should be adopted, such as: implementation of diverse collectors to promote the selective collection of waste; implementation of water and oil separating boxes for water boxes and oil in the output of vehicle washing platforms, workshops and machinery maintenance areas, storage location for oils and derivatives; specific locations identified and covered for storage of waste, chemicals, supplies, etc. and implementation of internal safety signs.

If is needed to perform the suppression of native arboreal specimens, the Contractor shall carry out the request to the environmental agency, becoming responsible for the information presented, including the measures of environmental compensation arising from the ASV.

After use, the Contractor shall adopt recovery measures in the support areas, by cleaning and reshaping the land, vegetation cover and drainage system deployment in order to avoid the development of erosive processes, or as to the agreed owner.

The Contractor shall request the termination of the registration of the support areas through a report containing the recovery measures adopted, as well as photographs and receiving document of the area signed by the owner..

Water resources

The Contractor shall take protective measures and control of environmental impacts for all water resources that suffer intervention during the works and shall perform maintenance of adopted measures. In particular, the Contractor shall regularly monitor the quality of water in watercourses on the perimeter of the works.

The intervention areas close to water resources must be delimited.

When it is needed to perform the extraction of water, the Contractor shall request grant uptake of water resources at the State Water Agency - AGERH.

It is forbidden the permanency/allocation of machines, vehicles and equipment in areas near water resources in order to avoid soil contamination, surface and groundwater due to possible leaks.

The disposal of solid or liquid waste of any type in water bodies, or close to them, is strictly forbidden.

The Contractor shall establish provisional drainage devices, restraint and discipline rainwater to control erosion on slopes, in order to avoid the entrainment of sediments and consequent siltation of waterways.

Processes Excavations on urban streets

In excavations on urban streets the Contractor must comply with the norm NBR 9061/85 that defines technical procedures for the elaboration of the projects and execution of the works.

The Contractor shall meet the municipal and contractor's requirements in relation to: a) licenses; b) deadline for execution of the intervention and paving; c) signaling; d) communication to the population; e) work safety.

Solid Waste and Effluents

Definitions.

Solid Waste, as defined by Law (n.12,305/2010 - National Solid Waste Policy) are "materials, substances, objects or goods discarded, resultant of human activities in society, whose final destination is proceeded, is proposed to proceed or is obliged to proceed in solid or semi-solid states, as well as gases and liquids in containers whose peculiarities render infeasible its launching in the public sewage system or in water bodies, or requires technically or economically unviable solutions in the face of the best available technology".

Effluents are defined as: "Waste, in the form of liquids or gases from industries, sewage, stormwater networks and other sources, which are released into the environment"

The Contractor is responsible for waste and effluents generated by subcontractors.

Non-contaminating solid waste:

- The Contractor shall keep on all fronts of works, service areas, waste materials deposits and loans boxes and containers (collectors, barrels or other) for collection of non-hazardous solid waste generated at these sites, in order to establish the selective waste collection.
- The waste must be packaged in disposable plastic bags, standardized according to current rules and collected daily.
- The Contractor may maintain a temporary storage area of waste collected in various parts of the works, in order to reach a larger volume for final disposal. These locations should be covered and have separators (fences, walls or partitions), or use containers to maintain the correct segregation of waste and prevent their exposure to the elements, thus avoiding undesirable effects such as the acceleration of waste decomposition process, generation of odors, medium and small animal attraction, proliferation of disease vectors, among others;
- The areas for Remaining Material Deposits should receive only soils;
- The use of municipal solid waste collection should be agreed and documented by the municipal government (statement prefecture).

Solid waste and contaminant residues:

- The Contractor shall keep at the construction site, specific location for storage of contaminant residues, oils, grease and materials contaminated with them, taking the necessary environmental protection measures in accordance with current legislation.

- The disposal of such wastes must be registered and authorized by the competent environmental authority, or hire a company specialized in the transport and disposal of such waste.
- The Contractor shall request the operating licenses and permits of all service providers contracted to transport and / or promote the disposal of such waste.
- The Contractor shall keep records of the waste collection and present them when requested.

Effluents

- It is prohibited direct dumping of sewage of any nature in water courses or soil.
- It is prohibited the release of cement residue, wash concrete mixer trucks, machinery washing works directly on the ground or in waterways.
- The Contractor shall maintain chemical toilets on the fronts of works, observing the regulatory norms of the Ministry of Labor.
- If the support areas do not have municipal sewage system should be deployed unit (s) of treatment with septic tanks following the rules and legislation, requiring the prior execution of specific infiltration tests in septic tanks installation locations.

Atmospheric emissions

- The Contractor shall perform the control and maintenance of machinery and industrial plants used in the works to maintain full operation with particulate emissions within the permitted amounts.
- The Contractor shall perform the wetting of unpaved urban streets and exposed areas to avoid suspension of particulate matter.
- The trucks containing cargo (especially soil and gravel of any kind) should traffic with the cargo covered, avoiding the suspension of particulate matter or a drop in traffic routes and/or in passers-by vehicles.

Noise

- The Contractor shall comply with noise limits established in the related legislation and with the period of work, not prior to 7:00 am or later at 19:00. When needed jobs in extraordinary times, the Contractor shall make a local public communication through radio, newspapers, reports, signs, banners, or other methods, especially the population of the affected area in order to avoid nuisance or damage to the population.
- The use of explosives shall be informed to the population, as well as the Traffic Police and the Municipality, and, preceding the event, there should be beep-indicating interventions.
- The Contractor shall carry out periodic maintenance of equipment and machines used in the works aimed at low noise levels.
- The machinery operators and all personnel that works near noisy equipment must be submitted to Individual Safety Equipment - ISE needed to minimize the effects of noise pollution produced.

- When prompted by state or municipal bodies competent, considering the proximity of urban areas, the Contractor shall carry out noise measurements to prove compliance to accepted legal standards.

Contaminant Residues

- Contaminant residues and/or toxic products should be stored in a specific location and marked with signposts, with the respective sheets of Chemical Products Safety Information Sheet – FISPQ, and follow the current regulations.
- The storage area must be waterproofed and covered, offering security and intervention equipment.
- The areas of equipment and machinery maintenance should also have system and water and oil separator (SAO, because of its acronyms in Portuguese), which should receive regular checks and maintenance.
- The oil collected from the SAO should be provided in containers (drums, for example) and stored in a specific location, also endowed with SAO.

Archaeological Heritage

- The contractor should monitor excavations when there is evidence of an archaeological site.
- In the case of an archaeological site, it should prepare the Archaeological Monitoring and Rescue Project to be presented to the National Historical and Artistic Heritage Institute (IPHAN).
- In the case of an archaeological site, the archaeological monitoring of the works during excavation activities should be carried out.
- The materials found must be collected, analyzed, related and delivered to a Guard Institution, which must acknowledge receipt.
- The activities developed should be described in a report to IPHAN in accordance with current norms and laws.

REQUIREMENTS FOR MITIGATION OF SOCIAL, HEALTH AND SAFETY RISKS AND IMPACTS

The Contractor shall ensure the protection and minimize risks and impact of the project to the society of the work area of intervention. To this effect, the Contractor shall comply with the following provisions.

Involuntary resettlement and other related risks: protecting of contiguous properties of the works; ensuring continuity of basic services in the direct area of the works; avoidance of restriction for pedestrian, vehicles and/or businesses; procedures for traffic control, security and signaling of works; need for easements or transit to the works; avoidance of any obstruction on the urban streets.

Involuntary Resettlement. During the preparation of the projects in case there is a need for Involuntary Resettlement, the Contractor shall prepare a Resettlement Action Plan. The

Contractor shall only begin to work in the areas after approval and execution of the Resettlement Action Plan with the Employer's authorization.

Precautions to avoid any type of damage to persons or property. Contractor shall take all necessary precautions to avoid any type of damage to persons or property of any kind, including property contiguous to the work, with exclusive responsibility for compensation for damages that the work and / or its dependencies may cause.

Assurance of continuity of basic services in the works' area: In order to ensure continuity of existing basic services and avoid affecting people in the areas of direct influence of the project, before the start of works, the Contractor shall request the Employer to undertake the formal communication with the entities or utilities services (telephone, sewerage, water supply and gas) to undertake the relocation of infrastructure that may be affected by the works, When requested by the Contractor, the Contractor shall assist in communicating to entities or services affected in the project area of influence.

Prevent or restrict the movement of pedestrians, vehicles and others: The Contractor shall not restrict pedestrian and vehicle access to their homes and / or companies during construction. When the restriction cannot be avoided, a management plan including appropriate temporary access agreed with the affected persons. The Contractor shall implement the plan once approved by the Employer.

Avoidance of any obstruction on the urban street. The Contractor will avoid any obstruction on the urban street constituting a potential risk to users by implementing adequate signaling as it is mandated by the Brazilian Traffic Code – CTB. The Contractor will respond uncompliance with this provision civilly and criminally.

Communication with local community

The Contractor will prepare a Communication Program to inform users, residents, the surrounding population and others about work and impacts before beginning. The program will: a) communicate the schedule of the works and their impacts (restriction of access time, etc.); b) progress of construction; c) planning of opening of work fronts with interruption of traffic; d) Preventive measures to be taken to ensure the protection of the environment and the local population; (e) The program should include prevention information to minimize the potential for dissemination of sexually transmitted diseases, such as HIV / AIDS - and other risks that may be associated with the influx of temporary or permanent workers due to the project;

The Communication Program should establish mechanisms for feedback and treatment of complaints from society.

The Contractor shall organize a procedure for handling the complaints of the population integrated into the Employer's system to manage the entry of requests, analysis of complaints, resolution and return to the claimant. This system will be based on these three principles: (i) availability for beneficiaries and stakeholders, considering and respecting their characteristics and socio-cultural needs; (ii) procedures known and schedule for analysis and resolution of complaints; and (iii) accessibility of its resolution to the claimants. The Contractor will have records of each request, response, response time or submission to the Contractor if it is not in your area.

The Contractor shall communicate the mechanisms for feedback and response to complaints. The complaints of the population can be made directly with the Contractor or through the telephone number 115 of CESAN or telephone (55 + 27) 2127-5035 - Ombudsman of CESAN.

REQUIREMENTS FOR MITIGATION OF HEALTH AND SAFETY RISKS AND IMPACTS

Code of conduct for Contractor's employees and subcontractors

The Contractor shall apply the Code of Conduct to ensure compliance with its Environmental, Social, Health and Safety (ESHS) obligations under the contract.

The Code of Conduct should be written in simple language, be specific to predict and contemplate any violations with the standards described in the code and each worker should know and sign document that has received training and is committed to the guidelines of the code.

A satisfactory code of conduct will contain obligations on all project staff (including subcontractors and day workers) that are suitable to address the following issues that are summarized in this point:

- a) Compliance with applicable laws, rules, and regulations of the jurisdiction
- b) Compliance with applicable health and safety requirements (including wearing prescribed personal protective equipment, preventing avoidable accidents and a duty to report conditions or practices that pose a safety hazard or threaten the environment)
- c) The use of illegal substances
- d) Non-Discrimination (for example on the basis of family status, ethnicity, race, gender, religion, language, marital status, birth, age, disability, or political conviction)
- e) Interactions with community members (for example to convey an attitude of respect and non-discrimination)
- f) Sexual harassment (for example to prohibit use of language or behavior, in particular towards women or children, that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate)
- g) Violence or exploitation (for example the prohibition of the exchange of money, employment, goods, or services for sex, including sexual favors or other forms of humiliating, degrading or exploitative behavior)
- h) Avoidance of gender-based violence and sexual harassment

- i) Protection of children (including prohibitions against abuse, defilement, or otherwise unacceptable behavior with children, limiting interactions with children, and ensuring their safety in project areas)
- j) Sanitation requirements (for example, to ensure workers use specified sanitary facilities provided by their employer and not open areas)
- k) Avoidance of conflicts of interest (such that benefits, contracts, or employment, or any sort of preferential treatment or favors, are not provided to any person with whom there is a financial, family, or personal connection)
- l) Respecting work instructions (including regarding environmental and social norms)
- m) Protection and proper use of property (for example, to prohibit theft, carelessness or waste)
- n) Duty to report violations of this Code
- o) Non-retaliation against workers who report violations of the Code, if that report is made in good faith.

Signed Code of Conduct by each work will indicate that they have: received a copy of the code; had the code explained to them; acknowledged that adherence to this Code of Conduct is a condition of employment; and understood that violations of the Code can result in serious consequences, up to and including dismissal, or referral to legal authorities.

Training. The Contractor will carry out – directly or with the support of a third specialized service periodical training on the Code of Conduct.

Workers Conditions of Employment and Labour

The Contractor shall know and comply with the legal provisions relating to employment and labor, including child labor, and technical and regulatory standards.

The Contractor shall document and provide each worker to be hired in a clear and understandable manner, the information concerning their rights under the labor law, including the rights to wages and benefits;

The Contractor shall comply with the requirements of collective agreements and the right to free organization; according to the principle of equal opportunity and fair treatment, making no discrimination in any aspect of the employment relationship (recruitment, hiring, compensation, working conditions and terms of employment, training, promotion, termination, retirement and discipline);

The Contractor shall provide easy access mechanism for complaints to workers and their organizations, regardless of other legal resources, to express their concerns about working conditions, with guaranteed return to the complainants, without any retaliation.

Workers Health and Safety

In preparing the Health and Safety Plan, the Contractor must consider NR-18, Ordinance No. 3,214, dated 06/8/78, and NR-07, of the Ministry of Labor, which consists of: (i) PCMSO - Occupational Medical Health Control Program; and (ii) PCMAT - Program of Working Conditions and Environment in the Civil Construction Industry.

In general, the contractor must follow the following requirements:

The Contractor shall know and comply with the laws on the health and safety of workers, including technical and regulatory standards.

The Contractor shall provide workers with a safe and healthy work environment that takes into account the risks inherent in its particular sector and specific classes of hazards in work areas, including physical hazards, chemical, biological and radiological materials; take steps to prevent accidents, injuries and diseases resulting, associated with or occurring during the course of the work, according to the best practices that include: the identification of potential hazards to workers, particularly those that may be life-threatening; the provision of preventive and protective measures, including modification, replacement or removal of conditions or hazardous substances; training employees; documentation and reporting of accidents, occupational diseases and incidents; and organization for prevention, preparedness and response to emergencies

The Contractor shall establish work safety procedures within the Internal Commission for Accident Prevention - CIPA, in order to minimize the risks to construction workers.

The Contractor shall Contracted raise existing health facilities in the town(s) close to the work, considering the availability of necessary equipment and expertise.

The Contractor shall maintain a medical post at the construction site with the necessary conditions to provide first aid to workers in accordance with the rules of the Ministry of Labor, where the work fronts have fifty (50) or more employees.

The Contractor will implement a system for early and periodic medical examinations to monitor and prevent the occurrence of occupational diseases

The contractor shall conduct an awareness program about HIV/AIDS and other sexually transmitted diseases (STDs), a program to be developed and implemented by the professional responsible for the clinic in conjunction with the Social Specialist. In addition, the professional responsible for the clinic located at the construction site should have training for emergency care in first aid for the case in which HIV/AIDS patients possibly seek the services, as well as being able to provide adequate guidance regarding sexually transmitted diseases, indicating the authorized service providers (health facilities) in the vicinity to promote voluntary early diagnosis and treatment in case of a positive diagnosis. This program will include information campaigns, communication and education about the

dangers and impact of HIV/AIDS and other STDs addressed to employees, direct and indirect works; including the community. In the latter case, the scope of activities will be based on the size of the risk associated with temporary or permanent labor influx and workers' camps resulting from the works.

The information should be communicated in a simple manner, for example, posters, signs and banners in high traffic areas; boxes should be available intended for "Questions on Health" at the construction site or other convenient locations so that employees and workers can anonymously submit questions about health and sexually transmitted diseases. The Contractor may use to support public health agencies, requesting a visit from trained staff of local hospitals or government initiatives and non-governmental organizations - NGOs to provide more information to employees of the works.

The contractor shall provide free condoms to direct and indirect employees of works, ensuring their replacement where necessary, in order to promote their continuous supply during construction.

The Contractor shall provide the Personal Protective Equipment - PPE and Collective Protection Equipment - CPE's, requiring and verifying its continued use during the work.

The Contractor shall carry out continuous training of workers in the Daily Safety Dialogues - DDSs, Security Weekly Dialogues - DSSs or intervals not exceeding monthly

The Contractor shall maintain the best possible conditions to ensure the quality of life and sanitation facilities in support to employees, such as areas of experience in the work fronts, cafeterias, toilets and changing rooms at the construction site.

It should provide potable water as needed, in addition to having sewage devices such as septic tanks, sinks or filters for each group of 10 people, according to NBR 7229.

The Contractor shall provide to the employees, installed in the accommodation of the construction sites, leisure facilities, which generate positive effects on the physical and mental conditions of the employees, considering their condition of confinement.

The Contractor will install industrial units, crusher, concrete plant, asphalt or soil / gravel, as well as mechanical workshops, away from accommodation to protect workers and residents in the surrounding relative to suspended particulate matter, generated noise and fluids.

Community Health and Safety

The Contractor shall provide measures to avoid risks and impact for the community health and/or safety that could be caused by project activities, equipment and infrastructure.

The Contractor shall prepare and submit to the Employers approval a *Labor Influx and Workers' Camp Risks and Impacts Management, in which will present provisions* which actual degree of impact will consider the characteristics of the project, community and incoming workforce:

- a. Prioritization of the recruitment of local workers to reduce the contingent outside the region, and the workers supporting structure (housing, sanitary, waste, etc.) and avoidance of the spread of transmitted diseases and problems of increased prostitution and violence, among others);
- b. Gender-mainstreaming and provision of employment opportunities for women on the worksite;
- c. Selection of the worksite and/or camps locations, in addition to observing environmental provisions, it will avoid areas with high crime rate, prostitution zones and favela neighborhoods;
- d. Carry out awareness campaigns for workers and local communities; monitor the work area to prevent the sale of drugs; Provision of alcohol prevention and management programs
- e. Measures to avoid increased risk of illicit behavior and crime (including prostitution, theft and substance abuse) by providing i.e. adequate earnings for laborers; bank account payments rather than cash; creation of dedicated gathering areas and limited, controlled access to specific bars in adjacent communities. Cooperation with local authorities to identify security hotspots; strict policy to cooperate with law enforcement in dealing with perpetrators;
- f. Avoidance of gender-based violence and sexual harassment, including girls by i.e. carrying out background checks on prospective employees; information and awareness-raising campaigns for laborers; establishing a module in the grievance redress mechanism of the project in the communities for anonymous registration to avoid stigmatization;

ENVIRONMENTAL AND SOCIAL TEAM OF THE CONTRACTOR

The Contractor shall provide an Environmental Specialist and Social Specialist, as required under "3.5. Representative of the contractor and key personnel - Section III. Evaluation and Qualification Criteria (without pre-qualification) ". In addition, you should have specialists in Occupational Safety, according to legal requirements.

Experiences required Safety Engineer: Professional graduate in Work Safety Engineer or with specialization in Work Safety with experience in the execution of works of sanitation. The Work Safety professional must be at work full time.

Therefore, the Contractor shall provide on its Technical Team, an Expert in Environment who will be responsible for training the work team and care for ESHS.

SUPERVISION OF THE ESHS COMPLIANCE

To ensure that the works are executed in accordance with the precepts of the ESHS management requirements set for these works, the Contractor shall prepare and submit to the Employer revision and approval a monthly ESHS report covering:

Metrics for regular reporting:

- a. *environmental incidents or non-compliances with contract requirements, including contamination, pollution or damage to ground or water supplies;*
- b. *health and safety incidents, accidents, injuries and all fatalities that require treatment;*
- c. *interactions with regulators: identify agency, dates, subjects, outcomes (report the negative if none);*
- d. *status of all permits and agreements:*
 - i. *work permits: number required, number received, actions taken for those not received;*
 - ii. *status of permits and consents:*
 - *list areas/facilities with permits required (quarries, asphalt & batch plants), dates of application, dates issued (actions to follow up if not issued), dates submitted to resident engineer (or equivalent), status of area (waiting for permits, working, abandoned without reclamation, decommissioning plan being implemented, etc.);*
 - *list areas with landowner agreements required (borrow and spoil areas, camp sites), dates of agreements, dates submitted to resident engineer (or equivalent);*
 - *identify major activities undertaken in each area this month and highlights of environmental and social protection (land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation);*
 - *for quarries: status of relocation and compensation (completed, or details of monthly activities and current status).*
- e. *health and safety supervision:*
 - i. *safety officer: number days worked, number of full inspections & partial inspections, reports to construction/project management;*
 - ii. *number of workers, work hours, metric of PPE use (percentage of workers with full personal protection equipment (PPE), partial, etc.), worker violations observed (by type of violation, PPE or otherwise), warnings given, repeat warnings given, follow-up actions taken (if any);*
 - f. *worker accommodations:*
 - i. *number of expats housed in accommodations, number of locals;*

- ii. date of last inspection, and highlights of inspection including status of accommodations' compliance with national and local law and good practice, including sanitation, space, etc.;
- iii. actions taken to recommend/require improved conditions, or to improve conditions.
 - g. *HIV/AIDS: provider of health services, information and/or training, location of clinic, number of non-safety disease or illness treatments and diagnoses (no names to be provided);*
 - h. *gender (for expats and locals separately): number of female workers, percentage of workforce, gender issues raised and dealt with (cross-reference grievances or other sections as needed);*
 - i. *training:*
 - i. number of new workers, number receiving induction training, dates of induction training;
 - ii. number and dates of toolbox talks, number of workers receiving Occupational Health and Safety (OHS), environmental and social training;
 - iii. number and dates of HIV/AIDS sensitization training, no. workers receiving training (this month and in the past); same questions for gender sensitization, flaglady/flagman training.
 - j. *environmental and social supervision:*
 - i. environmental specialist: days worked, areas inspected and numbers of inspections of each (road section, work camp, accommodations, quarries, borrow areas, spoil areas, swamps, forest crossings, etc.), highlights of activities/findings (including violations of environmental and/or social best practices, actions taken), reports to environmental and/or social specialist/construction/site management;
 - ii. social specialist: days worked, number of partial and full site inspections (by area: road section, work camp, accommodations, quarries, borrow areas, spoil areas, clinic, HIV/AIDS center, community centers, etc.), highlights of activities (including violations of environmental and/or social requirements observed, actions taken), reports to environmental and/or social specialist/construction/site management; and
 - iii. community liaison person(s): days worked (hours community center open), number of people met, highlights of activities (issues raised, etc.), reports to environmental and/or social specialist /construction/site management.
 - k. *Grievances: list this month's and unresolved past grievances by date received, complainant, how received, to whom referred to for action, resolution and date (if completed), data resolution reported to complainant, any required follow-up(Cross-reference other sections as needed):*
 - i. Worker grievances;

- ii. Community grievances
 - l. Traffic and vehicles/equipment:*
 - i. traffic accidents involving project vehicles & equipment: provide date, location, damage, cause, follow-up;
 - ii. accidents involving non-project vehicles or property (also reported under immediate metrics): provide date, location, damage, cause, follow-up;
 - iii. overall condition of vehicles/equipment (subjective judgment by environmentalist); non-routine repairs and maintenance needed to improve safety and/or environmental performance (to control smoke, etc.).
 - m. Environmental mitigations and issues (what has been done):*
 - i. dust: number of working bowsers, number of waterings/day, number of complaints, warnings given by environmentalist, actions taken to resolve; highlights of quarry dust control (covers, sprays, operational status); % of rock/muram/spoil lorries with covers, actions taken for uncovered vehicles;
 - ii. erosion control: controls implemented by location, status of water crossings, environmentalist inspections and results, actions taken to resolve issues, emergency repairs needed to control erosion/sedimentation;
 - iii. quarries, borrow areas, spoil areas, asphalt plants, batch plants: identify major activities undertaken this month at each, and highlights of environmental and social protection: land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation;
 - iv. blasting: number of blasts (and locations), status of implementation of blasting plan (including notices, evacuations, etc.), incidents of off-site damage or complaints (cross-reference other sections as needed);
 - v. spill cleanups, if any: material spilled, location, amount, actions taken, material disposal (report all spills that result in water or soil contamination);
 - vi. waste management: types and quantities generated and managed, including amount taken offsite (and by whom) or reused/recycled/disposed on-site;
 - vii. details of tree plantings and other mitigations required undertaken this month;
 - viii. details of water and swamp protection mitigations required undertaken this month.
 - n. compliance:*
 - i. compliance status for conditions of all relevant consents/permits, for the Work, including quarries, etc.): statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance;
 - ii. compliance status of ESMP/ESIP requirements: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance

- iii. other unresolved issues from previous months related to environmental and social: continued violations, continued failure of equipment, continued lack of vehicle covers, spills not dealt with, continued compensation or blasting issues, etc. Cross-reference other sections as needed.

It is the obligation of the Contractor to facilitate access to information and documents to the Employer.

COSTS AND PAYMENT FOR ESHS REQUIREMENTS

Costs and payment for the delivery of ESHS requirements shall mostly be a subsidiary obligation of the Contractor covered under the prices quoted for other Bill of Quantity items. For example, normally the cost of implementing work place safe systems of work, including the majors necessary for ensuring traffic safety, shall be covered by the Bidder's rates for the relevant works. In some circumstances, separate line items should be required in the Bill of Quantities to cover particular and/or unique ESHS activities, for example: communication, feedback, and grievance redress mechanism, HIV counselling.

Costs of negligence of the Contractor to fulfill its obligations related to the ESHS requirements will be the responsibility of the Contractor that will remedy it at his expense.

NOTE: In order to perform these services, the cost of the key team consisting of Environmental Engineer, Social Specialist and Safety Engineer should be provided in the Bill of Quantities - phase 35.

NON-COMPLIANCE OF THE ESHS REQUIREMENTS

Non-compliance with the ESHS requirements are subject to sanctions (administrative, civil and criminal) issued by competent enforcement agencies.

RECEPTION OF WORKS

In the existence of possible environmental and social liabilities caused by the work, under the contractor's responsibility, the Employer may only receive the works (or part thereof) after their remediation by the contractor.

PART 3 – CONDITIONS OF CONTRACT AND CONTRACT FORMS

Section VIII. General Conditions (GC)

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Section VIII. General Conditions (GC)

[Name of Employer]

[Name of Contract]

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General Conditions

1. General Provisions

1.1 Definitions

In the Conditions of Contract (“these Conditions”), which include Particular Conditions, Parts A and B, and these General Conditions, the following words and expressions shall have the meanings stated. Words indicating persons or parties include corporations and other legal entities, except where the context requires otherwise.

1.1.1 The Contract

1.1.1.1 “Contract” means the Contract Agreement, the Letter of Acceptance, the Letter of Tender, these Conditions, the Specification, the Drawings, the Schedules, and the further documents (if any) which are listed in the Contract Agreement or in the Letter of Acceptance.

1.1.1.2 “Contract Agreement” means the contract agreement referred to in Sub-Clause 1.6 [Contract Agreement].

1.1.1.3 “Letter of Acceptance” means the letter of formal acceptance, signed by the Employer, of the Letter of Tender, including any annexed memoranda comprising agreements between and signed by both Parties. If there is no such letter of acceptance, the expression “Letter of Acceptance” means the Contract Agreement and the date of issuing or receiving the Letter of Acceptance means the date of signing the Contract Agreement.

1.1.1.4 “Letter of Tender” means the document entitled letter of tender or letter of bid, which was completed by the Contractor and includes the signed offer to the Employer for the Works.

1.1.1.5 “Specification” means the document entitled specification, as included in the Contract, and any additions and modifications to the specification in accordance with the Contract. Such document specifies the Works.

1.1.1.6 “Drawings” means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract.

1.1.1.7 “Schedules” means the document(s) entitled schedules, completed by the Contractor and

submitted with the Letter of Tender, as included in the Contract. Such document may include the Bill of Quantities, data, lists, and schedules of rates and/or prices.

1.1.1.8 “Tender” means the Letter of Tender and all other documents which the Contractor submitted with the Letter of Tender, as included in the Contract.

1.1.1.9 “Bill of Quantities”, “Daywork Schedule” and “Schedule of Payment Currencies” mean the documents so named (if any) which are comprised in the Schedules.

1.1.1.10 “Contract Data” means the pages completed by the Employer entitled contract data which constitute Part A of the Particular Conditions.

1.1.2 Parties and Persons

1.1.2.1 “Party” means the Employer or the Contractor, as the context requires.

1.1.2.2 “Employer” means the person named as employer in the Contract Data and the legal successors in title to this person.

1.1.2.3 “Contractor” means the person(s) named as contractor in the Letter of Tender accepted by the Employer and the legal successors in title to this person(s).

1.1.2.4 “Engineer” means the person appointed by the Employer to act as the Engineer for the purposes of the Contract and named in the Contract Data, or other person appointed from time to time by the Employer and notified to the Contractor under Sub-Clause 3.4 [Replacement of the Engineer].

1.1.2.5 “Contractor’s Representative” means the person named by the Contractor in the Contract or appointed from time to time by the Contractor under Sub-Clause 4.3 [Contractor’s Representative], who acts on behalf of the Contractor.

1.1.2.6 “Employer’s Personnel” means the Engineer, the assistants referred to in Sub-Clause 3.2 [Delegation by the Engineer] and all other staff, labour and other employees of the Engineer and of the Employer; and any other personnel notified to the Contractor, by the

Employer or the Engineer, as Employer's Personnel.

1.1.2.7 "Contractor's Personnel" means the Contractor's Representative and all personnel whom the Contractor utilises on Site, who may include the staff, labour and other employees of the Contractor and of each Subcontractor; and any other personnel assisting the Contractor in the execution of the Works.

1.1.2.8 "Subcontractor" means any person named in the Contract as a subcontractor, or any person appointed as a subcontractor, for a part of the Works; and the legal successors in title to each of these persons.

1.1.2.9 "DB" means the person or three persons appointed under Sub-Clause 20.2 [Appointment of the Dispute Board] or Sub-Clause 20.3 [Failure to Agree on the Composition of the Dispute Board]

1.1.2.10 "FIDIC" means the Fédération Internationale des Ingénieurs-Conseils, the international federation of consulting engineers.

1.1.2.11 "Bank" means the financing institution (if any) named in the Contract Data.

1.1.2.12 "Borrower" means the person (if any) named as the borrower in the Contract Data.

1.1.3 Dates, Tests, Periods and Completion

1.1.3.1 "Base Date" means the date 28 days prior to the latest date for submission of the Tender.

1.1.3.2 "Commencement Date" means the date notified under Sub-Clause 8.1 [Commencement of Works].

1.1.3.3 "Time for Completion" means the time for completing the Works or a Section (as the case may be) under Sub-Clause 8.2 [Time for Completion], as stated in the Contract Data (with any extension under Sub-Clause 8.4 [Extension of Time for Completion]), calculated from the Commencement Date.

1.1.3.4 "Tests on Completion" means the tests which are specified in the Contract or agreed by both Parties or instructed as a Variation, and which are carried out under Clause 9 [Tests on Completion] before the Works or a Section (as the case may be) are taken over by the Employer.

- 1.1.3.5 “Taking-Over Certificate” means a certificate issued under Clause 10 [Employer’s Taking Over].
- 1.1.3.6 “Tests after Completion” means the tests (if any) which are specified in the Contract and which are carried out in accordance with the Specification after the Works or a Section (as the case may be) are taken over by the Employer.
- 1.1.3.7 “Defects Notification Period” means the period for notifying defects in the Works or a Section (as the case may be) under Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects], which extends over 365 days except if otherwise stated in the Contract Data (with any extension under Sub-Clause 11.3 [Extension of Defects Notification Period]), calculated from the date on which the Works or Section is completed as certified under Sub-Clause 10.1 [Taking Over of the Works and Sections]..
- 1.1.3.8 “Performance Certificate” means the certificate issued under Sub-Clause 11.9 [Performance Certificate]..
- 1.1.3.9 “Day” means a calendar day and “year” means 365 days.
- 1.1.4 Money and Payments**
- 1.1.4.1 “Accepted Contract Amount” means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects.
- 1.1.4.2 “Contract Price” means the price defined in Sub-Clause 14.1 [The Contract Price], and includes adjustments in accordance with the Contract.
- 1.1.4.3 “Cost” means all expenditure reasonably incurred (or to be incurred) by the Contractor, whether on or off the Site, including overhead and similar charges, but does not include profit.
- 1.1.4.4 “Final Payment Certificate” means the payment certificate issued under Sub-Clause 14.13 [Issue of Final Payment Certificate].
- 1.1.4.5 “Final Statement” means the statement defined in Sub-Clause 14.11 [Application for Final Payment Certificate].

- 1.1.4.6 “Foreign Currency” means a currency in which part (or all) of the Contract Price is payable, but not the Local Currency.
- 1.1.4.7 “Interim Payment Certificate” means a payment certificate issued under Clause 14 [Contract Price and Payment], other than the Final Payment Certificate.
- 1.1.4.8 “Local Currency” means the currency of the Country.
- 1.1.4.9 “Payment Certificate” means a payment certificate issued under Clause 14 [Contract Price and Payment].
- 1.1.4.10 “Provisional Sum” means a sum (if any) which is specified in the Contract as a provisional sum, for the execution of any part of the Works or for the supply of Plant, Materials or services under Sub-Clause 13.5 [Provisional Sums].
- 1.1.4.11 “Retention Money” means the accumulated retention moneys which the Employer retains under Sub-Clause 14.3 [Application for Interim Payment Certificates] and pays under Sub-Clause 14.9 [Payment of Retention Money].
- 1.1.4.12 “Statement” means a statement submitted by the Contractor as part of an application, under Clause 14 [Contract Price and Payment], for a payment certificate.
- 1.1.5 Works and Goods**
- 1.1.5.1 “Contractor’s Equipment” means all apparatus, machinery, vehicles and other things required for the execution and completion of the Works and the remedying of any defects. However, Contractor’s Equipment excludes Temporary Works, Employer’s Equipment (if any), Plant, Materials and any other things intended to form or forming part of the Permanent Works.
- 1.1.5.2 “Goods” means Contractor’s Equipment, Materials, Plant and Temporary Works, or any of them as appropriate.
- 1.1.5.3 “Materials” means things of all kinds (other than Plant) intended to form or forming part of the Permanent Works, including the supply-only materials (if any) to be supplied by the Contractor under the Contract.

- 1.1.5.4 “Permanent Works” means the permanent works to be executed by the Contractor under the Contract.
- 1.1.5.5 “Plant” means the apparatus, machinery and other equipment intended to form or forming part of the Permanent Works, including vehicles purchased for the Employer and relating to the construction or operation of the Works.
- 1.1.5.6 “Section” means a part of the Works specified in the Contract Data as a Section (if any).
- 1.1.5.7 “Temporary Works” means all temporary works of every kind (other than Contractor’s Equipment) required on Site for the execution and completion of the Permanent Works and the remedying of any defects.
- 1.1.5.8 “Works” mean the Permanent Works and the Temporary Works, or either of them as appropriate.

1.1.6 Other Definitions

- 1.1.6.1 “Contractor’s Documents” means the calculations, computer programs and other software, drawings, manuals, models and other documents of a technical nature (if any) supplied by the Contractor under the Contract.
- 1.1.6.2 “Country” means the country in which the Site (or most of it) is located, where the Permanent Works are to be executed.
- 1.1.6.3 “Employer’s Equipment” means the apparatus, machinery and vehicles (if any) made available by the Employer for the use of the Contractor in the execution of the Works, as stated in the Specification; but does not include Plant which has not been taken over by the Employer.
- 1.1.6.4 “Force Majeure” is defined in Clause 19 [Force Majeure].
- 1.1.6.5 “Laws” means all national (or state) legislation, statutes, ordinances and other laws, and regulations and by-laws of any legally constituted public authority.
- 1.1.6.6 “Performance Security” means the security (or securities, if any) under Sub-Clause 4.2 [Performance

Security]..

- 1.1.6.7 “Site” means the places where the Permanent Works are to be executed, including storage and working areas, and to which Plant and Materials are to be delivered, and any other places as may be specified in the Contract as forming part of the Site.
- 1.1.6.8 “Unforeseeable” means not reasonably foreseeable by an experienced contractor by the Base Date.
- 1.1.6.9 “Variation” means any change to the Works, which is instructed or approved as a variation under Clause 13 [Variations and Adjustments].
- 1.1.6.10 “Notice of Dissatisfaction” means the notice given by either Party to the other under Sub-Clause 20.4 [Obtaining Dispute Board’s Decision] indicating its dissatisfaction and intention to commence arbitration.

1.2 Interpretation

In the Contract, except where the context requires otherwise:

- (a) words indicating one gender include all genders;
- (b) words indicating the singular also include the plural and words indicating the plural also include the singular;
- (c) provisions including the word “agree”, “agreed” or “agreement” require the agreement to be recorded in writing;
- (d) “written” or “in writing” means hand-written, type-written, printed or electronically made, and resulting in a permanent record; and
- (e) the word “tender” is synonymous with “bid” and “tenderer” with “bidder” and the words “tender documents” with “bidding documents”

The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions.

In these Conditions, provisions including the expression "Cost plus profit" require this profit to be one-twentieth (5%) of this Cost unless otherwise indicated in the Contract Data.

- 1.3 Communications** Wherever these Conditions provide for the giving or issuing of approvals, certificates, consents, determinations, notices, requests and discharges, these communications shall be:
- (a) in writing and delivered by hand (against receipt), sent by mail or courier, or transmitted using any of the agreed systems of electronic transmission as stated in the Contract Data; and
 - (b) delivered, sent or transmitted to the address for the recipient's communications as stated in the Contract Data. However:
 - (i) if the recipient gives notice of another address, communications shall thereafter be delivered accordingly; and
 - (ii) if the recipient has not stated otherwise when requesting an approval or consent, it may be sent to the address from which the request was issued.

Approvals, certificates, consents and determinations shall not be unreasonably withheld or delayed. When a certificate is issued to a Party, the certifier shall send a copy to the other Party. When a notice is issued to a Party, by the other Party or the Engineer, a copy shall be sent to the Engineer or the other Party, as the case may be.

- 1.4 Law and Language** The Contract shall be governed by the law of the country or other jurisdiction stated in the Contract Data.

The ruling language of the Contract shall be that stated in the Contract Data.

The language for communications shall be that stated in the Contract Data. If no language is stated there, the language for communications shall be the ruling language of the Contract.

- 1.5 Priority of Documents** The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence:

- (a) the Contract Agreement (if any),
- (b) the Letter of Acceptance,

- (c) the Letter of Tender,
- (d) the Particular Conditions – Part A,
- (e) the Particular Conditions – Part B
- (f) these General Conditions
- (g) the Specification,
- (h) the Drawings, and
- (i) the Schedules and any other documents forming part of the Contract.

If an ambiguity or discrepancy is found in the documents, the Engineer shall issue any necessary clarification or instruction.

1.6 Contract Agreement

The Parties shall enter into a Contract Agreement within 28 days after the Contractor receives the Letter of Acceptance, unless the Particular Conditions establish otherwise. The Contract Agreement shall be based upon the form annexed to the Particular Conditions. The costs of stamp duties and similar charges (if any) imposed by law in connection with entry into the Contract Agreement shall be borne by the Employer.

1.7 Assignment

Neither Party shall assign the whole or any part of the Contract or any benefit or interest in or under the Contract. However, either Party:

- (a) may assign the whole or any part with the prior agreement of the other Party, at the sole discretion of such other Party, and
- (b) may, as security in favour of a bank or financial institution, assign its right to any moneys due, or to become due, under the Contract.

1.8 Care and Supply of Documents

The Specification and Drawings shall be in the custody and care of the Employer. Unless otherwise stated in the Contract, two copies of the Contract and of each subsequent Drawing shall be supplied to the Contractor, who may make or request further copies at the cost of the Contractor.

Each of the Contractor's Documents shall be in the custody and care of the Contractor, unless and until taken over by the Employer. Unless otherwise stated in the Contract, the Contractor shall supply to the Engineer six copies of each of

the Contractor's Documents.

The Contractor shall keep, on the Site, a copy of the Contract, publications named in the Specification, the Contractor's Documents (if any), the Drawings and Variations and other communications given under the Contract. The Employer's Personnel shall have the right of access to all these documents at all reasonable times.

If a Party becomes aware of an error or defect in a document which was prepared for use in executing the Works, the Party shall promptly give notice to the other Party of such error or defect.

1.9 Delayed Drawings or Instructions

The Contractor shall give notice to the Engineer whenever the Works are likely to be delayed or disrupted if any necessary drawing or instruction is not issued to the Contractor within a particular time, which shall be reasonable. The notice shall include details of the necessary drawing or instruction, details of why and by when it should be issued, and the nature and amount of the delay or disruption likely to be suffered if it is late.

If the Contractor suffers delay and/or incurs Cost as a result of a failure of the Engineer to issue the notified drawing or instruction within a time which is reasonable and is specified in the notice with supporting details, the Contractor shall give a further notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) payment of any such Cost plus profit, which shall be included in the Contract Price.

After receiving this further notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

However, if and to the extent that the Engineer's failure was caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the Contractor's Documents, the Contractor shall not be entitled to such extension of time, Cost or profit.

1.10 Employer's Use of Contractor's Documents

As between the Parties, the Contractor shall retain the copyright and other intellectual property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor.

The Contractor shall be deemed (by signing the Contract) to give to the Employer a non-terminable transferable non-exclusive royalty-free licence to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This licence shall:

- (a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,
- (b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and
- (c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.

The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Employer for purposes other than those permitted under this Sub-Clause.

1.11 Contractor's Use of Employer's Documents

As between the Parties, the Employer shall retain the copyright and other intellectual property rights in the Specification, the Drawings and other documents made by (or on behalf of) the Employer. The Contractor may, at his cost, copy, use, and obtain communication of these documents for the purposes of the Contract. They shall not, without the Employer's consent, be copied, used or communicated to a third party by the Contractor, except as necessary for the purposes of the Contract.

1.12 Confidential Details

The Contractor's and the Employer's Personnel shall disclose all such confidential and other information as may be reasonably required in order to verify compliance with the Contract and allow its proper implementation.

Each of them shall treat the details of the Contract as private and confidential, except to the extent necessary to carry out

their respective obligations under the Contract or to comply with applicable Laws. Each of them shall not publish or disclose any particulars of the Works prepared by the other Party without the previous agreement of the other Party. However, the Contractor shall be permitted to disclose any publicly available information, or information otherwise required to establish his qualifications to compete for other projects.

1.13 Compliance with Laws

The Contractor shall, in performing the Contract, comply with applicable Laws. Unless otherwise stated in the Particular Conditions:

- (a) the Employer shall have obtained (or shall obtain) the planning, zoning, building permit or similar permission for the Permanent Works, and any other permissions described in the Specification as having been (or to be) obtained by the Employer; and the Employer shall indemnify and hold the Contractor harmless against and from the consequences of any failure to do so; and
- (b) the Contractor shall give all notices, pay all taxes, duties and fees, and obtain all permits, licences and approvals, as required by the Laws in relation to the execution and completion of the Works and the remedying of any defects; and the Contractor shall indemnify and hold the Employer harmless against and from the consequences of any failure to do so, unless the Contractor is impeded to accomplish these actions and shows evidence of its diligence.

1.14 Joint and Several Liability

If the Contractor constitutes (under applicable Laws) a joint venture, consortium or other unincorporated grouping of two or more persons:

- (a) these persons shall be deemed to be jointly and severally liable to the Employer for the performance of the Contract;
- (b) these persons shall notify the Employer of their leader who shall have authority to bind the Contractor and each of these persons; and
- (c) the Contractor shall not alter its composition or legal status without the prior consent of the Employer.

1.15 Inspections and Audit by the Bank

The Contractor shall permit the Bank and/or persons appointed by the Bank to inspect the Site and/or the Contractor's

accounts and records relating to the performance of the Contract and to have such accounts and records audited by auditors appointed by the Bank if required by the Bank.

2. The Employer

2.1 Right of Access to the Site

The Employer shall give the Contractor right of access to, and possession of, all parts of the Site within the time (or times) stated in the Contract Data. The right and possession may not be exclusive to the Contractor. If, under the Contract, the Employer is required to give (to the Contractor) possession of any foundation, structure, plant or means of access, the Employer shall do so in the time and manner stated in the Specification. However, the Employer may withhold any such right or possession until the Performance Security has been received.

If no such time is stated in the Contract Data, the Employer shall give the Contractor right of access to, and possession of, the Site within such times as required to enable the Contractor to proceed without disruption in accordance with the programme submitted under Sub-Clause 8.3 [Programme].

If the Contractor suffers delay and/or incurs Cost as a result of a failure by the Employer to give any such right or possession within such time, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) payment of any such Cost plus profit, which shall be included in the Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

However, if and to the extent that the Employer's failure was caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the Contractor's Documents, the Contractor shall not be entitled to such extension of time, Cost or profit.

2.2 Permits, Licences or Approvals

The Employer shall provide, at the request of the Contractor, such reasonable assistance as to allow the Contractor to obtain properly:

- (a) copies of the Laws of the Country which are relevant to the Contract but are not readily available, and
- (b) any permits, licences or approvals required by the Laws of the Country:
 - (i) which the Contractor is required to obtain under Sub-Clause 1.13 [Compliance with Laws],
 - (ii) for the delivery of Goods, including clearance through customs, and
 - (iii) for the export of Contractor's Equipment when it is removed from the Site.

2.3 Employer's Personnel

The Employer shall be responsible for ensuring that the Employer's Personnel and the Employer's other contractors on the Site:

- (a) co-operate with the Contractor's efforts under Sub-Clause 4.6 [Co-operation], and
- (b) take actions similar to those which the Contractor is required to take under sub-paragraphs (a), (b) and (c) of Sub-Clause 4.8 [Safety Procedures] and under Sub-Clause 4.18 [Protection of the Environment].

2.4 Employer's Financial Arrangements

The Employer shall submit, before the Commencement Date and thereafter within 28 days after receiving any request from the Contractor, reasonable evidence that financial arrangements have been made and are being maintained which will enable the Employer to pay the Contract Price punctually (as estimated at that time) in accordance with Clause 14 [Contract Price and Payment]. Before the Employer makes any material change to his financial arrangements, the Employer shall give notice to the Contractor with detailed particulars.

In addition, if the Bank has notified to the Borrower that the Bank has suspended disbursements under its loan, which finances in whole or in part the execution of the Works, the Employer shall give notice of such suspension to the Contractor with detailed particulars, including the date of such notification, with a copy to the Engineer, within 7 days of the Borrower having received the suspension notification from the Bank. If alternative funds will be available in appropriate currencies to the Employer to continue making payments to the Contractor beyond a date 60 days after the date of Bank notification of the suspension, the Employer shall provide

reasonable evidence in his notice of the extent to which such funds will be available.

2.5 Employer's Claims If the Employer considers himself to be entitled to any payment under any Clause of these Conditions or otherwise in connection with the Contract, and/or to any extension of the Defects Notification Period, the Employer or the Engineer shall give notice and particulars to the Contractor. However, notice is not required for payments due under Sub-Clause 4.19 [Electricity, Water and Gas], under Sub-Clause 4.20 [Employer's Equipment and Free-Issue Materials], or for other services requested by the Contractor.

The notice shall be given as soon as practicable and no longer than 28 days after the Employer became aware, or should have become aware, of the event or circumstances giving rise to the claim. A notice relating to any extension of the Defects Notification Period shall be given before the expiry of such period.

The particulars shall specify the Clause or other basis of the claim, and shall include substantiation of the amount and/or extension to which the Employer considers himself to be entitled in connection with the Contract. The Engineer shall then proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) the amount (if any) which the Employer is entitled to be paid by the Contractor, and/or (ii) the extension (if any) of the Defects Notification Period in accordance with Sub-Clause 11.3 [Extension of Defects Notification Period].

This amount may be included as a deduction in the Contract Price and Payment Certificates. The Employer shall only be entitled to set off against or make any deduction from an amount certified in a Payment Certificate, or to otherwise claim against the Contractor, in accordance with this Sub-Clause.

3. The Engineer

3.1 Engineer's Duties and Authority The Employer shall appoint the Engineer who shall carry out the duties assigned to him in the Contract. The Engineer's staff shall include suitably qualified engineers and other professionals who are competent to carry out these duties.

The Engineer shall have no authority to amend the Contract.

The Engineer may exercise the authority attributable to the

Engineer as specified in or necessarily to be implied from the Contract. If the Engineer is required to obtain the approval of the Employer before exercising a specified authority, the requirements shall be as stated in the Particular Conditions. The Employer shall promptly inform the Contractor of any change to the authority attributed to the Engineer.

However, whenever the Engineer exercises a specified authority for which the Employer's approval is required, then (for the purposes of the Contract) the Employer shall be deemed to have given approval.

Except as otherwise stated in these Conditions:

- (a) whenever carrying out duties or exercising authority, specified in or implied by the Contract, the Engineer shall be deemed to act for the Employer;
- (b) the Engineer has no authority to relieve either Party of any duties, obligations or responsibilities under the Contract;
- (c) any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by the Engineer (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances; and
- (d) any act by the Engineer in response to a Contractor's request except as otherwise expressly specified shall be notified in writing to the Contractor within 28 days of receipt.

The following provisions shall apply:

The Engineer shall obtain the specific approval of the Employer before taking action under the following Sub-Clauses of these Conditions:

- (a) Sub-Clause 4.12: agreeing or determining an extension of time and/or additional cost.
- (b) Sub-Clause 13.1: instructing a Variation, except;
 - (i) in an emergency situation as determined by the Engineer,

or

- (ii) if such a Variation would increase the Accepted Contract Amount by less than the percentage specified in the Contract Data.
- (c) Sub-Clause 13.3: Approving a proposal for Variation submitted by the Contractor in accordance with Sub Clause 13.1 or 13.2.
- (d) Sub-Clause 13.4: Specifying the amount payable in each of the applicable currencies

Notwithstanding the obligation, as set out above, to obtain approval, if, in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the Works or of adjoining property, he may, without relieving the Contractor of any of his duties and responsibility under the Contract, instruct the Contractor to execute all such work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Contractor shall forthwith comply, despite the absence of approval of the Employer, with any such instruction of the Engineer. The Engineer shall determine an addition to the Contract Price, in respect of such instruction, in accordance with Clause 13 and shall notify the Contractor accordingly, with a copy to the Employer.

3.2 Delegation by the Engineer

The Engineer may from time to time assign duties and delegate authority to assistants, and may also revoke such assignment or delegation. These assistants may include a resident engineer, and/or independent inspectors appointed to inspect and/or test items of Plant and/or Materials. The assignment, delegation or revocation shall be in writing and shall not take effect until copies have been received by both Parties. However, unless otherwise agreed by both Parties, the Engineer shall not delegate the authority to determine any matter in accordance with Sub-Clause 3.5 [Determinations].

Each assistant, to whom duties have been assigned or authority has been delegated, shall only be authorised to issue instructions to the Contractor to the extent defined by the delegation. Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by an assistant, in accordance with the delegation, shall have the same effect as though the act had been an act of the Engineer. However:

- (a) any failure to disapprove any work, Plant or Materials shall not constitute approval, and shall therefore not prejudice the right of the Engineer to reject the work, Plant or Materials;
- (b) if the Contractor questions any determination or instruction of an assistant, the Contractor may refer the matter to the Engineer, who shall promptly confirm, reverse or vary the determination or instruction.

3.3 Instructions of the Engineer

The Engineer may issue to the Contractor (at any time) instructions and additional or modified Drawings which may be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract. The Contractor shall only take instructions from the Engineer, or from an assistant to whom the appropriate authority has been delegated under this Clause. If an instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply.

The Contractor shall comply with the instructions given by the Engineer or delegated assistant, on any matter related to the Contract. Whenever practicable, their instructions shall be given in writing. If the Engineer or a delegated assistant:

- (a) gives an oral instruction,
- (b) receives a written confirmation of the instruction, from (or on behalf of) the Contractor, within two working days after giving the instruction, and
- (c) does not reply by issuing a written rejection and/or instruction within two working days after receiving the confirmation,

then the confirmation shall constitute the written instruction of the Engineer or delegated assistant (as the case may be).

3.4 Replacement of the Engineer

If the Employer intends to replace the Engineer, the Employer shall, not less than 21 days before the intended date of replacement, give notice to the Contractor of the name, address and relevant experience of the intended replacement Engineer. If the Contractor considers the intended replacement Engineer to be unsuitable, he has the right to raise objection against him by notice to the Employer, with supporting particulars, and the Employer shall give full and fair consideration to this objection.

3.5 Determinations

Whenever these Conditions provide that the Engineer shall proceed in accordance with this Sub-Clause 3.5 to agree or

determine any matter, the Engineer shall consult with each Party in an endeavour to reach agreement. If agreement is not achieved, the Engineer shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.

The Engineer shall give notice to both Parties of each agreement or determination, with supporting particulars, within 28 days from the receipt of the corresponding claim or request except when otherwise specified. Each Party shall give effect to each agreement or determination unless and until revised under Clause 20 [Claims, Disputes and Arbitration].

4. The Contractor

4.1 Contractor's General Obligations

The Contractor shall design (to the extent specified in the Contract), execute and complete the Works in accordance with the Contract and with the Engineer's instructions, and shall remedy any defects in the Works.

The Contractor shall provide the Plant and Contractor's Documents specified in the Contract, and all Contractor's Personnel, Goods, consumables and other things and services, whether of a temporary or permanent nature, required in and for this design, execution, completion and remedying of defects.

All equipment, material, and services to be incorporated in or required for the Works shall have their origin in any eligible source country as defined by the Bank.

The Contractor shall be responsible for the adequacy, stability and safety of all Site operations and of all methods of construction. Except to the extent specified in the Contract, the Contractor (i) shall be responsible for all Contractor's Documents, Temporary Works, and such design of each item of Plant and Materials as is required for the item to be in accordance with the Contract, and (ii) shall not otherwise be responsible for the design or specification of the Permanent Works.

The Contractor shall, whenever required by the Engineer, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Engineer.

If the Contract specifies that the Contractor shall design any part of the Permanent Works, then unless otherwise stated in the

Particular Conditions:

- (a) the Contractor shall submit to the Engineer the Contractor's Documents for this part in accordance with the procedures specified in the Contract;
- (b) these Contractor's Documents shall be in accordance with the Specification and Drawings, shall be written in the language for communications defined in Sub-Clause 1.4 [Law and Language], and shall include additional information required by the Engineer to add to the Drawings for co-ordination of each Party's designs;
- (c) the Contractor shall be responsible for this part and it shall, when the Works are completed, be fit for such purposes for which the part is intended as are specified in the Contract; and
- (d) prior to the commencement of the Tests on Completion, the Contractor shall submit to the Engineer the "as-built" documents and, if applicable, operation and maintenance manuals in accordance with the Specification and in sufficient detail for the Employer to operate, maintain, dismantle, reassemble, adjust and repair this part of the Works. Such part shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [Taking Over of the Works and Sections] until these documents and manuals have been submitted to the Engineer.

4.2 Performance Security

The Contractor shall obtain (at his cost) a Performance Security for proper performance, in the amount stated in the Contract Data and denominated in the currency(ies) of the Contract or in a freely convertible currency acceptable to the Employer. If an amount is not stated in the Contract Data, this Sub-Clause shall not apply.

The Contractor shall deliver the Performance Security to the Employer within 28 days after receiving the Letter of Acceptance, and shall send a copy to the Engineer. The Performance Security shall be issued by a reputable bank or financial institution selected by the Contractor, and shall be in the form annexed to the Particular Conditions, as stipulated by the Employer in the Contract Data, or in another form approved by the Employer.

The Contractor shall ensure that the Performance Security is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects. If the terms of the Performance Security specify its expiry date, and the Contractor has not become entitled to receive the Performance Certificate by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the Performance Security until the Works have been completed and any defects have been remedied.

The Employer shall not make a claim under the Performance Security, except for amounts to which the Employer is entitled under the Contract.

The Employer shall indemnify and hold the Contractor harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from a claim under the Performance Security to the extent to which the Employer was not entitled to make the claim.

The Employer shall return the Performance Security to the Contractor within 21 days after receiving a copy of the Performance Certificate.

Without limitation to the provisions of the rest of this Sub-Clause, whenever the Engineer determines an addition or a reduction to the Contract Price as a result of a change in cost and/or legislation, or as a result of a Variation, amounting to more than 25 percent of the portion of the Contract Price payable in a specific currency, the Contractor shall at the Engineer's request promptly increase, or may decrease, as the case may be, the value of the Performance Security in that currency by an equal percentage.

4.3 Contractor's Representative

The Contractor shall appoint the Contractor's Representative and shall give him all authority necessary to act on the Contractor's behalf under the Contract.

Unless the Contractor's Representative is named in the Contract, the Contractor shall, prior to the Commencement Date, submit to the Engineer for consent the name and particulars of the person the Contractor proposes to appoint as Contractor's Representative. If consent is withheld or subsequently revoked in terms of Sub-Clause 6.9 [Contractor's Personnel], or if the appointed person fails to act as Contractor's Representative, the

Contractor shall similarly submit the name and particulars of another suitable person for such appointment.

The Contractor shall not, without the prior consent of the Engineer, revoke the appointment of the Contractor's Representative or appoint a replacement.

The whole time of the Contractor's Representative shall be given to directing the Contractor's performance of the Contract. If the Contractor's Representative is to be temporarily absent from the Site during the execution of the Works, a suitable replacement person shall be appointed, subject to the Engineer's prior consent, and the Engineer shall be notified accordingly.

The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.3 [Instructions of the Engineer].

The Contractor's Representative may delegate any powers, functions and authority to any competent person, and may at any time revoke the delegation. Any delegation or revocation shall not take effect until the Engineer has received prior notice signed by the Contractor's Representative, naming the person and specifying the powers, functions and authority being delegated or revoked.

The Contractor's Representative shall be fluent in the language for communications defined in Sub-Clause 1.4 [Law and Language]. If the Contractor's Representative's delegates are not fluent in the said language, the Contractor shall make competent interpreters available during all working hours in a number deemed sufficient by the Engineer.

4.4 Subcontractors

The Contractor shall not subcontract the whole of the Works.

The Contractor shall be responsible for the acts or defaults of any Subcontractor, his agents or employees, as if they were the acts or defaults of the Contractor. Unless otherwise stated in the Particular Conditions:

- (a) the Contractor shall not be required to obtain consent to suppliers solely of Materials, or to a subcontract for which the Subcontractor is named in the Contract;
- (b) the prior consent of the Engineer shall be obtained to other proposed Subcontractors;
- (c) the Contractor shall give the Engineer not less than 28 days' notice of the intended date of the commencement of each Subcontractor's work, and of the commencement of

such work on the Site; and

- (d) each subcontract shall include provisions which would entitle the Employer to require the subcontract to be assigned to the Employer under Sub-Clause 4.5 [Assignment of Benefit of Subcontract] (if or when applicable) or in the event of termination under Sub-Clause 15.2 [Termination by Employer].

The Contractor shall ensure that the requirements imposed on the Contractor by Sub-Clause 1.12 [Confidential Details] apply equally to each Subcontractor.

Where practicable, the Contractor shall give fair and reasonable opportunity for contractors from the Country to be appointed as Subcontractors.

4.5 Assignment of Benefit of Subcontract

If a Subcontractor's obligations extend beyond the expiry date of the relevant Defects Notification Period and the Engineer, prior to this date, instructs the Contractor to assign the benefit of such obligations to the Employer, then the Contractor shall do so. Unless otherwise stated in the assignment, the Contractor shall have no liability to the Employer for the work carried out by the Subcontractor after the assignment takes effect.

4.6 Co-operation

The Contractor shall, as specified in the Contract or as instructed by the Engineer, allow appropriate opportunities for carrying out work to:

- (a) the Employer's Personnel,
- (b) any other contractors employed by the Employer, and
- (c) the personnel of any legally constituted public authorities,

who may be employed in the execution on or near the Site of any work not included in the Contract.

Any such instruction shall constitute a Variation if and to the extent that it causes the Contractor to suffer delays and/or to incur Unforeseeable Cost. Services for these personnel and other contractors may include the use of Contractor's Equipment, Temporary Works or access arrangements which are the responsibility of the Contractor.

If, under the Contract, the Employer is required to give to the Contractor possession of any foundation, structure, plant or means of access in accordance with Contractor's Documents, the Contractor shall submit such documents to the Engineer in

the time and manner stated in the Specification.

4.7 Setting Out

The Contractor shall set out the Works in relation to original points, lines and levels of reference specified in the Contract or notified by the Engineer. The Contractor shall be responsible for the correct positioning of all parts of the Works, and shall rectify any error in the positions, levels, dimensions or alignment of the Works.

The Employer shall be responsible for any errors in these specified or notified items of reference, but the Contractor shall use reasonable efforts to verify their accuracy before they are used.

If the Contractor suffers delay and/or incurs Cost from executing work which was necessitated by an error in these items of reference, and an experienced contractor could not reasonably have discovered such error and avoided this delay and/or Cost, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) payment of any such Cost plus profit, which shall be included in the Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) whether and (if so) to what extent the error could not reasonably have been discovered, and (ii) the matters described in sub-paragraphs (a) and (b) above related to this e.

4.8 Safety Procedures The Contractor shall:

- (a) comply with all applicable safety regulations,
- (b) take care for the safety of all persons entitled to be on the Site,
- (c) use reasonable efforts to keep the Site and Works clear of unnecessary obstruction so as to avoid danger to these persons,
- (d) provide fencing, lighting, guarding and watching of the Works until completion and taking over under Clause 10

[Employer's Taking Over], and

- (e) provide any Temporary Works (including roadways, footways, guards and fences) which may be necessary, because of the execution of the Works, for the use and protection of the public and of owners and occupiers of adjacent land.

4.9 Quality Assurance

The Contractor shall institute a quality assurance system to demonstrate compliance with the requirements of the Contract. The system shall be in accordance with the details stated in the Contract. The Engineer shall be entitled to audit any aspect of the system.

Details of all procedures and compliance documents shall be submitted to the Engineer for information before each design and execution stage is commenced. When any document of a technical nature is issued to the Engineer, evidence of the prior approval by the Contractor himself shall be apparent on the document itself.

Compliance with the quality assurance system shall not relieve the Contractor of any of his duties, obligations or responsibilities under the Contract.

4.10 Site Data

The Employer shall have made available to the Contractor for his information, prior to the Base Date, all relevant data in the Employer's possession on sub-surface and hydrological conditions at the Site, including environmental aspects. The Employer shall similarly make available to the Contractor all such data which come into the Employer's possession after the Base Date. The Contractor shall be responsible for interpreting all such data.

To the extent which was practicable (taking account of cost and time), the Contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Tender or Works. To the same extent, the Contractor shall be deemed to have inspected and examined the Site, its surroundings, the above data and other available information, and to have been satisfied before submitting the Tender as to all relevant matters, including (without limitation):

- (a) the form and nature of the Site, including sub-surface conditions,
- (b) the hydrological and climatic conditions,

- (c) the extent and nature of the work and Goods necessary for the execution and completion of the Works and the remedying of any defects,
- (d) the Laws, procedures and labour practices of the Country, and
- (e) the Contractor's requirements for access, accommodation, facilities, personnel, power, transport, water and other services.

4.11 Sufficiency of the Accepted Contract Amount

The Contractor shall be deemed to:

- (a) have satisfied himself as to the correctness and sufficiency of the Accepted Contract Amount, and
- (b) have based the Accepted Contract Amount on the data, interpretations, necessary information, inspections, examinations and satisfaction as to all relevant matters referred to in Sub-Clause 4.10 [Site Data].

Unless otherwise stated in the Contract, the Accepted Contract Amount covers all the Contractor's obligations under the Contract (including those under Provisional Sums, if any) and all things necessary for the proper execution and completion of the Works and the remedying of any defects.

4.12 Unforeseeable Physical Conditions

In this Sub-Clause, "physical conditions" means natural physical conditions and man-made and other physical obstructions and pollutants, which the Contractor encounters at the Site when executing the Works, including sub-surface and hydrological conditions but excluding climatic conditions.

If the Contractor encounters adverse physical conditions which he considers to have been Unforeseeable, the Contractor shall give notice to the Engineer as soon as practicable.

This notice shall describe the physical conditions, so that they can be inspected by the Engineer, and shall set out the reasons why the Contractor considers them to be Unforeseeable. The Contractor shall continue executing the Works, using such proper and reasonable measures as are appropriate for the physical conditions, and shall comply with any instructions which the Engineer may give. If an instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply.

If and to the extent that the Contractor encounters physical conditions which are Unforeseeable, gives such a notice, and

suffers delay and/or incurs Cost due to these conditions, the Contractor shall be entitled subject to notice under Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) payment of any such Cost, which shall be included in the Contract Price.

Upon receiving such notice and inspecting and/or investigating these physical conditions, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) whether and (if so) to what extent these physical conditions were Unforeseeable, and (ii) the matters described in sub-paragraphs (a) and (b) above related to this extent.

However, before additional Cost is finally agreed or determined under sub-paragraph (ii), the Engineer may also review whether other physical conditions in similar parts of the Works (if any) were more favourable than could reasonably have been foreseen when the Contractor submitted the Tender. If and to the extent that these more favourable conditions were encountered, the Engineer may proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the reductions in Cost which were due to these conditions, which may be included (as deductions) in the Contract Price and Payment Certificates. However, the net effect of all adjustments under sub-paragraph (b) and all these reductions, for all the physical conditions encountered in similar parts of the Works, shall not result in a net reduction in the Contract Price.

The Engineer shall take account of any evidence of the physical conditions foreseen by the Contractor when submitting the Tender, which shall be made available by the Contractor, but shall not be bound by the Contractor's interpretation of any such evidence.

4.13 Rights of Way and Facilities

Unless otherwise specified in the Contract the Employer shall provide effective access to and possession of the Site including special and/or temporary rights-of-way which are necessary for the Works. The Contractor shall obtain, at his risk and cost, any additional rights of way or facilities outside the Site which he may require for the purposes of the Works.

4.14 Avoidance of Interference

The Contractor shall not interfere unnecessarily or improperly with:

- (a) the convenience of the public, or
- (b) the access to and use and occupation of all roads and footpaths, irrespective of whether they are public or in the possession of the Employer or of others.

The Contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from any such unnecessary or improper interference.

4.15 Access Route

The Contractor shall be deemed to have been satisfied as to the suitability and availability of access routes to the Site at Base Date. The Contractor shall use reasonable efforts to prevent any road or bridge from being damaged by the Contractor's traffic or by the Contractor's Personnel. These efforts shall include the proper use of appropriate vehicles and routes.

Except as otherwise stated in these Conditions:

- (a) the Contractor shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes;
- (b) the Contractor shall provide all necessary signs or directions along access routes, and shall obtain any permission which may be required from the relevant authorities for his use of routes, signs and directions;
- (c) the Employer shall not be responsible for any claims which may arise from the use or otherwise of any access route;
- (d) the Employer does not guarantee the suitability or availability of particular access routes; and
- (e) Costs due to non-suitability or non-availability, for the use required by the Contractor, of access routes shall be borne by the Contractor.

4.16 Transport of Goods

Unless otherwise stated in the Particular Conditions:

- (a) the Contractor shall give the Engineer not less than 21 days' notice of the date on which any Plant or a major item of other Goods will be delivered to the Site;
- (b) the Contractor shall be responsible for packing, loading,

transporting, receiving, unloading, storing and protecting all Goods and other things required for the Works; and

- (c) the Contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from the transport of Goods, and shall negotiate and pay all claims arising from their transport.

4.17 Contractor's Equipment

The Contractor shall be responsible for all Contractor's Equipment. When brought on to the Site, Contractor's Equipment shall be deemed to be exclusively intended for the execution of the Works. The Contractor shall not remove from the Site any major items of Contractor's Equipment without the consent of the Engineer. However, consent shall not be required for vehicles transporting Goods or Contractor's Personnel off Site.

4.18 Protection of the Environment

The Contractor shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise and other results of his operations.

The Contractor shall ensure that emissions, surface discharges and effluent from the Contractor's activities shall not exceed the values stated in the Specification or prescribed by applicable Laws.

4.19 Electricity, Water and Gas

The Contractor shall, except as stated below, be responsible for the provision of all power, water and other services he may require for his construction activities and to the extent defined in the Specifications, for the tests.

The Contractor shall be entitled to use for the purposes of the Works such supplies of electricity, water, gas and other services as may be available on the Site and of which details and prices are given in the Specification. The Contractor shall, at his risk and cost, provide any apparatus necessary for his use of these services and for measuring the quantities consumed.

The quantities consumed and the amounts due (at these prices) for such services shall be agreed or determined by the Engineer in accordance with Sub-Clause 2.5 [Employer's Claims] and Sub-Clause 3.5 [Determinations]. The Contractor shall pay these amounts to the Employer.

4.20 Employer's Equipment and Free-Issue Materials

The Employer shall make the Employer's Equipment (if any) available for the use of the Contractor in the execution of the Works in accordance with the details, arrangements and prices stated in the Specification. Unless otherwise stated in the Specification:

- (a) the Employer shall be responsible for the Employer's Equipment, except that
- (b) the Contractor shall be responsible for each item of Employer's Equipment whilst any of the Contractor's Personnel is operating it, driving it, directing it or in possession or control of it.

The appropriate quantities and the amounts due (at such stated prices) for the use of Employer's Equipment shall be agreed or determined by the Engineer in accordance with Sub-Clause 2.5 [Employer's Claims] and Sub-Clause 3.5 [Determinations]. The Contractor shall pay these amounts to the Employer.

The Employer shall supply, free of charge, the "free-issue materials" (if any) in accordance with the details stated in the Specification. The Employer shall, at his risk and cost, provide these materials at the time and place specified in the Contract. The Contractor shall then visually inspect them, and shall promptly give notice to the Engineer of any shortage, defect or default in these materials. Unless otherwise agreed by both Parties, the Employer shall immediately rectify the notified shortage, defect or default.

After this visual inspection, the free-issue materials shall come under the care, custody and control of the Contractor. The Contractor's obligations of inspection, care, custody and control shall not relieve the Employer of liability for any shortage, defect or default not apparent from a visual inspection.

4.21 Progress Reports

Unless otherwise stated in the Particular Conditions, monthly progress reports shall be prepared by the Contractor and submitted to the Engineer in six copies. The first report shall cover the period up to the end of the first calendar month following the Commencement Date. Reports shall be submitted monthly thereafter, each within 7 days after the last day of the period to which it relates.

Reporting shall continue until the Contractor has completed all work which is known to be outstanding at the completion date

stated in the Taking-Over Certificate for the Works.

Each report shall include:

- (a) charts and detailed descriptions of progress, including each stage of design (if any), Contractor's Documents, procurement, manufacture, delivery to Site, construction, erection and testing; and including these stages for work by each nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]),
- (b) photographs showing the status of manufacture and of progress on the Site;
- (c) for the manufacture of each main item of Plant and Materials, the name of the manufacturer, manufacture location, percentage progress, and the actual or expected dates of:
 - (ii) commencement of manufacture,
 - (iii) Contractor's inspections,
 - (iv) tests, and
 - (v) shipment and arrival at the Site;
- (d) the details described in Sub-Clause 6.10 [Records of Contractor's Personnel and Equipment];
- (e) copies of quality assurance documents, test results and certificates of Materials;
- (f) list of notices given under Sub-Clause 2.5 [Employer's Claims] and notices given under Sub-Clause 20.1 [Contractor's Claims];
- (g) safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations; and
- (h) comparisons of actual and planned progress, with details of any events or circumstances which may jeopardise the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome delays.

4.22 Security of the Site

Unless otherwise stated in the Particular Conditions:

- (a) the Contractor shall be responsible for keeping unauthorised persons off the Site, and
- (b) authorised persons shall be limited to the Contractor's Personnel and the Employer's Personnel; and to any other personnel notified to the Contractor, by the Employer or the Engineer, as authorised personnel of the Employer's other contractors on the Site.

4.23 Contractor's Operations on Site

The Contractor shall confine his operations to the Site, and to any additional areas which may be obtained by the Contractor and agreed by the Engineer as additional working areas. The Contractor shall take all necessary precautions to keep Contractor's Equipment and Contractor's Personnel within the Site and these additional areas, and to keep them off adjacent land..

During the execution of the Works, the Contractor shall keep the Site free from all unnecessary obstruction, and shall store or dispose of any Contractor's Equipment or surplus materials. The Contractor shall clear away and remove from the Site any wreckage, rubbish and Temporary Works which are no longer required.

Upon the issue of a Taking-Over Certificate, the Contractor shall clear away and remove, from that part of the Site and Works to which the Taking-Over Certificate refers, all Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works. The Contractor shall leave that part of the Site and the Works in a clean and safe condition. However, the Contractor may retain on Site, during the Defects Notification Period, such Goods as are required for the Contractor to fulfil obligations under the Contract.

4.24 Fossils

All fossils, coins, articles of value or antiquity, and structures and other remains or items of geological or archaeological interest found on the Site shall be placed under the care and authority of the Employer. The Contractor shall take reasonable precautions to prevent Contractor's Personnel or other persons from removing or damaging any of these findings.

The Contractor shall, upon discovery of any such finding, promptly give notice to the Engineer, who shall issue instructions for dealing with it. If the Contractor suffers delay and/or incurs Cost from complying with the instructions, the Contractor shall give a further notice to the Engineer and shall

be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) payment of any such Cost, which shall be included in the Contract Price.

After receiving this further notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

5. Nominated Subcontractors

5.1 Definition of "nominated Subcontractor"

In the Contract, "nominated Subcontractor" means a Subcontractor:

- (a) who is stated in the Contract as being a nominated Subcontractor, or
- (b) whom the Engineer, under Clause 13 [Variations and Adjustments], instructs the Contractor to employ as a Subcontractor subject to Sub-Clause 5.2 [Objection to Notification].

5.2 Objection to Nomination

The Contractor shall not be under any obligation to employ a nominated Subcontractor against whom the Contractor raises reasonable objection by notice to the Engineer as soon as practicable, with supporting particulars. An objection shall be deemed reasonable if it arises from (among other things) any of the following matters, unless the Employer agrees in writing to indemnify the Contractor against and from the consequences of the matter:

- (a) there are reasons to believe that the Subcontractor does not have sufficient competence, resources or financial strength;
- (b) the nominated Subcontractor does not accept to indemnify the Contractor against and from any negligence or misuse of Goods by the nominated Subcontractor, his agents and employees; or
- (c) the nominated Subcontractor does not accept to enter into a subcontract which specifies that, for the subcontracted work (including design, if any), the nominated Subcontractor shall:
 - (i) undertake to the Contractor such obligations and

liabilities as will enable the Contractor to discharge his obligations and liabilities under the Contract;

- (ii) indemnify the Contractor against and from all obligations and liabilities arising under or in connection with the Contract and from the consequences of any failure by the Subcontractor to perform these obligations or to fulfil these liabilities, and
- (iii) be paid only if and when the Contractor has received from the Employer payments for sums due under the Subcontract referred to under Sub-Clause 5.3 [Payment to nominated Subcontractors].

5.3 Payments to nominated Subcontractors

The Contractor shall pay to the nominated Subcontractor the amounts shown on the nominated Subcontractor's invoices approved by the Contractor which the Engineer certifies to be due in accordance with the subcontract. These amounts plus other charges shall be included in the Contract Price in accordance with sub-paragraph (b) of Sub-Clause 13.5 [Provisional Sums], except as stated in Sub-Clause 5.4 [Evidence of Payments].

5.4 Evidence of Payments

Before issuing a Payment Certificate which includes an amount payable to a nominated Subcontractor, the Engineer may request the Contractor to supply reasonable evidence that the nominated Subcontractor has received all amounts due in accordance with previous Payment Certificates, less applicable deductions for retention or otherwise. Unless the Contractor:

- (a) submits this reasonable evidence to the Engineer, or
 - (i) satisfies the Engineer in writing that the Contractor is reasonably entitled to withhold or refuse to pay these amounts, and
 - (ii) submits to the Engineer reasonable evidence that the nominated Subcontractor has been notified of the Contractor's entitlement,

then the Employer may (at his sole discretion) pay, direct to the nominated Subcontractor, part or all of such amounts previously certified (less applicable deductions) as are due to the nominated Subcontractor and for which the Contractor has failed to submit the evidence described in sub-paragraphs (a) or (b) above. The Contractor shall then repay, to the Employer, the amount which the nominated Subcontractor was directly paid by the Employer.

6. Staff and Labour

- 6.1 Engagement of Staff and Labour** Except as otherwise stated in the Specification, the Contractor shall make arrangements for the engagement of all staff and labour, local or otherwise, and for their payment, feeding, transport, and, when appropriate, housing.
- The Contractor is encouraged, to the extent practicable and reasonable, to employ staff and labour with appropriate qualifications and experience from sources within the Country.
- 6.2 Rates of Wages and Conditions of Labour** The Contractor shall pay rates of wages, and observe conditions of labour, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor.
- The Contractor shall inform the Contractor's Personnel about their liability to pay personal income taxes in the Country in respect of such of their salaries, wages, allowances and any benefits as are subject to tax under the Laws of the Country for the time being in force, and the Contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such Laws.
- 6.3 Persons in the Service of Employer** The Contractor shall not recruit, or attempt to recruit, staff and labour from amongst the Employer's Personnel.
- 6.4 Labour Laws** The Contractor shall comply with all the relevant labour Laws applicable to the Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.
- The Contractor shall require his employees to obey all applicable Laws, including those concerning safety at work.
- 6.5 Working Hours** No work shall be carried out on the Site on locally recognised days of rest, or outside the normal working hours stated in the Contract Data, unless:

- (a) otherwise stated in the Contract,
- (b) the Engineer gives consent, or
- (c) the work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Engineer.

6.6 Facilities for Staff and Labour

Except as otherwise stated in the Specification, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel. The Contractor shall also provide facilities for the Employer's Personnel as stated in the Specification.

The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.

6.7 Health and Safety

The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Employer's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.

The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.

The Contractor shall send, to the Engineer, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as the Engineer may reasonably require.

HIV-AIDS Prevention. The Contractor shall conduct an HIV-AIDS awareness programme via an approved service provider, and shall undertake such other measures as are specified in this Contract to reduce the risk of the transfer of the HIV virus

between and among the Contractor's Personnel and the local community, to promote early diagnosis and to assist affected individuals.

The Contractor shall throughout the contract (including the Defects Notification Period): (i) conduct Information, Education and Communication (IEC) campaigns, at least every other month, addressed to all the Site staff and labour (including all the Contractor's employees, all Subcontractors and any other Contractor's or Employer's personnel employees, and all truck drivers and crew making deliveries to Site for construction activities) and to the immediate local communities, concerning the risks, dangers and impact, and appropriate avoidance behaviour with respect to, of Sexually Transmitted Diseases (STD) - or Sexually Transmitted Infections (STI) in general and HIV/AIDS in particular; (ii) provide male or female condoms for all Site staff and labour as appropriate; and (iii) provide for STI and HIV/AIDS screening, diagnosis, counselling and referral to a dedicated national STI and HIV/AIDS programme, (unless otherwise agreed) of all Site staff and labour.

The Contractor shall include in the programme to be submitted for the execution of the Works under Sub-Clause 8.3 an alleviation programme for Site staff and labour and their families in respect of Sexually Transmitted Infections (STI) and Sexually Transmitted Diseases (STD) including HIV/AIDS. The STI, STD and HIV/AIDS alleviation programme shall indicate when, how and at what cost the Contractor plans to satisfy the requirements of this Sub-Clause and the related specification. For each component, the programme shall detail the resources to be provided or utilised and any related sub-contracting proposed. The programme shall also include provision of a detailed cost estimate with supporting documentation. Payment to the Contractor for preparation and implementation this programme shall not exceed the Provisional Sum dedicated for this purpose.

- 6.8 Contractor's Superintendence** Throughout the execution of the Works, and as long thereafter as is necessary to fulfil the Contractor's obligations, the Contractor shall provide all necessary superintendence to plan, arrange, direct, manage, inspect and test the work.
- Superintendence shall be given by a sufficient number of persons having adequate knowledge of the language for communications (defined in Sub-Clause 1.4 [Law and Language]) and of the operations to be carried out (including the methods and techniques required, the hazards likely to be encountered and methods of preventing accidents), for the satisfactory and safe execution of the Works.
- 6.9 Contractor's Personnel** The Contractor's Personnel shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Engineer may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor's Representative if applicable, who:
- (a) persists in any misconduct or lack of care,
 - (b) carries out duties incompetently or negligently,
 - (c) fails to conform with any provisions of the Contract, or
 - (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment.
- If appropriate, the Contractor shall then appoint (or cause to be appointed) a suitable replacement person.
- 6.10 Records of Contractor's Personnel and Equipment** The Contractor shall submit, to the Engineer, details showing the number of each class of Contractor's Personnel and of each type of Contractor's Equipment on the Site. Details shall be submitted each calendar month, in a form approved by the Engineer, until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works.
- 6.11 Disorderly Conduct** The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst the Contractor's Personnel, and to preserve peace and protection of persons and property on and near the Site.
- 6.12 Foreign Personnel** The Contractor may bring in to the Country any foreign personnel who are necessary for the execution of the Works to the extent allowed by the applicable Laws. The Contractor shall ensure that these personnel are provided with the required residence visas and work permits. The Employer will, if

requested by the Contractor, use his best endeavours in a timely and expeditious manner to assist the Contractor in obtaining any local, state, national or government permission required for bringing in the Contractor's personnel..

The Contractor shall be responsible for the return of these personnel to the place where they were recruited or to their domicile. In the event of the death in the Country of any of these personnel or members of their families, the Contractor shall similarly be responsible for making the appropriate arrangements for their return or burial.

- 6.13 Supply of Foodstuffs** The Contractor shall arrange for the provision of a sufficient supply of suitable food as may be stated in the Specification at reasonable prices for the Contractor's Personnel for the purposes of or in connection with the Contract.
- 6.14 Supply of Water** The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Contractor's Personnel.
- 6.15 Measures against Insect and Pest Nuisance** The Contractor shall at all times take the necessary precautions to protect the Contractor's Personnel employed on the Site from insect and pest nuisance, and to reduce the danger to their health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.
- 6.16 Alcoholic Liquor or Drugs** The Contractor shall not, otherwise than in accordance with the Laws of the Country, import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift, barter or disposal thereof by Contractor's Personnel.
- 6.17 Arms and Ammunition** The Contractor shall not give, barter, or otherwise dispose of, to any person, any arms or ammunition of any kind, or allow Contractor's Personnel to do so.
- 6.18 Festivals and Religious Customs** The Contractor shall respect the Country's recognized festivals, days of rest and religious or other customs.
- 6.19 Funeral Arrangements** The Contractor shall be responsible, to the extent required by local regulations, for making any funeral arrangements for any of his local employees who may die while engaged upon the Works.

- 6.20 Prohibition of Forced or Compulsory Labour** The Contractor shall not employ forced labour, which consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty, and includes any kind of involuntary or compulsory labour, such as indentured labour, bonded labour or similar labour-contracting arrangements.
- 6.21 Prohibition of Harmful Child Labour** The Contractor shall not employ children in a manner that is economically exploitative, or is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development. Where the relevant labour laws of the Country have provisions for employment of minors, the Contractor shall follow those laws applicable to the Contractor. Children below the age of 18 years shall not be employed in dangerous work.
- 6.22 Employment Records of Workers** The Contractor shall keep complete and accurate records of the employment of labour at the Site. The records shall include the names, ages, genders, hours worked and wages paid to all workers. These records shall be summarized on a monthly basis and submitted to the Engineer. These records shall be included in the details to be submitted by the Contractor under Sub-Clause 6.10 [Records of Contractor's Personnel and Equipment].
- 6.23 Workers' Organisations** In countries where the relevant labour laws recognise workers' rights to form and to join workers' organisations of their choosing without interference and to bargain collectively, the Contractor shall comply with such laws. Where the relevant labour laws substantially restrict workers' organisations, the Contractor shall enable alternative means for the Contractor's Personnel to express their grievances and protect their rights regarding working conditions and terms of employment. In either case described above, and where the relevant labour laws are silent, the Contractor shall not discourage the Contractor's Personnel from forming or joining workers' organisations of their choosing or from bargaining collectively, and shall not discriminate or retaliate against the Contractor's Personnel who participate, or seek to participate, in such organisations and bargain collectively. The Contractor shall engage with such workers' representatives. Workers' organisations are expected to fairly represent the workers in the workforce.

6.24 Non-Discrimination and Equal Opportunity

The Contractor shall not make employment decisions on the basis of personal characteristics unrelated to inherent job requirements. The Contractor shall base the employment relationship on the principle of equal opportunity and fair treatment, and shall not discriminate with respect to aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, promotion, termination of employment or retirement, and discipline. In countries where the relevant labour laws provide for non-discrimination in employment, the Contractor shall comply with such laws. When the relevant labour laws are silent on non-discrimination in employment, the Contractor shall meet this Sub-Clause's requirements. Special measures of protection or assistance to remedy past discrimination or selection for a particular job based on the inherent requirements of the job shall not be deemed discrimination.

7. Plant, Materials and Workmanship

7.1 Manner of Execution

The Contractor shall carry out the manufacture of Plant, the production and manufacture of Materials, and all other execution of the Works:

- (a) in the manner (if any) specified in the Contract,
- (b) in a proper workmanlike and careful manner, in accordance with recognised good practice, and
- (c) with properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract.

7.2 Samples

The Contractor shall submit the following samples of Materials, and relevant information, to the Engineer for consent prior to using the Materials in or for the Works:

- (a) manufacturer's standard samples of Materials and samples specified in the Contract, all at the Contractor's cost, and
- (b) additional samples instructed by the Engineer as a Variation.

Each sample shall be labelled as to origin and intended use in the Works.

7.3 Inspection

The Employer's Personnel shall at all reasonable times:

- (a) have full access to all parts of the Site and to all places from which natural Materials are being obtained, and

- (b) during production, manufacture and construction (at the Site and elsewhere), be entitled to examine, inspect, measure and test the materials and workmanship, and to check the progress of manufacture of Plant and production and manufacture of Materials.

The Contractor shall give the Employer's Personnel full opportunity to carry out these activities, including providing access, facilities, permissions and safety equipment. No such activity shall relieve the Contractor from any obligation or responsibility.

The Contractor shall give notice to the Engineer whenever any work is ready and before it is covered up, put out of sight, or packaged for storage or transport. The Engineer shall then either carry out the examination, inspection, measurement or testing without unreasonable delay, or promptly give notice to the Contractor that the Engineer does not require to do so. If the Contractor fails to give the notice, he shall, if and when required by the Engineer, uncover the work and thereafter reinstate and make good, all at the Contractor's cost.

7.4 Testing

This Sub-Clause shall apply to all tests specified in the Contract, other than the Tests after Completion (if any).

Except as otherwise specified in the Contract, the Contractor shall provide all apparatus, assistance, documents and other information, electricity, equipment, fuel, consumables, instruments, labour, materials, and suitably qualified and experienced staff, as are necessary to carry out the specified tests efficiently. The Contractor shall agree, with the Engineer, the time and place for the specified testing of any Plant, Materials and other parts of the Works.

The Engineer may, under Clause 13 [Variations and Adjustments], vary the location or details of specified tests, or instruct the Contractor to carry out additional tests. If these varied or additional tests show that the tested Plant, Materials or workmanship is not in accordance with the Contract, the cost of carrying out this Variation shall be borne by the Contractor, notwithstanding other provisions of the Contract.

The Engineer shall give the Contractor not less than 24 hours' notice of the Engineer's intention to attend the tests. If the Engineer does not attend at the time and place agreed, the Contractor may proceed with the tests, unless otherwise instructed by the Engineer, and the tests shall then be deemed to

have been made in the Engineer's presence.

If the Contractor suffers delay and/or incurs Cost from complying with these instructions or as a result of a delay for which the Employer is responsible, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) payment of any such Cost plus profit, which shall be included in the Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

The Contractor shall promptly forward to the Engineer duly certified reports of the tests. When the specified tests have been passed, the Engineer shall endorse the Contractor's test certificate, or issue a certificate to him, to that effect. If the Engineer has not attended the tests, he shall be deemed to have accepted the readings as accurate.

7.5 Rejection

If, as a result of an examination, inspection, measurement or testing, any Plant, Materials or workmanship is found to be defective or otherwise not in accordance with the Contract, the Engineer may reject the Plant, Materials or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the defect and ensure that the rejected item complies with the Contract.

If the Engineer requires this Plant, Materials or workmanship to be retested, the tests shall be repeated under the same terms and conditions. If the rejection and retesting cause the Employer to incur additional costs, the Contractor shall subject to Sub-Clause 2.5 [Employer's Claims] pay these costs to the Employer.

7.6 Remedial Work

Notwithstanding any previous test or certification, the Engineer may instruct the Contractor to:

- (a) remove from the Site and replace any Plant or Materials which is not in accordance with the Contract,
- (b) remove and re-execute any other work which is not in

accordance with the Contract, and

- (c) execute any work which is urgently required for the safety of the Works, whether because of an accident, unforeseeable event or otherwise.

The Contractor shall comply with the instruction within a reasonable time, which shall be the time (if any) specified in the instruction, or immediately if urgency is specified under subparagraph (c).

If the Contractor fails to comply with the instruction, the Employer shall be entitled to employ and pay other persons to carry out the work. Except to the extent that the Contractor would have been entitled to payment for the work, the Contractor shall subject to Sub-Clause 2.5 [Employer's Claims] pay to the Employer all costs arising from this failure.

7.7 Ownership of Plant and Materials

Except as otherwise provided in the Contract, each item of Plant and Materials shall, to the extent consistent with the Laws of the Country, become the property of the Employer at whichever is the earlier of the following times, free from liens and other encumbrances:

- (a) when it is incorporated in the Works;
- (b) when the Contractor is paid the corresponding value of the Plant and Materials under Sub-Clause 8.10 [Payment for Plant and Materials in Event of Suspension].

7.8 Royalties

Unless otherwise stated in the Specification, the Contractor shall pay all royalties, rents and other payments for:

- (a) natural Materials obtained from outside the Site, and
- (b) the disposal of material from demolitions and excavations and of other surplus material (whether natural or man-made), except to the extent that disposal areas within the Site are specified in the Contract.

8. Commencement, Delays and Suspension

8.1 Commencement of Works

Except as otherwise specified in the Particular Conditions of Contract, the Commencement Date shall be the date at which the following precedent conditions have all been fulfilled and the Engineer's notification recording the agreement of both Parties on such fulfilment and instructing to commence the Work is received by the Contractor:

- (a) signature of the Contract Agreement by both Parties, and if required, approval of the Contract by relevant authorities of the Country;
- (b) delivery to the Contractor of reasonable evidence of the Employer's financial arrangements (under Sub-Clause 2.4 [Employer's Financial Arrangements]);
- (c) except if otherwise specified in the Contract Data, effective access to and possession of the Site given to the Contractor together with such permission(s) under (a) of Sub-Clause 1.13 [Compliance with Laws] as required for the commencement of the Works
- (d) receipt by the Contractor of the Advance Payment under Sub-Clause 14.2 [Advance Payment] provided that the corresponding bank guarantee has been delivered by the Contractor.

If the said Engineer's instruction is not received by the Contractor within 180 days from his receipt of the Letter of Acceptance, the Contractor shall be entitled to terminate the Contract under Sub-Clause 16.2 [Termination by Contractor].

The Contractor shall commence the execution of the Works as soon as is reasonably practicable after the Commencement Date, and shall then proceed with the Works with due expedition and without delay.

8.2 Time for Completion

The Contractor shall complete the whole of the Works, and each Section (if any), within the Time for Completion for the Works or Section (as the case may be), including:

- (a) achieving the passing of the Tests on Completion, and
- (b) completing all work which is stated in the Contract as being required for the Works or Section to be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [Taking Over of the Works and Sections].

8.3 Programme

The Contractor shall submit a detailed time programme to the Engineer within 28 days after receiving the notice under Sub-Clause 8.1 [Commencement of Works]. The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Contractor's obligations. Each programme shall include:

- (a) the order in which the Contractor intends to carry out the Works, including the anticipated timing of each stage of design (if any), Contractor's Documents, procurement, manufacture of Plant, delivery to Site, construction, erection and testing,
- (b) each of these stages for work by each nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]),
- (c) the sequence and timing of inspections and tests specified in the Contract, and
- (d) a supporting report which includes:
 - (i) a general description of the methods which the Contractor intends to adopt, and of the major stages, in the execution of the Works, and
 - (ii) details showing the Contractor's reasonable estimate of the number of each class of Contractor's Personnel and of each type of Contractor's Equipment, required on the Site for each major stage.

Unless the Engineer, within 21 days after receiving a programme, gives notice to the Contractor stating the extent to which it does not comply with the Contract, the Contractor shall proceed in accordance with the programme, subject to his other obligations under the Contract. The Employer's Personnel shall be entitled to rely upon the programme when planning their activities.

The Contractor shall promptly give notice to the Engineer of specific probable future events or circumstances which may adversely affect the work, increase the Contract Price or delay the execution of the Works. The Engineer may require the Contractor to submit an estimate of the anticipated effect of the future event or circumstances, and/or a proposal under Sub-Clause 13.3 [Variation Procedure].

If, at any time, the Engineer gives notice to the Contractor that a programme fails (to the extent stated) to comply with the Contract or to be consistent with actual progress and the Contractor's stated intentions, the Contractor shall submit a revised programme to the Engineer in accordance with this Sub-Clause.

8.4 Extension of Time for Completion

The Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to an extension of the Time for Completion if and to the extent that completion for the purposes

of Sub-Clause 10.1 [Taking Over of the Works and Sections] is or will be delayed by any of the following causes:

- (a) a Variation (unless an adjustment to the Time for Completion has been agreed under Sub-Clause 13.3 [Variation Procedure]) or other substantial change in the quantity of an item of work included in the Contract,
- (b) a cause of delay giving an entitlement to extension of time under a Sub-Clause of these Conditions,
- (c) exceptionally adverse climatic conditions,
- (d) Unforeseeable shortages in the availability of personnel or Goods caused by epidemic or governmental actions, or
- (e) any delay, impediment or prevention caused by or attributable to the Employer, the Employer's Personnel, or the Employer's other contractors.

If the Contractor considers himself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Engineer in accordance with Sub-Clause 20.1 [Contractor's Claims]. When determining each extension of time under Sub-Clause 20.1, the Engineer shall review previous determinations and may increase, but shall not decrease, the total extension of time.

8.5 Delays Caused by Authorities

If the following conditions apply, namely:

- (a) the Contractor has diligently followed the procedures laid down by the relevant legally constituted public authorities in the Country,
- (b) these authorities delay or disrupt the Contractor's work, and
- (c) the delay or disruption was Unforeseeable,

then this delay or disruption will be considered as a cause of delay under sub-paragraph (b) of Sub-Clause 8.4 [Extension of Time for Completion].

8.6 Rate of Progress

If, at any time:

- (a) actual progress is too slow to complete within the Time for Completion, and/or
- (b) progress has fallen (or will fall) behind the current

programme under Sub-Clause 8.3 [Programme],

other than as a result of a cause listed in Sub-Clause 8.4 [Extension of Time for Completion], then the Engineer may instruct the Contractor to submit, under Sub-Clause 8.3 [Programme], a revised programme and supporting report describing the revised methods which the Contractor proposes to adopt in order to expedite progress and complete within the Time for Completion.

Unless the Engineer notifies otherwise, the Contractor shall adopt these revised methods, which may require increases in the working hours and/or in the numbers of Contractor's Personnel and/or Goods, at the risk and cost of the Contractor. If these revised methods cause the Employer to incur additional costs, the Contractor shall subject to notice under Sub-Clause 2.5 [Employer's Claims] pay these costs to the Employer, in addition to delay damages (if any) under Sub-Clause 8.7 below.

Additional costs of revised methods including acceleration measures, instructed by the Engineer to reduce delays resulting from causes listed under Sub-Clause 8.4 [Extension of Time for Completion] shall be paid by the Employer, without generating, however, any other additional payment benefit to the Contractor.

8.7 Delay Damages

If the Contractor fails to comply with Sub-Clause 8.2 [Time for Completion], the Contractor shall subject to notice under Sub-Clause 2.5 [Employer's Claims] pay delay damages to the Employer for this default. These delay damages shall be the sum stated in the Contract Data, which shall be paid for every day which shall elapse between the relevant Time for Completion and the date stated in the Taking-Over Certificate. However, the total amount due under this Sub-Clause shall not exceed the maximum amount of delay damages (if any) stated in the Contract Data.

These delay damages shall be the only damages due from the Contractor for such default, other than in the event of termination under Sub-Clause 15.2 [Termination by Employer] prior to completion of the Works. These damages shall not relieve the Contractor from his obligation to complete the Works, or from any other duties, obligations or responsibilities which he may have under the Contract.

8.8 Suspension of Work

The Engineer may at any time instruct the Contractor to suspend progress of part or all of the Works. During such suspension, the Contractor shall protect, store and secure such part or the Works

against any deterioration, loss or damage.

The Engineer may also notify the cause for the suspension. If and to the extent that the cause is notified and is the responsibility of the Contractor, the following Sub-Clauses 8.9, 8.10 and 8.11 shall not apply.

8.9 Consequences of Suspension

If the Contractor suffers delay and/or incurs Cost from complying with the Engineer's instructions under Sub-Clause 8.8 [Suspension of Work] and/or from resuming the work, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) payment of any such Cost, which shall be included in the Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

The Contractor shall not be entitled to an extension of time for, or to payment of the Cost incurred in, making good the consequences of the Contractor's faulty design, workmanship or materials, or of the Contractor's failure to protect, store or secure in accordance with Sub-Clause 8.8 [Suspension of Work].

8.10 Payment for Plant and Materials in Event of Suspension

The Contractor shall be entitled to payment of the value (as at the date of suspension) of Plant and/or Materials which have not been delivered to Site, if:

- (a) the work on Plant or delivery of Plant and/or Materials has been suspended for more than 28 days, and
- (b) the Contractor has marked the Plant and/or Materials as the Employer's property in accordance with the Engineer's instructions.

8.11 Prolonged Suspension

If the suspension under Sub-Clause 8.8 [Suspension of Work] has continued for more than 84 days, the Contractor may request the Engineer's permission to proceed. If the Engineer does not give permission within 28 days after being requested to do so, the Contractor may, by giving notice to the Engineer, treat the suspension as an omission under Clause 13 [Variations and

Adjustments] of the affected part of the Works. If the suspension affects the whole of the Works, the Contractor may give notice of termination under Sub-Clause 16.2 [Termination by Contractor].

8.12 Resumption of Work

After the permission or instruction to proceed is given, the Contractor and the Engineer shall jointly examine the Works and the Plant and Materials affected by the suspension. The Contractor shall make good any deterioration or defect in or loss of the Works or Plant or Materials, which has occurred during the suspension after receiving from the Engineer an instruction to this effect under Clause 13 [Variations and Adjustments].

9. Tests on Completion

9.1 Contractor's Obligations

The Contractor shall carry out the Tests on Completion in accordance with this Clause and Sub-Clause 7.4 [Testing], after providing the documents in accordance with sub-paragraph (d) of Sub-Clause 4.1 [Contractor's General Obligations].

The Contractor shall give to the Engineer not less than 21 days' notice of the date after which the Contractor will be ready to carry out each of the Tests on Completion. Unless otherwise agreed, Tests on Completion shall be carried out within 14 days after this date, on such day or days as the Engineer shall instruct.

In considering the results of the Tests on Completion, the Engineer shall make allowances for the effect of any use of the Works by the Employer on the performance or other characteristics of the Works. As soon as the Works, or a Section, have passed any Tests on Completion, the Contractor shall submit a certified report of the results of these Tests to the Engineer.

9.2 Delayed Tests

If the Tests on Completion are being unduly delayed by the Employer, Sub-Clause 7.4 [Testing] (fifth paragraph) and/or Sub-Clause 10.3 [Interference with Tests on Completion] shall be applicable.

If the Tests on Completion are being unduly delayed by the Contractor, the Engineer may by notice require the Contractor to carry out the Tests within 21 days after receiving the notice. The Contractor shall carry out the Tests on such day or days within that period as the Contractor may fix and of which he shall give notice to the Engineer.

If the Contractor fails to carry out the Tests on Completion within the period of 21 days, the Employer's Personnel may

proceed with the Tests at the risk and cost of the Contractor. The Tests on Completion shall then be deemed to have been carried out in the presence of the Contractor and the results of the Tests shall be accepted as accurate.

9.3 Retesting

If the Works, or a Section, fail to pass the Tests on Completion, Sub-Clause 7.5 [Rejection] shall apply, and the Engineer or the Contractor may require the failed Tests, and Tests on Completion on any related work, to be repeated under the same terms and conditions.

9.4 Failure to Pass Tests on Completion

If the Works, or a Section, fail to pass the Tests on Completion repeated under Sub-Clause 9.3 [Retesting], the Engineer shall be entitled to:

- (a) order further repetition of Tests on Completion under Sub-Clause 9.3;
- (b) if the failure deprives the Employer of substantially the whole benefit of the Works or Section, reject the Works or Section (as the case may be), in which event the Employer shall have the same remedies as are provided in sub-paragraph (c) of Sub-Clause 11.4 [Failure to Remedy Defects]; or
- (c) issue a Taking-Over Certificate, if the Employer so requests.

In the event of sub-paragraph (c), the Contractor shall proceed in accordance with all other obligations under the Contract, and the Contract Price shall be reduced by such amount as shall be appropriate to cover the reduced value to the Employer as a result of this failure. Unless the relevant reduction for this failure is stated (or its method of calculation is defined) in the Contract, the Employer may require the reduction to be (i) agreed by both Parties (in full satisfaction of this failure only) and paid before this Taking-Over Certificate is issued, or (ii) determined and paid under Sub-Clause 2.5 [Employer's Claims] and Sub-Clause 3.5 [Determinations].

10. Employer's Taking Over

10.1 Taking Over of the Works and Sections

Except as stated in Sub-Clause 9.4 [Failure to Pass Tests on Completion], the Works shall be taken over by the Employer when (i) the Works have been completed in accordance with the Contract, including the matters described in Sub-Clause 8.2 [Time for Completion] and except as allowed in sub-paragraph (a) below, and (ii) a Taking-Over Certificate for the Works has been issued, or is deemed to have been issued in accordance

with this Sub-Clause.

The Contractor may apply by notice to the Engineer for a Taking-Over Certificate not earlier than 14 days before the Works will, in the Contractor's opinion, be complete and ready for taking over. If the Works are divided into Sections, the Contractor may similarly apply for a Taking-Over Certificate for each Section.

The Engineer shall, within 28 days after receiving the Contractor's application:

- (a) issue the Taking-Over Certificate to the Contractor, stating the date on which the Works or Section were completed in accordance with the Contract, except for any minor outstanding work and defects which will not substantially affect the use of the Works or Section for their intended purpose (either until or whilst this work is completed and these defects are remedied); or
- (b) reject the application, giving reasons and specifying the work required to be done by the Contractor to enable the Taking-Over Certificate to be issued. The Contractor shall then complete this work before issuing a further notice under this Sub-Clause.

If the Engineer fails either to issue the Taking-Over Certificate or to reject the Contractor's application within the period of 28 days, and if the Works or Section (as the case may be) are substantially in accordance with the Contract, the Taking-Over Certificate shall be deemed to have been issued on the last day of that period.

10.2 Taking Over of Parts of the Works

The Engineer may, at the sole discretion of the Employer, issue a Taking-Over Certificate for any part of the Permanent Works.

The Employer shall not use any part of the Works (other than as a temporary measure which is either specified in the Contract or agreed by both Parties) unless and until the Engineer has issued a Taking-Over Certificate for this part. However, if the Employer does use any part of the Works before the Taking-Over Certificate is issued:

- (a) the part which is used shall be deemed to have been taken over as from the date on which it is used,
- (b) the Contractor shall cease to be liable for the care of such part as from this date, when responsibility shall pass to the Employer, and

- (c) if requested by the Contractor, the Engineer shall issue a Taking-Over Certificate for this part.

After the Engineer has issued a Taking-Over Certificate for a part of the Works, the Contractor shall be given the earliest opportunity to take such steps as may be necessary to carry out any outstanding Tests on Completion. The Contractor shall carry out these Tests on Completion as soon as practicable before the expiry date of the relevant Defects Notification Period.

If the Contractor incurs Cost as a result of the Employer taking over and/or using a part of the Works, other than such use as is specified in the Contract or agreed by the Contractor, the Contractor shall (i) give notice to the Engineer and (ii) be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to payment of any such Cost plus profit, which shall be included in the Contract Price. After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine this Cost and profit.

If a Taking-Over Certificate has been issued for a part of the Works (other than a Section), the delay damages thereafter for completion of the remainder of the Works shall be reduced. Similarly, the delay damages for the remainder of the Section (if any) in which this part is included shall also be reduced. For any period of delay after the date stated in this Taking-Over Certificate, the proportional reduction in these delay damages shall be calculated as the proportion which the value of the part so certified bears to the value of the Works or Section (as the case may be) as a whole. The Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these proportions. The provisions of this paragraph shall only apply to the daily rate of delay damages under Sub-Clause 8.7 [Delay Damages], and shall not affect the maximum amount of these damages.

10.3 Interference with Tests on Completion

If the Contractor is prevented, for more than 14 days, from carrying out the Tests on Completion by a cause for which the Employer is responsible, the Employer shall be deemed to have taken over the Works or Section (as the case may be) on the date when the Tests on Completion would otherwise have been completed.

The Engineer shall then issue a Taking-Over Certificate accordingly, and the Contractor shall carry out the Tests on Completion as soon as practicable, before the expiry date of the Defects Notification Period. The Engineer shall require the

Tests on Completion to be carried out by giving 14 days' notice and in accordance with the relevant provisions of the Contract.

If the Contractor suffers delay and/or incurs Cost as a result of this delay in carrying out the Tests on Completion, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) payment of any such Cost plus profit, which shall be included in the Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

10.4 Surfaces Requiring Reinstatement

Except as otherwise stated in a Taking-Over Certificate, a certificate for a Section or part of the Works shall not be deemed to certify completion of any ground or other surfaces requiring reinstatement.

11. Defects Liability

11.1 Completion of Outstanding Work and Remedying Defects

In order that the Works and Contractor's Documents, and each Section, shall be in the condition required by the Contract (fair wear and tear excepted) by the expiry date of the relevant Defects Notification Period or as soon as practicable thereafter, the Contractor shall:

- (a) complete any work which is outstanding on the date stated in a Taking-Over Certificate, within such reasonable time as is instructed by the Engineer, and
- (b) execute all work required to remedy defects or damage, as may be notified by (or on behalf of) the Employer on or before the expiry date of the Defects Notification Period for the Works or Section (as the case may be).

If a defect appears or damage occurs, the Contractor shall be notified accordingly, by (or on behalf of) the Employer.

11.2 Cost of Remedying Defects

All work referred to in sub-paragraph (b) of Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects] shall be executed at the risk and cost of the Contractor, if and to the extent that the work is attributable to:

- (a) any design for which the Contractor is responsible,
- (b) Plant, Materials or workmanship not being in accordance with the Contract, or
- (c) failure by the Contractor to comply with any other obligation.

If and to the extent that such work is attributable to any other cause, the Contractor shall be notified promptly by (or on behalf of) the Employer, and Sub-Clause 13.3 [Variation Procedure] shall apply.

11.3 Extension of Defects Notification Period

The Employer shall be entitled subject to Sub-Clause 2.5 [Employer's Claims] to an extension of the Defects Notification Period for the Works or a Section if and to the extent that the Works, Section or a major item of Plant (as the case may be, and after taking over) cannot be used for the purposes for which they are intended by reason of a defect or by reason of damage attributable to the Contractor. However, a Defects Notification Period shall not be extended by more than two years.

If delivery and/or erection of Plant and/or Materials was suspended under Sub-Clause 8.8 [Suspension of Work] or Sub-Clause 16.1 [Contractor's Entitlement to Suspend Work], the Contractor's obligations under this Clause shall not apply to any defects or damage occurring more than two years after the Defects Notification Period for the Plant and/or Materials would otherwise have expired.

11.4 Failure to Remedy Defects

If the Contractor fails to remedy any defect or damage within a reasonable time, a date may be fixed by (or on behalf of) the Employer, on or by which the defect or damage is to be remedied. The Contractor shall be given reasonable notice of this date.

If the Contractor fails to remedy the defect or damage by this notified date and this remedial work was to be executed at the cost of the Contractor under Sub-Clause 11.2 [Cost of Remedying Defects], the Employer may (at his option):

- (a) carry out the work himself or by others, in a reasonable manner and at the Contractor's cost, but the Contractor shall have no responsibility for this work; and the Contractor shall subject to Sub-Clause 2.5 [Employer's Claims] pay to the Employer the costs reasonably incurred by the Employer in remedying the defect or damage;

- (b) require the Engineer to agree or determine a reasonable reduction in the Contract Price in accordance with Sub-Clause 3.5 [Determinations]; or
- (c) if the defect or damage deprives the Employer of substantially the whole benefit of the Works or any major part of the Works, terminate the Contract as a whole, or in respect of such major part which cannot be put to the intended use. Without prejudice to any other rights, under the Contract or otherwise, the Employer shall then be entitled to recover all sums paid for the Works or for such part (as the case may be), plus financing costs and the cost of dismantling the same, clearing the Site and returning Plant and Materials to the Contractor.

11.5 Removal of Defective Work

If the defect or damage cannot be remedied expeditiously on the Site and the Employer gives consent, the Contractor may remove from the Site for the purposes of repair such items of Plant as are defective or damaged. This consent may require the Contractor to increase the amount of the Performance Security by the full replacement cost of these items, or to provide other appropriate security.

11.6 Further Tests

If the work of remedying of any defect or damage may affect the performance of the Works, the Engineer may require the repetition of any of the tests described in the Contract. The requirement shall be made by notice within 28 days after the defect or damage is remedied.

These tests shall be carried out in accordance with the terms applicable to the previous tests, except that they shall be carried out at the risk and cost of the Party liable, under Sub-Clause 11.2 [Cost of Remedying Defects], for the cost of the remedial work.

11.7 Right of Access

Until the Performance Certificate has been issued, the Contractor shall have such right of access to the Works as is reasonably required in order to comply with this Clause, except as may be inconsistent with the Employer's reasonable security restrictions.

11.8 Contractor to Search

The Contractor shall, if required by the Engineer, search for the cause of any defect, under the direction of the Engineer. Unless the defect is to be remedied at the cost of the Contractor under Sub-Clause 11.2 [Cost of Remedying Defects], the Cost of the search plus profit shall be agreed or determined by the Engineer

in accordance with Sub-Clause 3.5 [Determinations] and shall be included in the Contract Price.

11.9 Performance Certificate

Performance of the Contractor's obligations shall not be considered to have been completed until the Engineer has issued the Performance Certificate to the Contractor, stating the date on which the Contractor completed his obligations under the Contract.

The Engineer shall issue the Performance Certificate within 28 days after the latest of the expiry dates of the Defects Notification Periods, or as soon thereafter as the Contractor has supplied all the Contractor's Documents and completed and tested all the Works, including remedying any defects. A copy of the Performance Certificate shall be issued to the Employer.

Only the Performance Certificate shall be deemed to constitute acceptance of the Works.

11.10 Unfulfilled Obligations

After the Performance Certificate has been issued, each Party shall remain liable for the fulfilment of any obligation which remains unperformed at that time. For the purposes of determining the nature and extent of unperformed obligations, the Contract shall be deemed to remain in force.

11.11 Clearance of Site

Upon receiving the Performance Certificate, the Contractor shall remove any remaining Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works from the Site.

If all these items have not been removed within 28 days after receipt by the Contractor of the Performance Certificate, the Employer may sell or otherwise dispose of any remaining items. The Employer shall be entitled to be paid the costs incurred in connection with, or attributable to, such sale or disposal and restoring the Site.

Any balance of the moneys from the sale shall be paid to the Contractor. If these moneys are less than the Employer's costs, the Contractor shall pay the outstanding balance to the Employer.

12. Measurement and Evaluation

12.1 Works to be Measured

The Works shall be measured, and valued for payment, in accordance with this Clause. The Contractor shall show in each application under Sub-Clauses 14.3 [Application for Interim Payment Certificates], 14.10 [Statement on Completion] and 14.11 [Application for Final Payment Certificate] the quantities

and other particulars detailing the amounts which he considers to be entitled under the Contract.

Whenever the Engineer requires any part of the Works to be measured, reasonable notice shall be given to the Contractor's Representative, who shall:

- (a) promptly either attend or send another qualified representative to assist the Engineer in making the measurement, and
- (b) supply any particulars requested by the Engineer.

If the Contractor fails to attend or send a representative, the measurement made by (or on behalf of) the Engineer shall be accepted as accurate.

Except as otherwise stated in the Contract, wherever any Permanent Works are to be measured from records, these shall be prepared by the Engineer. The Contractor shall, as and when requested, attend to examine and agree the records with the Engineer, and shall sign the same when agreed. If the Contractor does not attend, the records shall be accepted as accurate.

If the Contractor examines and disagrees the records, and/or does not sign them as agreed, then the Contractor shall give notice to the Engineer of the respects in which the records are asserted to be inaccurate. After receiving this notice, the Engineer shall review the records and either confirm or vary them and certify the payment of the undisputed part. If the Contractor does not so give notice to the Engineer within 14 days after being requested to examine the records, they shall be accepted as accurate.

12.2 Method of Measurement

Except as otherwise stated in the Contract and notwithstanding local practice:

- (a) measurement shall be made of the net actual quantity of each item of the Permanent Works, and
- (b) the method of measurement shall be in accordance with the Bill of Quantities or other applicable Schedules.

12.3 Evaluation

Except as otherwise stated in the Contract, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the Contract Price by evaluating each item of work, applying the measurement agreed or determined in accordance with the above Sub-Clauses 12.1 and 12.2 and the

appropriate rate or price for the item.

For each item of work, the appropriate rate or price for the item shall be the rate or price specified for such item in the Contract or, if there is no such item, specified for similar work.

Any item of work included in the Bill of Quantities for which no rate or price was specified shall be considered as included in other rates and prices in the Bill of Quantities and will not be paid for separately.

However, a new rate or price shall be appropriate for an item of work if:

- (a)
 - (i) the measured quantity of the item is changed by more than 25% from the quantity of this item in the Bill of Quantities or other Schedule,
 - (ii) this change in quantity multiplied by such specified rate for this item exceeds 0.25% of the Accepted Contract Amount,
 - (iii) this change in quantity directly changes the Cost per unit quantity of this item by more than 1%, and
 - (iv) this item is not specified in the Contract as a “fixed rate item”; or
- (b)
 - (i) the work is instructed under Clause 13 [Variations and Adjustments],
 - (ii) no rate or price is specified in the Contract for this item, and
 - (iii) no specified rate or price is appropriate because the item of work is not of similar character, or is not executed under similar conditions, as any item in the Contract.

Each new rate or price shall be derived from any relevant rates or prices in the Contract, with reasonable adjustments to take account of the matters described in sub-paragraph (a) and/or (b), as applicable. If no rates or prices are relevant for the derivation of a new rate or price, it shall be derived from the reasonable Cost of executing the work, together with profit, taking account

of any other relevant matters.

Until such time as an appropriate rate or price is agreed or determined, the Engineer shall determine a provisional rate or price for the purposes of Interim Payment Certificates as soon as the concerned work commences.

12.4 Omissions

Whenever the omission of any work forms part (or all) of a Variation, the value of which has not been agreed, if:

- (a) the Contractor will incur (or has incurred) cost which, if the work had not been omitted, would have been deemed to be covered by a sum forming part of the Accepted Contract Amount;
- (b) the omission of the work will result (or has resulted) in this sum not forming part of the Contract Price; and
- (c) this cost is not deemed to be included in the evaluation of any substituted work;

then the Contractor shall give notice to the Engineer accordingly, with supporting particulars. Upon receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine this cost, which shall be included in the Contract Price.

13. Variations and Adjustments

13.1 Right to Vary

Variations may be initiated by the Engineer at any time prior to issuing the Taking-Over Certificate for the Works, either by an instruction or by a request for the Contractor to submit a proposal.

The Contractor shall execute and be bound by each Variation, unless the Contractor promptly gives notice to the Engineer stating (with supporting particulars) that (i) the Contractor cannot readily obtain the Goods required for the Variation, or (ii) such Variation triggers a substantial change in the sequence or progress of the Works. Upon receiving this notice, the Engineer shall cancel, confirm or vary the instruction.

Each Variation may include:

- (a) changes to the quantities of any item of work included in the Contract (however, such changes do not necessarily constitute a Variation),
- (b) changes to the quality and other characteristics of any item

- of work,
- (c) changes to the levels, positions and/or dimensions of any part of the Works,
 - (d) omission of any work unless it is to be carried out by others,
 - (e) any additional work, Plant, Materials or services necessary for the Permanent Works, including any associated Tests on Completion, boreholes and other testing and exploratory work, or
 - (f) changes to the sequence or timing of the execution of the Works.

The Contractor shall not make any alteration and/or modification of the Permanent Works, unless and until the Engineer instructs or approves a Variation.

13.2 Value Engineering

The Contractor may, at any time, submit to the Engineer a written proposal which (in the Contractor's opinion) will, if adopted, (i) accelerate completion, (ii) reduce the cost to the Employer of executing, maintaining or operating the Works, (iii) improve the efficiency or value to the Employer of the completed Works, or (iv) otherwise be of benefit to the Employer.

The proposal shall be prepared at the cost of the Contractor and shall include the items listed in Sub-Clause 13.3 [Variation Procedure].

If a proposal, which is approved by the Engineer, includes a change in the design of part of the Permanent Works, then unless otherwise agreed by both Parties:

- (a) the Contractor shall design this part,
- (b) sub-paragraphs (a) to (d) of Sub-Clause 4.1 [Contractor's General Obligations] shall apply, and
- (c) if this change results in a reduction in the contract value of this part, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine a fee, which shall be included in the Contract Price. This fee shall be half (50%) of the difference between the following amounts:
 - (i) such reduction in contract value, resulting from the change, excluding adjustments under Sub-Clause 13.7 [Adjustments for Changes in Legislation] and

Sub-Clause 13.8 [Adjustments for Changes in Cost],and

- (ii) the reduction (if any) in the value to the Employer of the varied works, taking account of any reductions in quality, anticipated life or operational efficiencies.

However, if amount (i) is less than amount (ii), there shall not be a fee.

13.3 Variation Procedure

If the Engineer requests a proposal, prior to instructing a Variation, the Contractor shall respond in writing as soon as practicable, either by giving reasons why he cannot comply (if this is the case) or by submitting:

- (a) a description of the proposed work to be performed and a programme for its execution,
- (b) the Contractor's proposal for any necessary modifications to the programme according to Sub-Clause 8.3 [Programme] and to the Time for Completion, and
- (c) the Contractor's proposal for evaluation of the Variation.

The Engineer shall, as soon as practicable after receiving such proposal (under Sub-Clause 13.2 [Value Engineering] or otherwise), respond with approval, disapproval or comments. The Contractor shall not delay any work whilst awaiting a response.

Each instruction to execute a Variation, with any requirements for the recording of Costs, shall be issued by the Engineer to the Contractor, who shall acknowledge receipt.

Each Variation shall be evaluated in accordance with Clause 12 [Measurement and Evaluation], unless the Engineer instructs or approves otherwise in accordance with this Clause.

13.4 Payment in Applicable Currencies

If the Contract provides for payment of the Contract Price in more than one currency, then whenever an adjustment is agreed, approved or determined as stated above, the amount payable in each of the applicable currencies shall be specified. For this purpose, reference shall be made to the actual or expected currency proportions of the Cost of the varied work, and to the proportions of various currencies specified for payment of the Contract Price.

13.5 Provisional Sums Each Provisional Sum shall only be used, in whole or in part, in accordance with the Engineer's instructions, and the Contract Price shall be adjusted accordingly. The total sum paid to the Contractor shall include only such amounts, for the work, supplies or services to which the Provisional Sum relates, as the Engineer shall have instructed. For each Provisional Sum, the Engineer may instruct:

- (a) work to be executed (including Plant, Materials or services to be supplied) by the Contractor and valued under Sub-Clause 13.3 [Variation Procedure]; and/or
- (b) Plant, Materials or services to be purchased by the Contractor, from a nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]) or otherwise; and for which there shall be included in the Contract Price:
 - (i) the actual amounts paid (or due to be paid) by the Contractor, and
 - (ii) a sum for overhead charges and profit, calculated as a percentage of these actual amounts by applying the relevant percentage rate (if any) stated in the appropriate Schedule. If there is no such rate, the percentage rate stated in the Contract Data shall be applied.

The Contractor shall, when required by the Engineer, produce quotations, invoices, vouchers and accounts or receipts in substantiation.

13.6 Daywork

For work of a minor or incidental nature, the Engineer may instruct that a Variation shall be executed on a daywork basis. The work shall then be valued in accordance with the Daywork Schedule included in the Contract, and the following procedure shall apply. If a Daywork Schedule is not included in the Contract, this Sub-Clause shall not apply.

Before ordering Goods for the work, the Contractor shall submit quotations to the Engineer. When applying for payment, the Contractor shall submit invoices, vouchers and accounts or receipts for any Goods.

Except for any items for which the Daywork Schedule specifies that payment is not due, the Contractor shall deliver each day to the Engineer accurate statements in duplicate which shall include the following details of the resources used in executing

the previous day's work:

- (a) the names, occupations and time of Contractor's Personnel,
- (b) the identification, type and time of Contractor's Equipment and Temporary Works, and
- (c) the quantities and types of Plant and Materials used.

One copy of each statement will, if correct, or when agreed, be signed by the Engineer and returned to the Contractor. The Contractor shall then submit priced statements of these resources to the Engineer, prior to their inclusion in the next Statement under Sub-Clause 14.3 [Application for Interim Payment Certificates].

13.7 Adjustments for Changes in Legislation

The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change in the Laws of the Country (including the introduction of new Laws and the repeal or modification of existing Laws) or in the judicial or official governmental interpretation of such Laws, made after the Base Date, which affect the Contractor in the performance of obligations under the Contract.

If the Contractor suffers (or will suffer) delay and/or incurs (or will incur) additional Cost as a result of these changes in the Laws or in such interpretations, made after the Base Date, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) payment of any such Cost, which shall be included in the Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

Notwithstanding the foregoing, the Contractor shall not be entitled to an extension of time if the relevant delay has already been taken into account in the determination of a previous extension of time and such Cost shall not be separately paid if the same shall already have been taken into account in the indexing of any inputs to the table of adjustment data in accordance with the provisions of Sub-Clause 13.8 [Adjustments

for Changes in Cost].

13.8 Adjustments for Changes in Cost

In this Sub-Clause, “table of adjustment data” means the completed table of adjustment data for local and foreign currencies included in the Schedules. If there is no such table of adjustment data, this Sub-Clause shall not apply.

If this Sub-Clause applies, the amounts payable to the Contractor shall be adjusted for rises or falls in the cost of labour, Goods and other inputs to the Works, by the addition or deduction of the amounts determined by the formulae prescribed in this Sub-Clause. To the extent that full compensation for any rise or fall in Costs is not covered by the provisions of this or other Clauses, the Accepted Contract Amount shall be deemed to have included amounts to cover the contingency of other rises and falls in costs.

The adjustment to be applied to the amount otherwise payable to the Contractor, as valued in accordance with the appropriate Schedule and certified in Payment Certificates, shall be determined from formulae for each of the currencies in which the Contract Price is payable. No adjustment is to be applied to work valued on the basis of Cost or current prices. The formulae shall be of the following general type:

$P_n = a + b L_n / L_o + c E_n / E_o + d M_n / M_o + \dots$ where:

“ P_n ” is the adjustment multiplier to be applied to the estimated contract value in the relevant currency of the work carried out in period “ n ”, this period being a month unless otherwise stated in the Contract Data ;

“ a ” is a fixed coefficient, stated in the relevant table of adjustment data, representing the non-adjustable portion in contractual payments;

“ b ”, “ c ”, “ d ”, ... are coefficients representing the estimated proportion of each cost element related to the execution of the Works, as stated in the relevant table of adjustment data; such tabulated cost elements may be indicative of resources such as labour, equipment and materials;

“ L_n ”, “ E_n ”, “ M_n ”, ... are the current cost indices or reference prices for period “ n ”, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the date 49 days prior to the last day of the period (to which the particular Payment Certificate relates); and

“ L_o ”, “ E_o ”, “ M_o ”, ... are the base cost indices or reference

prices, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the Base Date.

The cost indices or reference prices stated in the table of adjustment data shall be used. If their source is in doubt, it shall be determined by the Engineer. For this purpose, reference shall be made to the values of the indices at stated dates (quoted in the fourth and fifth columns respectively of the table) for the purposes of clarification of the source; although these dates (and thus these values) may not correspond to the base cost indices.

In cases where the “currency of index” is not the relevant currency of payment, each index shall be converted into the relevant currency of payment at the selling rate, established by the central bank of the Country, of this relevant currency on the above date for which the index is required to be applicable.

Until such time as each current cost index is available, the Engineer shall determine a provisional index for the issue of Interim Payment Certificates. When a current cost index is available, the adjustment shall be recalculated accordingly.

If the Contractor fails to complete the Works within the Time for Completion, adjustment of prices thereafter shall be made using either (i) each index or price applicable on the date 49 days prior to the expiry of the Time for Completion of the Works, or (ii) the current index or price, whichever is more favourable to the Employer.

The weightings (coefficients) for each of the factors of cost stated in the table(s) of adjustment data shall only be adjusted if they have been rendered unreasonable, unbalanced or inapplicable, as a result of Variations.

14. Contract Price and Payment

14.1 The Contract Price

Unless otherwise stated in the Particular Conditions:

- (a) the Contract Price shall be agreed or determined under Sub-Clause 12.3 [Evaluation] and be subject to adjustments in accordance with the Contract;
- (b) the Contractor shall pay all taxes, duties and fees required to be paid by him under the Contract, and the Contract Price shall not be adjusted for any of these costs except as stated in Sub-Clause 13.7 [Adjustments for Changes in

Legislation];

- (c) any quantities which may be set out in the Bill of Quantities or other Schedule are estimated quantities and are not to be taken as the actual and correct quantities:
 - (i) of the Works which the Contractor is required to execute, or
 - (ii) for the purposes of Clause 12 [Measurement and Evaluation]; and
- (d) the Contractor shall submit to the Engineer, within 28 days after the Commencement Date, a proposed breakdown of each lump sum price in the Schedules. The Engineer may take account of the breakdown when preparing Payment Certificates, but shall not be bound by it.

Notwithstanding the provisions of subparagraph (b), Contractor's Equipment, including essential spare parts therefor, imported by the Contractor for the sole purpose of executing the Contract shall be exempt from the payment of import duties and taxes upon importation.

14.2 Advance Payment The Employer shall make an advance payment, as an interest-free loan for mobilisation and cash flow support, when the Contractor submits a guarantee in accordance with this Sub-Clause. The total advance payment, the number and timing of instalments (if more than one), and the applicable currencies and proportions, shall be as stated in the Contract Data.

Unless and until the Employer receives this guarantee, or if the total advance payment is not stated in the Contract Data, this Sub-Clause shall not apply.

The Engineer shall deliver to the Employer and to the Contractor an Interim Payment Certificate for the advance payment or its first instalment after receiving a Statement (under Sub-Clause 14.3 [Application for Interim Payment Certificates]) and after the Employer receives (i) the Performance Security in accordance with Sub-Clause 4.2 [Performance Security] and (ii) a guarantee in amounts and currencies equal to the advance payment. This guarantee shall be issued by a reputable bank or financial institution selected by the Contractor and shall be in the form annexed to the Particular Conditions or in another form approved by the Employer.

The Contractor shall ensure that the guarantee is valid and enforceable until the advance payment has been repaid, but its amount shall be progressively reduced by the amount repaid by the Contractor as indicated in the Payment Certificates. If the terms of the guarantee specify its expiry date, and the advance payment has not been repaid by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the guarantee until the advance payment has been repaid.

Unless stated otherwise in the Contract Data, the advance payment shall be repaid through percentage deductions from the interim payments determined by the Engineer in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates], as follows:

- (a) deductions shall commence in the next interim Payment Certificate following that in which the total of all certified interim payments (excluding the advance payment and deductions and repayments of retention) exceeds 30 percent (30%) of the Accepted Contract Amount less Provisional Sums; and
- (b) deductions shall be made at the amortisation rate stated in the Contract Data of the amount of each Interim Payment Certificate (excluding the advance payment and deductions for its repayments as well as deductions for retention money) in the currencies and proportions of the advance payment until such time as the advance payment has been repaid; provided that the advance payment shall be completely repaid prior to the time when 90 percent (90%) of the Accepted Contract Amount less Provisional Sums has been certified for payment.

If the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination under Clause 15 [Termination by Employer], Clause 16 [Suspension and Termination by Contractor] or Clause 19 [Force Majeure] (as the case may be), the whole of the balance then outstanding shall immediately become due and in case of termination under Clause 15 [Termination by Employer], except for Sub-Clause 15.5 [Employer's Entitlement to Termination for Convenience], payable by the Contractor to the Employer.

14.3 Application for Interim Payment Certificates

The Contractor shall submit a Statement in six copies to the Engineer after the end of each month, in a form approved by the Engineer, showing in detail the amounts to which the Contractor

considers himself to be entitled, together with supporting documents which shall include the report on the progress during this month in accordance with Sub-Clause 4.21 [Progress Reports].

The Statement shall include the following items, as applicable, which shall be expressed in the various currencies in which the Contract Price is payable, in the sequence listed:

- (a) the estimated contract value of the Works executed and the Contractor's Documents produced up to the end of the month (including Variations but excluding items described in sub-paragraphs (b) to (g) below);
- (b) any amounts to be added and deducted for changes in legislation and changes in cost, in accordance with Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost];
- (c) any amount to be deducted for retention, calculated by applying the percentage of retention stated in the Contract Data to the total of the above amounts, until the amount so retained by the Employer reaches the limit of Retention Money (if any) stated in the Contract Data;
- (d) any amounts to be added for the advance payment and (if more than one instalment) and to be deducted for its repayments in accordance with Sub-Clause 14.2 [Advance Payment];
- (e) any amounts to be added and deducted for Plant and Materials in accordance with Sub-Clause 14.5 [Plant and Materials intended for the Works];
- (f) any other additions or deductions which may have become due under the Contract or otherwise, including those under Clause 20 [Claims, Disputes and Arbitration]; and
- (g) the deduction of amounts certified in all previous Payment Certificates.

14.4 Schedule of Payments

If the Contract includes a schedule of payments specifying the instalments in which the Contract Price will be paid, then unless otherwise stated in this schedule:

- (a) the instalments quoted in this schedule of payments shall be the estimated contract values for the purposes of sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates];;

- (b) Sub-Clause 14.5 [Plant and Materials intended for the Works] shall not apply; and
- (c) if these instalments are not defined by reference to the actual progress achieved in executing the Works, and if actual progress is found to be less or more than that on which this schedule of payments was based, then the Engineer may proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine revised instalments, which shall take account of the extent to which progress is less or more than that on which the instalments were previously based.

If the Contract does not include a schedule of payments, the Contractor shall submit non-binding estimates of the payments which he expects to become due during each quarterly period. The first estimate shall be submitted within 42 days after the Commencement Date. Revised estimates shall be submitted at quarterly intervals, until the Taking-Over Certificate has been issued for the Works.

14.5 Plant and Materials intended for the Works

If this Sub-Clause applies, Interim Payment Certificates shall include, under sub-paragraph (e) of Sub-Clause 14.3, (i) an amount for Plant and Materials which have been sent to the Site for incorporation in the Permanent Works, and (ii) a reduction when the contract value of such Plant and Materials is included as part of the Permanent Works under sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates].

If the lists referred to in sub-paragraphs (b)(i) or (c)(i) below are not included in the Schedules, this Sub-Clause shall not apply.

The Engineer shall determine and certify each addition if the following conditions are satisfied:

- (a) the Contractor has:
 - (i) kept satisfactory records (including the orders, receipts, Costs and use of Plant and Materials) which are available for inspection, and
 - (ii) submitted a statement of the Cost of acquiring and delivering the Plant and Materials to the Site, supported by satisfactory evidence;

and either:

- (b) the relevant Plant and Materials:

- (i) are those listed in the Schedules for payment when shipped,
- (ii) have been shipped to the Country, en route to the Site, in accordance with the Contract; and
- (iii) are described in a clean shipped bill of lading or other evidence of shipment, which has been submitted to the Engineer together with evidence of payment of freight and insurance, any other documents reasonably required, and a bank guarantee in a form and issued by an entity approved by the Employer in amounts and currencies equal to the amount due under this Sub-Clause: this guarantee may be in a similar form to the form referred to in Sub-Clause 14.2 [Advance Payment] and shall be valid until the Plant and Materials are properly stored on Site and protected against loss, damage or deterioration;

or

- (c) the relevant Plant and Materials:
 - (i) are those listed in the Schedules for payment when delivered to the Site, and
 - (ii) have been delivered to and are properly stored on the Site, are protected against loss, damage or deterioration, and appear to be in accordance with the Contract.

The additional amount to be certified shall be the equivalent of eighty percent (80%) of the Engineer's determination of the cost of the Plant and Materials (including delivery to Site), taking account of the documents mentioned in this Sub-Clause and of the contract value of the Plant and Materials.

The currencies for this additional amount shall be the same as those in which payment will become due when the contract value is included under sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates]. At that time, the Payment Certificate shall include the applicable reduction which shall be equivalent to, and in the same currencies and proportions as, this additional amount for the relevant Plant and Materials.

14.6 Issue of Interim Payment Certificates

No amount will be certified or paid until the Employer has received and approved the Performance Security. Thereafter, the Engineer shall, within 28 days after receiving a Statement and supporting documents, deliver to the Employer and to the Contractor an Interim Payment Certificate which shall state the amount which the Engineer fairly determines to be due, with all supporting particulars for any reduction or withholding made by the Engineer on the Statement if any.

However, prior to issuing the Taking-Over Certificate for the Works, the Engineer shall not be bound to issue an Interim Payment Certificate in an amount which would (after retention and other deductions) be less than the minimum amount of Interim Payment Certificates (if any) stated in the Contract Data. In this event, the Engineer shall give notice to the Contractor accordingly.

An Interim Payment Certificate shall not be withheld for any other reason, although:

- (a) if any thing supplied or work done by the Contractor is not in accordance with the Contract, the cost of rectification or replacement may be withheld until rectification or replacement has been completed; and/or
- (b) if the Contractor was or is failing to perform any work or obligation in accordance with the Contract, and had been so notified by the Engineer, the value of this work or obligation may be withheld until the work or obligation has been performed.

The Engineer may in any Payment Certificate make any correction or modification that should properly be made to any previous Payment Certificate. A Payment Certificate shall not be deemed to indicate the Engineer's acceptance, approval, consent or satisfaction.

14.7 Payment

The Employer shall pay to the Contractor:

- (a) the first instalment of the advance payment within 42 days after issuing the Letter of Acceptance or within 21 days after receiving the documents in accordance with Sub-Clause 4.2 [Performance Security] and Sub-Clause 14.2 [Advance Payment], whichever is later;
- (b) the amount certified in each Interim Payment Certificate within 56 days after the Engineer receives the Statement

and supporting documents; or, at a time when the Bank's loan or credit (from which part of the payments to the Contractor is being made) is suspended, the amount shown on any statement submitted by the Contractor within 14 days after such statement is submitted, any discrepancy being rectified in the next payment to the Contractor; and

- (c) the amount certified in the Final Payment Certificate within 56 days after the Employer receives this Payment Certificate; or, at a time when the Bank's loan or credit (from which part of the payments to the Contractor is being made) is suspended, the undisputed amount shown in the Final Statement within 56 days after the date of notification of the suspension in accordance with Sub-Clause 16.2 [Termination by Contractor].

Payment of the amount due in each currency shall be made into the bank account, nominated by the Contractor, in the payment country (for this currency) specified in the Contract.

14.8 Delayed Payment

If the Contractor does not receive payment in accordance with Sub-Clause 14.7 [Payment], the Contractor shall be entitled to receive financing charges compounded monthly on the amount unpaid during the period of delay. This period shall be deemed to commence on the date for payment specified in Sub-Clause 14.7 [Payment], irrespective (in the case of its sub-paragraph (b)) of the date on which any Interim Payment Certificate is issued.

Unless otherwise stated in the Particular Conditions, these financing charges shall be calculated at the annual rate of three percentage points above the discount rate of the central bank in the country of the currency of payment, or if not available, the interbank offered rate, and shall be paid in such currency.

The Contractor shall be entitled to this payment without formal notice or certification, and without prejudice to any other right or remedy.

14.9 Payment of Retention Money

When the Taking-Over Certificate has been issued for the Works, the first half of the Retention Money shall be certified by the Engineer for payment to the Contractor. If a Taking-Over Certificate is issued for a Section or part of the Works, a proportion of the Retention Money shall be certified and paid. This proportion shall be half (50%) of the proportion calculated by dividing the estimated contract value of the Section or part, by the estimated final Contract Price.

Promptly after the latest of the expiry dates of the Defects Notification Periods, the outstanding balance of the Retention Money shall be certified by the Engineer for payment to the Contractor. If a Taking-Over Certificate was issued for a Section, a proportion of the second half of the Retention Money shall be certified and paid promptly after the expiry date of the Defects Notification Period for the Section. This proportion shall be half (50%) of the proportion calculated by dividing the estimated contract value of the Section by the estimated final Contract Price.

However, if any work remains to be executed under Clause 11 [Defects Liability], the Engineer shall be entitled to withhold certification of the estimated cost of this work until it has been executed.

When calculating these proportions, no account shall be taken of any adjustments under Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost].

Unless otherwise stated in the Particular Conditions, when the Taking-Over Certificate has been issued for the Works and the first half of the Retention Money has been certified for payment by the Engineer, the Contractor shall be entitled to substitute a guarantee, in the form annexed to the Particular Conditions or in another form approved by the Employer and issued by a reputable bank or financial institution selected by the Contractor, for the second half of the Retention Money. The Contractor shall ensure that the guarantee is in the amounts and currencies of the second half of the Retention Money and is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects, as specified for the Performance Security in Sub-Clause 4.2. On receipt by the Employer of the required guarantee, the Engineer shall certify and the Employer shall pay the second half of the Retention Money. The release of the second half of the Retention Money against a guarantee shall then be in lieu of the release under the second paragraph of this Sub-Clause. The Employer shall return the guarantee to the Contractor within 21 days after receiving a copy of the Performance Certificate.

If the Performance Security required under Sub-Clause 4.2 is in the form of a demand guarantee, and the amount guaranteed under it when the Taking-Over Certificate is issued is more than half of the Retention Money, then the Retention Money guarantee will not be required. If the amount guaranteed under

the Performance Security when the Taking-Over Certificate is issued is less than half of the Retention Money, the Retention Money guarantee will only be required for the difference between half of the Retention Money and the amount guaranteed under the Performance Security.

14.10 Statement at Completion

Within 84 days after receiving the Taking-Over Certificate for the Works, the Contractor shall submit to the Engineer six copies of a Statement at completion with supporting documents, in accordance with Sub-Clause 14.3 [Application for Interim Payment Certificates], showing:

- (a) the value of all work done in accordance with the Contract up to the date stated in the Taking-Over Certificate for the Works,
- (b) any further sums which the Contractor considers to be due, and
- (c) an estimate of any other amounts which the Contractor considers will become due to him under the Contract. Estimated amounts shall be shown separately in this Statement at completion.

The Engineer shall then certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates].

14.11 Application for Final Payment Certificate

Within 56 days after receiving the Performance Certificate, the Contractor shall submit, to the Engineer, six copies of a draft final statement with supporting documents showing in detail in a form approved by the Engineer:

- (a) the value of all work done in accordance with the Contract, and
- (b) any further sums which the Contractor considers to be due to him under the Contract or otherwise.

If the Engineer disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Engineer may reasonably require within 28 days from receipt of said draft and shall make such changes in the draft as may be agreed between them. The Contractor shall then prepare and submit to the Engineer the final statement as agreed. This agreed statement is referred to in these Conditions as the "Final Statement".

However if, following discussions between the Engineer and the Contractor and any changes to the draft final statement which are

agreed, it becomes evident that a dispute exists, the Engineer shall deliver to the Employer (with a copy to the Contractor) an Interim Payment Certificate for the agreed parts of the draft final statement. Thereafter, if the dispute is finally resolved under Sub-Clause 20.4 [Obtaining Dispute Board's Decision] or Sub-Clause 20.5 [Amicable Settlement], the Contractor shall then prepare and submit to the Employer (with a copy to the Engineer) a Final Statement.

14.12 Discharge

When submitting the Final Statement, the Contractor shall submit a discharge which confirms that the total of the Final Statement represents full and final settlement of all moneys due to the Contractor under or in connection with the Contract. This discharge may state that it becomes effective when the Contractor has received the Performance Security and the outstanding balance of this total, in which event the discharge shall be effective on such date.

14.13 Issue of Final Payment Certificate

Within 28 days after receiving the Final Statement and discharge in accordance with Sub-Clause 14.11 [Application for Final Payment Certificate] and Sub-Clause 14.12 [Discharge], the Engineer shall deliver, to the Employer and to the Contractor, the Final Payment Certificate which shall state:

- (a) the amount which he fairly determines is finally due, and
- (b) after giving credit to the Employer for all amounts previously paid by the Employer and for all sums to which the Employer is entitled, the balance (if any) due from the Employer to the Contractor or from the Contractor to the Employer, as the case may be.

If the Contractor has not applied for a Final Payment Certificate in accordance with Sub-Clause 14.11 [Application for Final Payment Certificate] and Sub-Clause 14.12 [Discharge], the Engineer shall request the Contractor to do so. If the Contractor fails to submit an application within a period of 28 days, the Engineer shall issue the Final Payment Certificate for such amount as he fairly determines to be due.

14.14 Cessation of Employer's Liability

The Employer shall not be liable to the Contractor for any matter or thing under or in connection with the Contract or execution of the Works, except to the extent that the Contractor shall have included an amount expressly for it:

- (a) in the Final Statement and also
- (b) (except for matters or things arising after the issue of the Taking-Over Certificate for the Works) in the Statement at

completion described in Sub-Clause 14.10 [Statement at Completion].

However, this Sub-Clause shall not limit the Employer's liability under his indemnification obligations, or the Employer's liability in any case of fraud, deliberate default or reckless misconduct by the Employer.

14.15 Currencies of Payment

The Contract Price shall be paid in the currency or currencies named in the Schedule of Payment Currencies. If more than one currency is so named, payments shall be made as follows:

- (a) if the Accepted Contract Amount was expressed in Local Currency only:
 - (i) the proportions or amounts of the Local and Foreign Currencies, and the fixed rates of exchange to be used for calculating the payments, shall be as stated in the Schedule of Payment Currencies, except as otherwise agreed by both Parties;
 - (ii) payments and deductions under Sub-Clause 13.5 [Provisional Sums] and Sub-Clause 13.7 [Adjustments for Changes in Legislation] shall be made in the applicable currencies and proportions; and
 - (iii) other payments and deductions under sub-paragraphs (a) to (d) of Sub-Clause 14.3 [Application for Interim Payment Certificates] shall be made in the currencies and proportions specified in sub-paragraph (a)(i) above;
- (b) payment of the damages specified in the Contract Data, shall be made in the currencies and proportions specified in the Schedule of Payment Currencies;
- (c) other payments to the Employer by the Contractor shall be made in the currency in which the sum was expended by the Employer, or in such currency as may be agreed by both Parties;
- (d) if any amount payable by the Contractor to the Employer in a particular currency exceeds the sum payable by the Employer to the Contractor in that currency, the Employer may recover the balance of this amount from the sums otherwise payable to the Contractor in other currencies; and

- (e) if no rates of exchange are stated in the Schedule of Payment Currencies, they shall be those prevailing on the Base Date and determined by the central bank of the Country.

15. Termination by Employer

15.1 Notice to Correct If the Contractor fails to carry out any obligation under the Contract, the Engineer may by notice require the Contractor to make good the failure and to remedy it within a specified reasonable time.

15.2 Termination by Employer The Employer shall be entitled to terminate the Contract if the Contractor:

- (a) fails to comply with Sub-Clause 4.2 [Performance Security] or with a notice under Sub-Clause 15.1 [Notice to Correct],
- (b) abandons the Works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the Contract,
- (c) without reasonable excuse fails:
 - (i) to proceed with the Works in accordance with Clause 8 [Commencement, Delays and Suspension], or
 - (ii) to comply with a notice issued under Sub-Clause 7.5 [Rejection] or Sub-Clause 7.6 [Remedial Work], within 28 days after receiving it,
- (d) subcontracts the whole of the Works or assigns the Contract without the required agreement,
- (e) becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events, or
- (f) gives or offers to give (directly or indirectly) to any person any bribe, gift, gratuity, commission or other thing of value, as an inducement or reward:
 - (i) for doing or forbearing to do any action in relation to the Contract, or

- (ii) for showing or forbearing to show favour or disfavour to any person in relation to the Contract,

or if any of the Contractor's Personnel, agents or Subcontractors gives or offers to give (directly or indirectly) to any person any such inducement or reward as is described in this sub-paragraph (f). However, lawful inducements and rewards to Contractor's Personnel shall not entitle termination.

In any of these events or circumstances, the Employer may, upon giving 14 days' notice to the Contractor, terminate the Contract and expel the Contractor from the Site. However, in the case of sub-paragraph (e) or (f), the Employer may by notice terminate the Contract immediately.

The Employer's election to terminate the Contract shall not prejudice any other rights of the Employer, under the Contract or otherwise.

The Contractor shall then leave the Site and deliver any required Goods, all Contractor's Documents, and other design documents made by or for him, to the Engineer. However, the Contractor shall use his best efforts to comply immediately with any reasonable instructions included in the notice (i) for the assignment of any subcontract, and (ii) for the protection of life or property or for the safety of the Works.

After termination, the Employer may complete the Works and/or arrange for any other entities to do so. The Employer and these entities may then use any Goods, Contractor's Documents and other design documents made by or on behalf of the Contractor.

The Employer shall then give notice that the Contractor's Equipment and Temporary Works will be released to the Contractor at or near the Site. The Contractor shall promptly arrange their removal, at the risk and cost of the Contractor. However, if by this time the Contractor has failed to make a payment due to the Employer, these items may be sold by the Employer in order to recover this payment. Any balance of the proceeds shall then be paid to the Contractor.

15.3 Valuation at Date of Termination

As soon as practicable after a notice of termination under Sub-Clause 15.2 [Termination by Employer] has taken effect, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the value of the Works, Goods and Contractor's Documents, and any other sums due to the Contractor for work executed in accordance with the

Contract.

15.4 Payment after Termination

After a notice of termination under Sub-Clause 15.2 [Termination by Employer] has taken effect, the Employer may:

- (a) proceed in accordance with Sub-Clause 2.5 [Employer's Claims],
- (b) withhold further payments to the Contractor until the costs of execution, completion and remedying of any defects, damages for delay in completion (if any), and all other costs incurred by the Employer, have been established, and/or
- (c) recover from the Contractor any losses and damages incurred by the Employer and any extra costs of completing the Works, after allowing for any sum due to the Contractor under Sub-Clause 15.3 [Valuation at Date of Termination]. After recovering any such losses, damages and extra costs, the Employer shall pay any balance to the Contractor.

15.5 Employer's Entitlement to Termination for Convenience

The Employer shall be entitled to terminate the Contract, at any time for the Employer's convenience, by giving notice of such termination to the Contractor. The termination shall take effect 28 days after the later of the dates on which the Contractor receives this notice or the Employer returns the Performance Security. The Employer shall not terminate the Contract under this Sub-Clause in order to execute the Works himself or to arrange for the Works to be executed by another contractor or to avoid a termination of the Contract by the Contractor under Clause 16.2 [Termination by Contractor].

After this termination, the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment] and shall be paid in accordance with Sub-Clause 16.4 [Payment on Termination].

15.6 Corrupt or Fraudulent Practices

If the Employer determines, based on reasonable evidence, that the Contractor has engaged in corrupt, fraudulent, collusive or coercive practices, in competing for or in executing the Contract, then the Employer may, after giving 14 days notice to the Contractor, terminate the Contract and expel him from the Site, and the provisions of Clause 15 shall apply as if such termination had been made under Sub-Clause 15.2 [Termination by Employer].

Should any employee of the Contractor be determined, based on

reasonable evidence, to have engaged in corrupt, fraudulent or coercive practice during the execution of the work then that employee shall be removed in accordance with Sub-Clause 6.9 [Contractor's Personnel].

For the purposes of this Sub-Clause:

- (i) “corrupt practice” is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;¹
- (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;²
- (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;³
- (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;⁴
- (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

¹ “Another party” refers to a public official acting in relation to the procurement process or contract execution]. In this context, “public official” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

² “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.

³ “Parties” refers to participants in the procurement process (including public officials) attempting to establish bid prices at artificial, non competitive levels.

⁴ “Party” refers to a participant in the procurement process or contract execution.

relevant to the investigation or from pursuing the investigation, or

- (bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under Sub-Clause 1.15 [Inspections and Audits by the Bank].

16. Suspension and Termination by Contractor

16.1 Contractor's Entitlement to Suspend Work

If the Engineer fails to certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates] or the Employer fails to comply with Sub-Clause 2.4 [Employer's Financial Arrangements] or Sub-Clause 14.7 [Payment], the Contractor may, after giving not less than 21 days' notice to the Employer, suspend work (or reduce the rate of work) unless and until the Contractor has received the Payment Certificate, reasonable evidence or payment, as the case may be and as described in the notice.

Notwithstanding the above, if the Bank has suspended disbursements under the loan or credit from which payments to the Contractor are being made, in whole or in part, for the execution of the Works, and no alternative funds are available as provided for in Sub-Clause 2.4 [Employer's Financial Arrangements], the Contractor may by notice suspend work or reduce the rate of work at any time, but not less than 7 days after the Borrower having received the suspension notification from the Bank.

The Contractor's action shall not prejudice his entitlements to financing charges under Sub-Clause 14.8 [Delayed Payment] and to termination under Sub-Clause 16.2 [Termination by Contractor].

If the Contractor subsequently receives such Payment Certificate, evidence or payment (as described in the relevant Sub-Clause and in the above notice) before giving a notice of termination, the Contractor shall resume normal working as soon as is reasonably practicable.

If the Contractor suffers delay and/or incurs Cost as a result of suspending work (or reducing the rate of work) in accordance with this Sub-Clause, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of

Time for Completion], and

- (b) payment of any such Cost plus profit, which shall be included in the Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

16.2 Termination by Contractor

The Contractor shall be entitled to terminate the Contract if:

- (a) the Contractor does not receive the reasonable evidence within 42 days after giving notice under Sub-Clause 16.1 [Contractor's Entitlement to Suspend Work] in respect of a failure to comply with Sub-Clause 2.4 [Employer's Financial Arrangements],
- (b) the Engineer fails, within 56 days after receiving a Statement and supporting documents, to issue the relevant Payment Certificate,
- (c) the Contractor does not receive the amount due under an Interim Payment Certificate within 42 days after the expiry of the time stated in Sub-Clause 14.7 [Payment] within which payment is to be made (except for deductions in accordance with Sub-Clause 2.5 [Employer's Claims]),
- (d) the Employer substantially fails to perform his obligations under the Contract in such manner as to materially and adversely affect the economic balance of the Contract and/or the ability of the Contractor to perform the Contract,
- (e) the Employer fails to comply with Sub-Clause 1.6 [Contract Agreement] or Sub-Clause 1.7 [Assignment],
- (f) a prolonged suspension affects the whole of the Works as described in Sub-Clause 8.11 [Prolonged Suspension], or
- (g) the Employer becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events.
- (h) the Contractor does not receive the Engineer's instruction

recording the agreement of both Parties on the fulfilment of the conditions for the Commencement of Works under Sub-Clause 8.1 [Commencement of Works.

In any of these events or circumstances, the Contractor may, upon giving 14 days' notice to the Employer, terminate the Contract. However, in the case of sub-paragraph (f) or (g), the Contractor may by notice terminate the Contract immediately.

In the event the Bank suspends the loan or credit from which part or whole of the payments to the Contractor are being made, if the Contractor has not received the sums due to him upon expiration of the 14 days referred to in Sub-Clause 14.7 [Payment] for payments under Interim Payment Certificates, the Contractor may, without prejudice to the Contractor's entitlement to financing charges under Sub-Clause 14.8 [Delayed Payment], take one of the following actions, namely (i) suspend work or reduce the rate of work under Sub-Clause 16.1 above, or (ii) terminate the Contract by giving notice to the Employer, with a copy to the Engineer, such termination to take effect 14 days after the giving of the notice.

The Contractor's election to terminate the Contract shall not prejudice any other rights of the Contractor, under the Contract or otherwise.

16.3 Cessation of Work and Removal of Contractor's Equipment

After a notice of termination under Sub-Clause 15.5 [Employer's Entitlement to Termination for Convenience], Sub-Clause 16.2 [Termination by Contractor] or Sub-Clause 19.6 [Optional Termination, Payment and Release] has taken effect, the Contractor shall promptly:

- (a) cease all further work, except for such work as may have been instructed by the Engineer for the protection of life or property or for the safety of the Works,
- (b) hand over Contractor's Documents, Plant, Materials and other work, for which the Contractor has received payment, and
- (c) remove all other Goods from the Site, except as necessary for safety, and leave the Site.

16.4 Payment on Termination

After a notice of termination under Sub-Clause 16.2 [Termination by Contractor] has taken effect, the Employer shall promptly:

- (a) return the Performance Security to the Contractor,
- (b) pay the Contractor in accordance with Sub-Clause 19.6 [Optional Termination, Payment and Release], and
- (c) pay to the Contractor the amount of any loss or damage sustained by the Contractor as a result of this termination.

17. Risk and Responsibility

17.1 Indemnities

The Contractor shall indemnify and hold harmless the Employer, the Employer's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of:

- (a) bodily injury, sickness, disease or death, of any person whatsoever arising out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents, and
- (b) damage to or loss of any property, real or personal (other than the Works), to the extent that such damage or loss arises out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless and to the extent that any such damage or loss is attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, their respective agents, or anyone directly or indirectly employed by any of them.

The Employer shall indemnify and hold harmless the Contractor, the Contractor's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of (1) bodily injury, sickness, disease or death, which is attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents, and (2) the matters for which liability may be excluded from insurance cover, as described in sub-paragraphs (d)(i), (ii) and (iii) of Sub-Clause 18.3 [Insurance Against Injury to Persons and Damage to Property].

17.2 Contractor's Care of the

The Contractor shall take full responsibility for the care of the Works and Goods from the Commencement Date until the

Works

Taking-Over Certificate is issued (or is deemed to be issued under Sub-Clause 10.1 [Taking Over of the Works and Sections]) for the Works, when responsibility for the care of the Works shall pass to the Employer. If a Taking-Over Certificate is issued (or is so deemed to be issued) for any Section or part of the Works, responsibility for the care of the Section or part shall then pass to the Employer.

After responsibility has accordingly passed to the Employer, the Contractor shall take responsibility for the care of any work which is outstanding on the date stated in a Taking-Over Certificate, until this outstanding work has been completed.

If any loss or damage happens to the Works, Goods or Contractor's Documents during the period when the Contractor is responsible for their care, from any cause not listed in Sub-Clause 17.3 [Employer's Risks], the Contractor shall rectify the loss or damage at the Contractor's risk and cost, so that the Works, Goods and Contractor's Documents conform with the Contract.

The Contractor shall be liable for any loss or damage caused by any actions performed by the Contractor after a Taking-Over Certificate has been issued. The Contractor shall also be liable for any loss or damage which occurs after a Taking-Over Certificate has been issued and which arose from a previous event for which the Contractor was liable.

17.3 Employer's Risks

The risks referred to in Sub-Clause 17.4 [Consequences of Employer's Risks] below, insofar as they directly affect the execution of the Works in the Country, are:

- (a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies,
- (b) rebellion, terrorism, sabotage by persons other than the Contractor's Personnel, revolution, insurrection, military or usurped power, or civil war, within the Country,
- (c) riot, commotion or disorder within the Country by persons other than the Contractor's Personnel,
- (d) munitions of war, explosive materials, ionising radiation or contamination by radio-activity, within the Country, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity,
- (e) pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds,
- (f) use or occupation by the Employer of any part of the

Permanent Works, except as may be specified in the Contract,

- (g) design of any part of the Works by the Employer's Personnel or by others for whom the Employer is responsible, and
- (h) any operation of the forces of nature which is Unforeseeable or against which an experienced contractor could not reasonably have been expected to have taken adequate preventive precautions.

17.4 Consequences of Employer's Risks

If and to the extent that any of the risks listed in Sub-Clause 17.3 above results in loss or damage to the Works, Goods or Contractor's Documents, the Contractor shall promptly give notice to the Engineer and shall rectify this loss or damage to the extent required by the Engineer.

If the Contractor suffers delay and/or incurs Cost from rectifying this loss or damage, the Contractor shall give a further notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) payment of any such Cost, which shall be included in the Contract Price. In the case of sub-paragraphs (f) and (g) of Sub-Clause 17.3 [Employer's Risks], Cost plus profit shall be payable.

After receiving this further notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

17.5 Intellectual and Industrial Property Rights

In this Sub-Clause, "infringement" means an infringement (or alleged infringement) of any patent, registered design, copyright, trade mark, trade name, trade secret or other intellectual or industrial property right relating to the Works; and "claim" means a claim (or proceedings pursuing a claim) alleging an infringement.

Whenever a Party does not give notice to the other Party of any claim within 28 days of receiving the claim, the first Party shall be deemed to have waived any right to indemnity under this Sub-Clause.

The Employer shall indemnify and hold the Contractor harmless against and from any claim alleging an infringement which is or was:

- (a) an unavoidable result of the Contractor's compliance with the Contract, or
- (b) a result of any Works being used by the Employer:
 - (i) for a purpose other than that indicated by, or reasonably to be inferred from, the Contract, or
 - (ii) in conjunction with any thing not supplied by the Contractor, unless such use was disclosed to the Contractor prior to the Base Date or is stated in the Contract.

The Contractor shall indemnify and hold the Employer harmless against and from any other claim which arises out of or in relation to (i) the manufacture, use, sale or import of any Goods, or (ii) any design for which the Contractor is responsible.

If a Party is entitled to be indemnified under this Sub-Clause, the indemnifying Party may (at its cost) conduct negotiations for the settlement of the claim, and any litigation or arbitration which may arise from it. The other Party shall, at the request and cost of the indemnifying Party, assist in contesting the claim. This other Party (and its Personnel) shall not make any admission which might be prejudicial to the indemnifying Party, unless the indemnifying Party failed to take over the conduct of any negotiations, litigation or arbitration upon being requested to do so by such other Party.

17.6 Limitation of Liability

Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or for any indirect or consequential loss or damage which may be suffered by the other Party in connection with the Contract, other than as specifically provided in Sub-Clause 8.7 [Delay Damages]; Sub-Clause 11.2 [Cost of Remedying Defects]; Sub-Clause 15.4 [Payment after Termination]; Sub-Clause 16.4 [Payment on Termination]; Sub-Clause 17.1 [Indemnities]; Sub-Clause 17.4(b) [Consequences of Employer's Risks] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights].

The total liability of the Contractor to the Employer, under or in connection with the Contract other than under Sub-Clause 4.19 [Electricity, Water and Gas], Sub-Clause 4.20 [Employer's Equipment and Free-Issue Materials], Sub-Clause 17.1

[Indemnities] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights], shall not exceed the sum resulting from the application of a multiplier (less or greater than one) to the Accepted Contract Amount, as stated in the Contract Data, or (if such multiplier or other sum is not so stated) the Accepted Contract Amount.

This Sub-Clause shall not limit liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.

**17.7 Use of
Employer's
Accomoda-
tion/Facilities**

The Contractor shall take full responsibility for the care of the Employer provided accommodation and facilities, if any, as detailed in the Specification, from the respective dates of hand-over to the Contractor until cessation of occupation (where hand-over or cessation of occupation may take place after the date stated in the Taking-Over Certificate for the Works).

If any loss or damage happens to any of the above items while the Contractor is responsible for their care arising from any cause whatsoever other than those for which the Employer is liable, the Contractor shall, at his own cost, rectify the loss or damage to the satisfaction of the Engineer.

18. Insurance

**18.1 General
Requirements for
Insurances**

In this Clause, “insuring Party” means, for each type of insurance, the Party responsible for effecting and maintaining the insurance specified in the relevant Sub-Clause.

Wherever the Contractor is the insuring Party, each insurance shall be effected with insurers and in terms approved by the Employer. These terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause.

Wherever the Employer is the insuring Party, each insurance shall be effected with insurers and in terms acceptable to the Contractor. These terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause.

If a policy is required to indemnify joint insured, the cover shall apply separately to each insured as though a separate policy had been issued for each of the joint insured. If a policy indemnifies additional joint insured, namely in addition to the insured specified in this Clause, (i) the Contractor shall act under the

policy on behalf of these additional joint insured except that the Employer shall act for Employer's Personnel, (ii) additional joint insured shall not be entitled to receive payments directly from the insurer or to have any other direct dealings with the insurer, and (iii) the insuring Party shall require all additional joint insured to comply with the conditions stipulated in the policy.

Each policy insuring against loss or damage shall provide for payments to be made in the currencies required to rectify the loss or damage. Payments received from insurers shall be used for the rectification of the loss or damage.

The relevant insuring Party shall, within the respective periods stated in the Contract Data (calculated from the Commencement Date), submit to the other Party:

- (a) evidence that the insurances described in this Clause have been effected, and
- (b) copies of the policies for the insurances described in Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment] and Sub-Clause 18.3 [Insurance against Injury to Persons and Damage to Property].

When each premium is paid, the insuring Party shall submit evidence of payment to the other Party. Whenever evidence or policies are submitted, the insuring Party shall also give notice to the Engineer.

Each Party shall comply with the conditions stipulated in each of the insurance policies. The insuring Party shall keep the insurers informed of any relevant changes to the execution of the Works and ensure that insurance is maintained in accordance with this Clause.

Neither Party shall make any material alteration to the terms of any insurance without the prior approval of the other Party. If an insurer makes (or attempts to make) any alteration, the Party first notified by the insurer shall promptly give notice to the other Party.

If the insuring Party fails to effect and keep in force any of the insurances it is required to effect and maintain under the Contract, or fails to provide satisfactory evidence and copies of policies in accordance with this Sub-Clause, the other Party may (at its option and without prejudice to any other right or remedy) effect insurance for the relevant coverage and pay the premiums

due. The insuring Party shall pay the amount of these premiums to the other Party, and the Contract Price shall be adjusted accordingly.

Nothing in this Clause limits the obligations, liabilities or responsibilities of the Contractor or the Employer, under the other terms of the Contract or otherwise. Any amounts not insured or not recovered from the insurers shall be borne by the Contractor and/or the Employer in accordance with these obligations, liabilities or responsibilities. However, if the insuring Party fails to effect and keep in force an insurance which is available and which it is required to effect and maintain under the Contract, and the other Party neither approves the omission nor effects insurance for the coverage relevant to this default, any moneys which should have been recoverable under this insurance shall be paid by the insuring Party.

Payments by one Party to the other Party shall be subject to Sub-Clause 2.5 [Employer's Claims] or Sub-Clause 20.1 [Contractor's Claims], as applicable.

The Contractor shall be entitled to place all insurance relating to the Contract (including, but not limited to the insurance referred to Clause 18) with insurers from any eligible source country.

18.2 Insurance for Works and Contractor's Equipment

The insuring Party shall insure the Works, Plant, Materials and Contractor's Documents for not less than the full reinstatement cost including the costs of demolition, removal of debris and professional fees and profit. This insurance shall be effective from the date by which the evidence is to be submitted under sub-paragraph (a) of Sub-Clause 18.1 [General Requirements for Insurances], until the date of issue of the Taking-Over Certificate for the Works.

The insuring Party shall maintain this insurance to provide cover until the date of issue of the Performance Certificate, for loss or damage for which the Contractor is liable arising from a cause occurring prior to the issue of the Taking-Over Certificate, and for loss or damage caused by the Contractor in the course of any other operations (including those under Clause 11 [Defects Liability]).

The insuring Party shall insure the Contractor's Equipment for not less than the full replacement value, including delivery to Site. For each item of Contractor's Equipment, the insurance shall be effective while it is being transported to the Site and until it is no longer required as Contractor's Equipment.

Unless otherwise stated in the Particular Conditions, insurances under this Sub-Clause:

- (a) shall be effected and maintained by the Contractor as insuring Party,
- (b) shall be in the joint names of the Parties, who shall be jointly entitled to receive payments from the insurers, payments being held or allocated to the Party actually bearing the costs of rectifying the loss or damage,
- (c) shall cover all loss and damage from any cause not listed in Sub-Clause 17.3 [Employer's Risks],
- (d) shall also cover, to the extent specifically required in the bidding documents of the Contract, loss or damage to a part of the Works which is attributable to the use or occupation by the Employer of another part of the Works, and loss or damage from the risks listed in sub-paragraphs (c), (g) and (h) of Sub-Clause 17.3 [Employer's Risks], excluding (in each case) risks which are not insurable at commercially reasonable terms, with deductibles per occurrence of not more than the amount stated in the Contract Data (if an amount is not so stated, this sub-paragraph (d) shall not apply), and
- (e) may however exclude loss of, damage to, and reinstatement of:
 - (i) a part of the Works which is in a defective condition due to a defect in its design, materials or workmanship (but cover shall include any other parts which are lost or damaged as a direct result of this defective condition and not as described in sub-paragraph (ii) below),
 - (ii) a part of the Works which is lost or damaged in order to reinstate any other part of the Works if this other part is in a defective condition due to a defect in its design, materials or workmanship,
 - (iii) a part of the Works which has been taken over by the Employer, except to the extent that the Contractor is liable for the loss or damage, and
 - (iv) Goods while they are not in the Country, subject to Sub-Clause 14.5 [Plant and Materials intended for the

Works].

If, more than one year after the Base Date, the cover described in sub-paragraph (d) above ceases to be available at commercially reasonable terms, the Contractor shall (as insuring Party) give notice to the Employer, with supporting particulars. The Employer shall then (i) be entitled subject to Sub-Clause 2.5 [Employer's Claims] to payment of an amount equivalent to such commercially reasonable terms as the Contractor should have expected to have paid for such cover, and (ii) be deemed, unless he obtains the cover at commercially reasonable terms, to have approved the omission under Sub-Clause 18.1 [General Requirements for Insurances].

18.3 Insurance against Injury to Persons and Damage to Property

The insuring Party shall insure against each Party's liability for any loss, damage, death or bodily injury which may occur to any physical property (except things insured under Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment]) or to any person (except persons insured under Sub-Clause 18.4 [Insurance for Contractor's Personnel]), which may arise out of the Contractor's performance of the Contract and occurring before the issue of the Performance Certificate.

This insurance shall be for a limit per occurrence of not less than the amount stated in the Contract Data, with no limit on the number of occurrences. If an amount is not stated in the Contract Data, this Sub-Clause shall not apply.

Unless otherwise stated in the Particular Conditions, the insurances specified in this Sub-Clause:

- (a) shall be effected and maintained by the Contractor as insuring Party,
- (b) shall be in the joint names of the Parties,
- (c) shall be extended to cover liability for all loss and damage to the Employer's property (except things insured under Sub-Clause 18.2) arising out of the Contractor's performance of the Contract, and
- (d) may however exclude liability to the extent that it arises from:
 - (i) the Employer's right to have the Permanent Works executed on, over, under, in or through any land, and to occupy this land for the Permanent Works,

- (ii) damage which is an unavoidable result of the Contractor's obligations to execute the Works and remedy any defects, and
- (iii) a cause listed in Sub-Clause 17.3 [Employer's Risks], except to the extent that cover is available at commercially reasonable terms.

18.4 Insurance for Contractor's Personnel

The Contractor shall effect and maintain insurance against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractor's Personnel.

The insurance shall cover the Employer and the Engineer against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractor's Personnel, except that this insurance may exclude losses and claims to the extent that they arise from any act or neglect of the Employer or of the Employer's Personnel.

The insurance shall be maintained in full force and effect during the whole time that these personnel are assisting in the execution of the Works. For a Subcontractor's employees, the insurance may be effected by the Subcontractor, but the Contractor shall be responsible for compliance with this Clause.

19. Force Majeure

19.1 Definition of Force Majeure

In this Clause, "Force Majeure" means an exceptional event or circumstance:

- (a) which is beyond a Party's control,
- (b) which such Party could not reasonably have provided against before entering into the Contract,
- (c) which, having arisen, such Party could not reasonably have avoided or overcome, and
- (d) which is not substantially attributable to the other Party.

Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:

- (i) war, hostilities (whether war be declared or not),

invasion, act of foreign enemies,

- (ii) rebellion, terrorism, sabotage by persons other than the Contractor's Personnel, revolution, insurrection, military or usurped power, or civil war,
- (iii) riot, commotion, disorder, strike or lockout by persons other than the Contractor's Personnel,
- (iv) munitions of war, explosive materials, ionising radiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity, and
- (v) natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity.

19.2 Notice of Force Majeure

If a Party is or will be prevented from performing its substantial obligations under the Contract by Force Majeure, then it shall give notice to the other Party of the event or circumstances constituting the Force Majeure and shall specify the obligations, the performance of which is or will be prevented. The notice shall be given within 14 days after the Party became aware, or should have become aware, of the relevant event or circumstance constituting Force Majeure.

The Party shall, having given notice, be excused performance of its obligations for so long as such Force Majeure prevents it from performing them.

Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.

19.3 Duty to Minimise Delay

Each Party shall at all times use all reasonable endeavours to minimise any delay in the performance of the Contract as a result of Force Majeure.

A Party shall give notice to the other Party when it ceases to be affected by the Force Majeure.

19.4 Consequences of Force Majeure

If the Contractor is prevented from performing his substantial obligations under the Contract by Force Majeure of which notice has been given under Sub-Clause 19.2 [Notice of Force Majeure], and suffers delay and/or incurs Cost by reason of such Force Majeure, the Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of

Time for Completion], and

- (b) if the event or circumstance is of the kind described in sub-paragraphs (i) to (iv) of Sub-Clause 19.1 [Definition of Force Majeure] and, in sub-paragraphs (ii) to (iv), occurs in the Country, payment of any such Cost, including the costs of rectifying or replacing the Works and/or Goods damaged or destroyed by Force Majeure, to the extent they are not indemnified through the insurance policy referred to in Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment].

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

**19.5 Force Majeure
Affecting
Subcontractor**

If any Subcontractor is entitled under any contract or agreement relating to the Works to relief from force majeure on terms additional to or broader than those specified in this Clause, such additional or broader force majeure events or circumstances shall not excuse the Contractor's non-performance or entitle him to relief under this Clause.

**19.6 Optional
Termination,
Payment and
Release**

If the execution of substantially all the Works in progress is prevented for a continuous period of 84 days by reason of Force Majeure of which notice has been given under Sub-Clause 19.2 [Notice of Force Majeure], or for multiple periods which total more than 140 days due to the same notified Force Majeure, then either Party may give to the other Party a notice of termination of the Contract. In this event, the termination shall take effect 7 days after the notice is given, and the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment].

Upon such termination, the Engineer shall determine the value of the work done and issue a Payment Certificate which shall include:

- (a) the amounts payable for any work carried out for which a price is stated in the Contract;
- (b) the Cost of Plant and Materials ordered for the Works which have been delivered to the Contractor, or of which the Contractor is liable to accept delivery: this Plant and Materials shall become the property of (and be at the risk of) the Employer when paid for by the Employer, and the Contractor shall place the same at the Employer's

disposal;

- (c) other Cost or liabilities which in the circumstances were reasonably and necessarily incurred by the Contractor in the expectation of completing the Works;
- (d) the Cost of removal of Temporary Works and Contractor's Equipment from the Site and the return of these items to the Contractor's works in his country (or to any other destination at no greater cost); and
- (e) the Cost of repatriation of the Contractor's staff and labour employed wholly in connection with the Works at the date of termination.

19.7 Release from Performance

Notwithstanding any other provision of this Clause, if any event or circumstance outside the control of the Parties (including, but not limited to, Force Majeure) arises which makes it impossible or unlawful for either or both Parties to fulfil its or their contractual obligations or which, under the law governing the Contract, entitles the Parties to be released from further performance of the Contract, then upon notice by either Party to the other Party of such event or circumstance:

- (a) the Parties shall be discharged from further performance, without prejudice to the rights of either Party in respect of any previous breach of the Contract, and
- (b) the sum payable by the Employer to the Contractor shall be the same as would have been payable under Sub-Clause 19.6 [Optional Termination, Payment and Release] if the Contract had been terminated under Sub-Clause 19.6.

20. Claims, Disputes and Arbitration

20.1 Contractor's Claims

If the Contractor considers himself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give notice to the Engineer, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance.

If the Contractor fails to give notice of a claim within such period of 28 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional

payment, and the Employer shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clause shall apply.

The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.

The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Engineer. Without admitting the Employer's liability, the Engineer may, after receiving any notice under this Sub-Clause, monitor the record-keeping and/or instruct the Contractor to keep further contemporary records. The Contractor shall permit the Engineer to inspect all these records, and shall (if instructed) submit copies to the Engineer.

Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Engineer, the Contractor shall send to the Engineer a fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time and/or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect:

- (a) this fully detailed claim shall be considered as interim;
- (b) the Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the Engineer may reasonably require; and
- (c) the Contractor shall send a final claim within 28 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Engineer.

Within 42 days after receiving a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Engineer and approved by the Contractor, the Engineer shall respond with approval, or with disapproval and detailed comments. He may also request any necessary further particulars, but shall nevertheless give his response on the principles of the claim within the above defined time period.

Within the above defined period of 42 days, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause 8.4 [Extension of Time for Completion], and/or (ii) the additional payment (if any) to which the Contractor is entitled under the Contract.

Each Payment Certificate shall include such additional payment for any claim as has been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate.

If the Engineer does not respond within the timeframe defined in this Clause, either Party may consider that the claim is rejected by the Engineer and any of the Parties may refer to the Dispute Board in accordance with Sub-Clause 20.4 [Obtaining Dispute Board's Decision].

The requirements of this Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the Contractor fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this Sub-Clause.

20.2 Appointment of the Dispute Board

Disputes shall be referred to a DB for decision in accordance with Sub-Clause 20.4 [Obtaining Dispute Board's Decision]. The Parties shall appoint a DB by the date stated in the Contract Data.

The DB shall comprise, as stated in the Contract Data, either one or three suitably qualified persons ("the members"), each of whom shall be fluent in the language for communication defined in the Contract and shall be a professional experienced in the type of construction involved in the Works and with the interpretation of contractual documents. If the number is not so stated and the Parties do not agree otherwise, the DB shall comprise three persons.

If the Parties have not jointly appointed the DB 21 days before the date stated in the Contract Data and the DB is to comprise three persons, each Party shall nominate one member for the approval of the other Party. The first two members shall recommend and the Parties shall agree upon the third member, who shall act as chairman.

However, if a list of potential members has been agreed by the Parties and is included in the Contract, the members shall be selected from those on the list, other than anyone who is unable or unwilling to accept appointment to the DB.

The agreement between the Parties and either the sole member or each of the three members shall incorporate by reference the General Conditions of Dispute Board Agreement contained in the Appendix A to these General Conditions, with such amendments as are agreed between them.

The terms of the remuneration of either the sole member or each of the three members, including the remuneration of any expert whom the DB consults, shall be mutually agreed upon by the Parties when agreeing the terms of appointment. Each Party shall be responsible for paying one-half of this remuneration.

If at any time the Parties so agree, they may jointly refer a matter to the DB for it to give its opinion. Neither Party shall consult the DB on any matter without the agreement of the other Party.

If a member declines to act or is unable to act as a result of death, disability, resignation or termination of appointment, a replacement shall be appointed in the same manner as the replaced person was required to have been nominated or agreed upon, as described in this Sub-Clause.

The appointment of any member may be terminated by mutual agreement of both Parties, but not by the Employer or the Contractor acting alone. Unless otherwise agreed by both Parties, the appointment of the DB (including each member) shall expire when the discharge referred to in Sub-Clause 14.12 [Discharge] shall have become effective.

**20.3 Failure to Agree
on the
Composition of
the Dispute
Board**

If any of the following conditions apply, namely:

- (a) the Parties fail to agree upon the appointment of the sole member of the DB by the date stated in the first paragraph of Sub-Clause 20.2, [Appointment of the Dispute Board],

- (b) either Party fails to nominate a member (for approval by the other Party), or fails to approve a member nominated by the other Party, of a DB of three persons by such date,
- (c) the Parties fail to agree upon the appointment of the third member (to act as chairman) of the DB by such date, or
- (d) the Parties fail to agree upon the appointment of a replacement person within 42 days after the date on which the sole member or one of the three members declines to act or is unable to act as a result of death, disability, resignation or termination of appointment,

then the appointing entity or official named in the Contract Data shall, upon the request of either or both of the Parties and after due consultation with both Parties, appoint this member of the DB. This appointment shall be final and conclusive. Each Party shall be responsible for paying one-half of the remuneration of the appointing entity or official.

20.4 Obtaining Dispute Board's Decision

If a dispute (of any kind whatsoever) arises between the Parties in connection with, or arising out of, the Contract or the execution of the Works, including any dispute as to any certificate, determination, instruction, opinion or valuation of the Engineer, either Party may refer the dispute in writing to the DB for its decision, with copies to the other Party and the Engineer. Such reference shall state that it is given under this Sub-Clause.

For a DB of three persons, the DB shall be deemed to have received such reference on the date when it is received by the chairman of the DB.

Both Parties shall promptly make available to the DB all such additional information, further access to the Site, and appropriate facilities, as the DB may require for the purposes of making a decision on such dispute. The DB shall be deemed to be not acting as arbitrator(s).

Within 84 days after receiving such reference, or within such other period as may be proposed by the DB and approved by both Parties, the DB shall give its decision, which shall be reasoned and shall state that it is given under this Sub-Clause. The decision shall be binding on both Parties, who shall promptly give effect to it unless and until it shall be revised in an amicable settlement or an arbitral award as described below. Unless the Contract has already been abandoned, repudiated or terminated, the Contractor shall continue to proceed with the Works in accordance with the Contract.

If either Party is dissatisfied with the DB's decision, then either Party may, within 28 days after receiving the decision, give a Notice of Dissatisfaction to the other Party indicating its dissatisfaction and intention to commence arbitration. If the DB fails to give its decision within the period of 84 days (or as otherwise approved) after receiving such reference, then either Party may, within 28 days after this period has expired, give a Notice of Dissatisfaction to the other Party.

In either event, this Notice of Dissatisfaction shall state that it is given under this Sub-Clause, and shall set out the matter in dispute and the reason(s) for dissatisfaction. Except as stated in Sub-Clause 20.7 [Failure to Comply with Dispute Board's Decision] and Sub-Clause 20.8 [Expiry of Dispute Board's Appointment], neither Party shall be entitled to commence arbitration of a dispute unless a Notice of Dissatisfaction has been given in accordance with this Sub-Clause.

If the DB has given its decision as to a matter in dispute to both Parties, and no Notice of Dissatisfaction has been given by either Party within 28 days after it received the DB's decision, then the decision shall become final and binding upon both Parties.

20.5 Amicable Settlement

Where a Notice of Dissatisfaction has been given under Sub-Clause 20.4 above, both Parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, the Party giving a Notice of Dissatisfaction in accordance with Sub-Clause 20.4 above should move to commence arbitration after the fifty-sixth day from the day on which a Notice of Dissatisfaction was given, even if no attempt at an amicable settlement has been made.

20.6 Arbitration

Any dispute between the Parties arising out of or in connection with the Contract not settled amicably in accordance with Sub-Clause 20.5 above and in respect of which the DB's decision (if any) has not become final and binding shall be finally settled by arbitration. Arbitration shall be conducted as follows:

- (a) if the contract is with foreign contractors,
 - (i) for contracts financed by all participating Banks except under sub-paragraph (a) (2) below: international arbitration (1) with proceedings administered by the arbitration institution designated in the Contract Data, and conducted under the rules of arbitration of such institution; or, if so specified in the Contract Data, (2)

international arbitration in accordance with the arbitration rules of the United Nations Commission on International Trade Law (UNCITRAL); or (3) if neither an arbitration institution nor UNCITRAL arbitration rules are specified in the Contract Data, with proceedings administered by the International Chamber of Commerce (ICC) and conducted under the ICC Rules of Arbitration; by one or more arbitrators appointed in accordance with said arbitration rules

- (b) if the Contract is with domestic contractors, arbitration with proceedings conducted in accordance with the laws of the Employer's country.

The place of arbitration shall be the neutral location specified in the Contract Data; and the arbitration shall be conducted in the language for communications defined in Sub-Clause 1.4 [Law and Language].

The arbitrators shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Engineer, and any decision of the DB, relevant to the dispute. Nothing shall disqualify representatives of the Parties and the Engineer from being called as a witness and giving evidence before the arbitrators on any matter whatsoever relevant to the dispute.

Neither Party shall be limited in the proceedings before the arbitrators to the evidence or arguments previously put before the DB to obtain its decision, or to the reasons for dissatisfaction given in its Notice of Dissatisfaction. Any decision of the DB shall be admissible in evidence in the arbitration.

Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties, the Engineer and the DB shall not be altered by reason of any arbitration being conducted during the progress of the Works.

20.7 Failure to Comply with Dispute Board's Decision

In the event that a Party fails to comply with a final and binding DB decision, then the other Party may, without prejudice to any other rights it may have, refer the failure itself to arbitration under Sub-Clause 20.6 [Arbitration]. Sub-Clause 20.4 [Obtaining Dispute Board's Decision] and Sub-Clause 20.5 [Amicable Settlement] shall not apply to this reference.

20.8 Expiry of Dispute Board's Appointment

If a dispute arises between the Parties in connection with, or arising out of, the Contract or the execution of the Works and there is no DB in place, whether by reason of the expiry of the

DB's appointment or otherwise:

- (a) Sub-Clause 20.4 [Obtaining Dispute Board's Decision] and Sub-Clause 20.5 [Amicable Settlement] shall not apply, and
- (b) the dispute may be referred directly to arbitration under Sub-Clause 20.6 [Arbitration].

APPENDIX A

A General Conditions of Dispute Board Agreement

- 1. Definitions** Each “Dispute Board Agreement” is a tripartite agreement by and between:
- (a) the “Employer”;
 - (b) the “Contractor”; and
 - (c) the “Member” who is defined in the Dispute Board Agreement as being:
 - (i) the sole member of the "DB" and, where this is the case, all references to the “Other Members” do not apply, or
 - (ii) one of the three persons who are jointly called the “DB” (or “Dispute Board”) and, where this is the case, the other two persons are called the “Other Members”.

The Employer and the Contractor have entered (or intend to enter) into a contract, which is called the "Contract" and is defined in the Dispute Board Agreement, which incorporates this Appendix. In the Dispute Board Agreement, words and expressions which are not otherwise defined shall have the meanings assigned to them in the Contract.

- 2. General Provisions** Unless otherwise stated in the Dispute Board Agreement, it shall take effect on the latest of the following dates:
- (a) the Commencement Date defined in the Contract,
 - (b) when the Employer, the Contractor and the Member have each signed the Dispute Board Agreement, or
 - (c) when the Employer, the Contractor and each of the Other Members (if any) have respectively each signed a dispute board agreement.

This employment of the Member is a personal appointment. At any time, the Member may give not less than 70 days’ notice of resignation to the Employer and to the Contractor, and the Dispute Board Agreement shall terminate upon the expiry of this period.

- 3. Warranties** The Member warrants and agrees that he/she is and shall be impartial and independent of the Employer, the Contractor and the Engineer. The Member shall promptly disclose, to each of them and to the Other Members (if any), any fact or circumstance which

might appear inconsistent with his/her warranty and agreement of impartiality and independence.

When appointing the Member, the Employer and the Contractor relied upon the Member's representations that he/she is:

- (a) experienced in the work which the Contractor is to carry out under the Contract,
- (b) experienced in the interpretation of contract documentation, and
- (c) fluent in the language for communications defined in the Contract.

**4. General
Obligations of the
Member**

The Member shall:

- (a) have no interest financial or otherwise in the Employer, the Contractor or Engineer, nor any financial interest in the Contract except for payment under the Dispute Board Agreement;
- (b) not previously have been employed as a consultant or otherwise by the Employer, the Contractor or the Engineer, except in such circumstances as were disclosed in writing to the Employer and the Contractor before they signed the Dispute Board Agreement;
- (c) have disclosed in writing to the Employer, the Contractor and the Other Members (if any), before entering into the Dispute Board Agreement and to his/her best knowledge and recollection, any professional or personal relationships with any director, officer or employee of the Employer, the Contractor or the Engineer, and any previous involvement in the overall project of which the Contract forms part;
- (d) not, for the duration of the Dispute Board Agreement, be employed as a consultant or otherwise by the Employer, the Contractor or the Engineer, except as may be agreed in writing by the Employer, the Contractor and the Other Members (if any);
- (e) comply with the annexed procedural rules and with Sub-Clause 20.4 of the Conditions of Contract;
- (f) not give advice to the Employer, the Contractor, the Employer's Personnel or the Contractor's Personnel concerning the conduct of the Contract, other than in accordance with the annexed procedural rules;

- (g) not while a Member enter into discussions or make any agreement with the Employer, the Contractor or the Engineer regarding employment by any of them, whether as a consultant or otherwise, after ceasing to act under the Dispute Board Agreement;
- (h) ensure his/her availability for all site visits and hearings as are necessary;
- (i) become conversant with the Contract and with the progress of the Works (and of any other parts of the project of which the Contract forms part) by studying all documents received which shall be maintained in a current working file;
- (j) treat the details of the Contract and all the DB's activities and hearings as private and confidential, and not publish or disclose them without the prior written consent of the Employer, the Contractor and the Other Members (if any); and
- (k) be available to give advice and opinions, on any matter relevant to the Contract when requested by both the Employer and the Contractor, subject to the agreement of the Other Members (if any).

**5. General
Obligations of the
Employer and the
Contractor**

The Employer, the Contractor, the Employer's Personnel and the Contractor's Personnel shall not request advice from or consultation with the Member regarding the Contract, otherwise than in the normal course of the DB's activities under the Contract and the Dispute Board Agreement. The Employer and the Contractor shall be responsible for compliance with this provision, by the Employer's Personnel and the Contractor's Personnel respectively.

The Employer and the Contractor undertake to each other and to the Member that the Member shall not, except as otherwise agreed in writing by the Employer, the Contractor, the Member and the Other Members (if any):

- (a) be appointed as an arbitrator in any arbitration under the Contract;
- (b) be called as a witness to give evidence concerning any dispute before arbitrator(s) appointed for any arbitration under the Contract; or
- (c) be liable for any claims for anything done or omitted in the discharge or purported discharge of the Member's functions,

unless the act or omission is shown to have been in bad faith.

The Employer and the Contractor hereby jointly and severally indemnify and hold the Member harmless against and from claims from which he is relieved from liability under the preceding paragraph.

Whenever the Employer or the Contractor refers a dispute to the DB under Sub-Clause 20.4 of the Conditions of Contract, which will require the Member to make a site visit and attend a hearing, the Employer or the Contractor shall provide appropriate security for a sum equivalent to the reasonable expenses to be incurred by the Member. No account shall be taken of any other payments due or paid to the Member.

6. Payment

The Member shall be paid as follows, in the currency named in the Dispute Board Agreement:

- (a) a retainer fee per calendar month, which shall be considered as payment in full for:
 - (i) being available on 28 days' notice for all site visits and hearings;
 - (ii) becoming and remaining conversant with all project developments and maintaining relevant files;
 - (iii) all office and overhead expenses including secretarial services, photocopying and office supplies incurred in connection with his duties; and
 - (iv) all services performed hereunder except those referred to in sub-paragraphs (b) and (c) of this Clause.

The retainer fee shall be paid with effect from the last day of the calendar month in which the Dispute Board Agreement becomes effective; until the last day of the calendar month in which the Taking-Over Certificate is issued for the whole of the Works.

With effect from the first day of the calendar month following the month in which the Taking-Over Certificate is issued for the whole of the Works, the retainer fee shall be reduced by one third. This reduced fee shall be paid until the first day of the calendar month in which the Member resigns or the Dispute Board Agreement is otherwise terminated.

- (b) a daily fee which shall be considered as payment in full for:
 - (i) each day or part of a day up to a maximum of two days' travel time in each direction for the journey between the

- Member's home and the Site, or another location of a meeting with the Other Members (if any);
- (ii) each working day on Site visits, hearings or preparing decisions; and
 - (iii) each day spent reading submissions in preparation for a hearing.
- (c) all reasonable expenses including necessary travel expenses (air fare in less than first class, hotel and subsistence and other direct travel expenses) incurred in connection with the Member's duties, as well as the cost of telephone calls, courier charges, faxes and telexes: a receipt shall be required for each item in excess of five percent of the daily fee referred to in sub-paragraph (b) of this Clause;
- (d) any taxes properly levied in the Country on payments made to the Member (unless a national or permanent resident of the Country) under this Clause 6.

The retainer and daily fees shall be as specified in the Dispute Board Agreement. Unless it specifies otherwise, these fees shall remain fixed for the first 24 calendar months, and shall thereafter be adjusted by agreement between the Employer, the Contractor and the Member, at each anniversary of the date on which the Dispute Board Agreement became effective.

If the parties fail to agree on the retainer fee or the daily fee, the appointing entity or official named in the Contract Data shall determine the amount of the fees to be used.

The Member shall submit invoices for payment of the monthly retainer and air fares quarterly in advance. Invoices for other expenses and for daily fees shall be submitted following the conclusion of a Site visit or hearing. All invoices shall be accompanied by a brief description of activities performed during the relevant period and shall be addressed to the Contractor.

The Contractor shall pay each of the Member's invoices in full within 56 calendar days after receiving each invoice and shall apply to the Employer (in the Statements under the Contract) for reimbursement of one-half of the amounts of these invoices. The Employer shall then pay the Contractor in accordance with the Contract.

If the Contractor fails to pay to the Member the amount to which he/she is entitled under the Dispute Board Agreement, the Employer shall pay the amount due to the Member and any other

amount which may be required to maintain the operation of the DB; and without prejudice to the Employer's rights or remedies. In addition to all other rights arising from this default, the Employer shall be entitled to reimbursement of all sums paid in excess of one-half of these payments, plus all costs of recovering these sums and financing charges calculated at the rate specified in Sub-Clause 14.8 of the Conditions of Contract.

If the Member does not receive payment of the amount due within 70 days after submitting a valid invoice, the Member may (i) suspend his/her services (without notice) until the payment is received, and/or (ii) resign his/her appointment by giving notice under Clause 7.

7. Termination

At any time: (i) the Employer and the Contractor may jointly terminate the Dispute Board Agreement by giving 42 days' notice to the Member; or (ii) the Member may resign as provided for in Clause 2.

If the Member fails to comply with the Dispute Board Agreement, the Employer and the Contractor may, without prejudice to their other rights, terminate it by notice to the Member. The notice shall take effect when received by the Member.

If the Employer or the Contractor fails to comply with the Dispute Board Agreement, the Member may, without prejudice to his other rights, terminate it by notice to the Employer and the Contractor. The notice shall take effect when received by them both.

Any such notice, resignation and termination shall be final and binding on the Employer, the Contractor and the Member. However, a notice by the Employer or the Contractor, but not by both, shall be of no effect.

8. Default of the Member

If the Member fails to comply with any of his obligations under Clause 4 (a) - (d) above, he shall not be entitled to any fees or expenses hereunder and shall, without prejudice to their other rights, reimburse each of the Employer and the Contractor for any fees and expenses received by the Member and the Other Members (if any), for proceedings or decisions (if any) of the DB which are rendered void or ineffective by the said failure to comply.

If the Member fails to comply with any of his obligations under Clause 4 (e) - (k) above, he shall not be entitled to any fees or expenses hereunder from the date and to the extent of the non-compliance and shall, without prejudice to their other rights, reimburse each of the Employer and the Contractor for any fees and expenses already received by the Member, for proceedings or

decisions (if any) of the DB which are rendered void or ineffective by the said failure to comply.

9. Disputes

Any dispute or claim arising out of or in connection with this Dispute Board Agreement, or the breach, termination or invalidity thereof, shall be finally settled by institutional arbitration. If no other arbitration institute is agreed, the arbitration shall be conducted under the Rules of Arbitration of the International Chamber of Commerce by one arbitrator appointed in accordance with these Rules of Arbitration.

PROCEDURAL RULES

Unless otherwise agreed by the Employer and the Contractor, the DB shall visit the Site at intervals of not more than 140 days, including times of critical construction events, at the request of either the Employer or the Contractor. Unless otherwise agreed by the Employer, the Contractor and the DB, the period between consecutive visits shall not be less than 70 days, except as required to convene a hearing as described below.

The timing of and agenda for each Site visit shall be as agreed jointly by the DB, the Employer and the Contractor, or in the absence of agreement, shall be decided by the DB. The purpose of Site visits is to enable the DB to become and remain acquainted with the progress of the Works and of any actual or potential problems or claims, and, as far as reasonable, to endeavour to prevent potential problems or claims from becoming disputes.

Site visits shall be attended by the Employer, the Contractor and the Engineer and shall be coordinated by the Employer in co-operation with the Contractor. The Employer shall ensure the provision of appropriate conference facilities and secretarial and copying services. At the conclusion of each Site visit and before leaving the site, the DB shall prepare a report on its activities during the visit and shall send copies to the Employer and the Contractor.

The Employer and the Contractor shall furnish to the DB one copy of all documents which the DB may request, including Contract documents, progress reports, variation instructions, certificates and other documents pertinent to the performance of the Contract. All communications between the DB and the Employer or the Contractor shall be copied to the other Party. If the DB comprises three persons, the Employer and the Contractor shall send copies of these requested documents and these communications to each of these persons.

If any dispute is referred to the DB in accordance with Sub-Clause 20.4 of the Conditions of Contract, the DB shall proceed in accordance with Sub-Clause 20.4 and these Rules. Subject to the time allowed to give notice of a decision and other relevant factors, the DB shall:

- (a) act fairly and impartially as between the Employer and the Contractor, giving each of them a reasonable opportunity of putting his case and responding to the other's case, and
- (b) adopt procedures suitable to the dispute, avoiding unnecessary delay or expense.

The DB may conduct a hearing on the dispute, in which event it will decide on the date and place for the hearing and may request that written documentation and arguments from the Employer and the Contractor be presented to it prior to or at the hearing.

Except as otherwise agreed in writing by the Employer and the Contractor, the DB shall have power to adopt an inquisitorial procedure, to refuse admission to hearings or audience at hearings to any persons other than representatives of the Employer, the Contractor and the Engineer, and to proceed in the absence of any party who the DB is satisfied received notice of the hearing; but shall have discretion to decide whether and to what extent this power may be exercised.

The Employer and the Contractor empower the DB, among other things, to:

- (a) establish the procedure to be applied in deciding a dispute,
- (b) decide upon the DB's own jurisdiction, and as to the scope of any dispute referred to it,
- (c) conduct any hearing as it thinks fit, not being bound by any rules or procedures other than those contained in the Contract and these Rules,
- (d) take the initiative in ascertaining the facts and matters required for a decision,
- (e) make use of its own specialist knowledge, if any,
- (f) decide upon the payment of financing charges in accordance with the Contract,
- (g) decide upon any provisional relief such as interim or conservatory measures, and
- (h) open up, review and revise any certificate, decision, determination, instruction, opinion or valuation of the Engineer, relevant to the dispute.

The DB shall not express any opinions during any hearing concerning the merits of any arguments advanced by the Parties. Thereafter, the DB shall make and give its decision in accordance with Sub-Clause 20.4, or as otherwise agreed by the Employer and the Contractor in writing. If the DB comprises three persons:

- (a) it shall convene in private after a hearing, in order to have discussions and prepare its decision;
- (b) it shall endeavour to reach a unanimous decision: if this proves impossible the applicable decision shall be made by a majority of the Members, who may require the minority Member to prepare a written report for submission to the Employer and the Contractor; and
- (c) if a Member fails to attend a meeting or hearing, or to fulfil any required function, the other two Members may nevertheless proceed to make a decision, unless:
 - (i) either the Employer or the Contractor does not agree that they do so, or

- (ii) the absent Member is the chairman and he/she instructs the other Members not to make a decision.

APPENDIX B

Environmental, Social, Health and Safety (ESHS) Metrics for Progress Reports

Metrics for regular reporting:

- a. *environmental incidents or non-compliances with contract requirements, including contamination, pollution or damage to ground or water supplies;*
- b. *health and safety incidents, accidents, injuries and all fatalities that require treatment;*
- c. *interactions with regulators: identify agency, dates, subjects, outcomes (report the negative if none);*
- d. *status of all permits and agreements:*
 - *work permits: number required, number received, actions taken for those not received;*
 - *status of permits and consents:*
 - *list areas/facilities with permits required (quarries, asphalt & batch plants), dates of application, dates issued (actions to follow up if not issued), dates submitted to resident engineer (or equivalent), status of area (waiting for permits, working, abandoned without reclamation, decommissioning plan being implemented, etc.);*
 - *list areas with landowner agreements required (borrow and spoil areas, camp sites), dates of agreements, dates submitted to resident engineer (or equivalent);*
 - *identify major activities undertaken in each area in the reporting period and highlights of environmental and social protection (land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation);*
 - *for quarries: status of relocation and compensation (completed, or details of activities and current status in the reporting period).*
- e. *health and safety supervision:*
- f. *safety officer: number days worked, number of full inspections & partial inspections, reports to construction/project management;*
- g. *number of workers, work hours, metric of PPE use (percentage of workers with full personal protection equipment (PPE), partial, etc.), worker violations observed (by type of violation, PPE or otherwise), warnings given, repeat warnings given, follow-up actions taken (if any);*

- h. worker accommodations:*
- i. number of expats housed in accommodations, number of locals;*
- j. date of last inspection, and highlights of inspection including status of accommodations' compliance with national and local law and good practice, including sanitation, space, etc.;*
- k. actions taken to recommend/require improved conditions, or to improve conditions.*
- l. HIV/AIDS: provider of health services, information and/or training, location of clinic, number of non-safety disease or illness treatments and diagnoses (no names to be provided);*
- m. gender (for expats and locals separately): number of female workers, percentage of workforce, gender issues raised and dealt with (cross-reference grievances or other sections as needed);*
- n. training:*
 - number of new workers, number receiving induction training, dates of induction training;
 - number and dates of toolbox talks, number of workers receiving Occupational Health and Safety (OHS), environmental and social training;
 - number and dates of HIV/AIDS sensitization and/or training, no. workers receiving training (in the reporting period and in the past); same questions for gender sensitization, flag person training.
 - number and date of GBV /SEA sensitization and/or training, number of workers receiving training on code of conduct (in the reporting period and in the past), etc.
- o. environmental and social supervision:*
 - i. environmentalist: days worked, areas inspected and numbers of inspections of each (road section, work camp, accommodations, quarries, borrow areas, spoil areas, swamps, forest crossings, etc.), highlights of activities/findings (including violations of environmental and/or social best practices, actions taken), reports to environmental and/or social specialist/construction/site management;*
 - ii. sociologist: days worked, number of partial and full site inspections (by area: road section, work camp, accommodations, quarries, borrow areas, spoil areas, clinic, HIV/AIDS center, community centers, etc.), highlights of activities (including violations of environmental and/or social requirements observed, actions taken), reports to environmental and/or social specialist/construction/site management; and*
 - iii. community liaison person(s): days worked (hours community center open), number of people met, highlights of activities (issues raised, etc.), reports to environmental and/or social specialist /construction/site management.*
- p. Grievances: list new grievances (e.g. allegations of GBV / SEA) received in the reporting period and unresolved past grievances by date received, complainant, how received, to whom referred to for action, resolution and date (if completed), data*

resolution reported to complainant, any required follow-up (Cross-reference other sections as needed):

- Worker **grievances**;
- Community *grievances*

q. *Traffic and vehicles/equipment:*

- traffic accidents involving project vehicles & equipment: provide date, location, damage, cause, follow-up;
- accidents involving non-project vehicles or property (also reported under immediate metrics): provide date, location, damage, cause, follow-up;
- overall condition of vehicles/equipment (subjective judgment by environmentalist); non-routine repairs and maintenance needed to improve safety and/or environmental performance (to control smoke, etc.).

r. *Environmental mitigations and issues (what has been done):*

- dust: number of working bowsers, number of waterings/day, number of complaints, warnings given by environmentalist, actions taken to resolve; highlights of quarry dust control (covers, sprays, operational status); % of rock/spoil lorries with covers, actions taken for uncovered vehicles;
- erosion control: controls implemented by location, status of water crossings, environmentalist inspections and results, actions taken to resolve issues, emergency repairs needed to control erosion/sedimentation;
- quarries, borrow areas, spoil areas, asphalt plants, batch plants: identify major activities undertaken in the reporting period at each, and highlights of environmental and social protection: land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation;
- blasting: number of blasts (and locations), status of implementation of blasting plan (including notices, evacuations, etc.), incidents of off-site damage or complaints (cross-reference other sections as needed);
- spill cleanups, if any: material spilled, location, amount, actions taken, material disposal (report all spills that result in water or soil contamination);
- waste management: types and quantities generated and managed, including amount taken offsite (and by whom) or reused/recycled/disposed on-site;
- details of tree plantings and other mitigations required undertaken in the reporting period;
- details of water and swamp protection mitigations required undertaken in the reporting period.

s. *compliance:*

- compliance status for conditions of all relevant consents/permits, for the Work, including quarries, etc.): statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance;

- compliance status of C-ESMP/ESIP requirements: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance
- compliance status of GBV/SEA prevention and response action plan: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance
- compliance status of Health and Safety Management Plan re: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance
- other unresolved issues from previous reporting periods related to environmental and social: continued violations, continued failure of equipment, continued lack of vehicle covers, spills not dealt with, continued compensation or blasting issues, etc. Cross-reference other sections as needed.

Section IX. Particular Conditions (PC)

The following Particular Conditions shall supplement the GC. Whenever there is a conflict, the provisions herein shall prevail over those in the GC.

Part A - Contract Data

Conditions	Sub-Clause	Data
Employer's name and address	1.1.2.2 & 1.3	Companhia Espiritosantense de Saneamento - CESAN
Engineer's name and address	1.1.2.4 & 1.3	To be appointed by CESAN upon the signature of the contract
Contractor's Representative's name	4.3	<i>[insert the name of the Contractor's Representative agreed by the Employer prior to Contract signature]</i>
Key Personnel names	1.1.2.7 & 6.9	<i>[insert the name of each Key Personnel agreed by the Employer prior to Contract signature]</i>
Bank's name	1.1.2.11	International Bank for Reconstruction and Development (IBRD)
Borrower's name	1.1.2.12	State of Espirito Santo
Time for Completion	1.1.3.3	46 (forty-six) months for LOT I and 42 (forty-two) months for LOT II
Defects Notification Period	1.1.3.7	365 days
Materials	1.1.5.3	This is a turnkey contract and all Materials are to be supplied by the Contractor
Plant	1.1.5.5	This is a turnkey contract and all Plant are to be supplied by the Contractor
Sections	1.1.5.6	Not applicable
Electronic transmission systems	1.3	Official corporative emails
Governing Law	1.4	The Contract shall be interpreted in accordance with the laws of Brazil
Ruling language	1.4	The ruling language is: <i>[same language as of the winning bid: English or Portuguese]</i>
Language for communications	1.4	The languages for communications are: English or Portuguese
Time for the Parties entering into a Contract Agreement	1.6	28 days after the Contractor receives the Letter of Acceptance

Conditions	Sub-Clause	Data
Inspections and Audit by the Bank	1.15	<p>This clause shall be amended as follows:</p> <p>The Contractor shall permit, and shall cause its agents (whether declared or not), sub-contractors, sub-consultants, service providers, or suppliers and any personnel thereof, to permit, the Bank and/or persons appointed by the Bank to inspect the Site and all accounts and records relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the Bank if requested by the Bank. The Contractor's attention is drawn to Sub-Clause 15.6 [Corrupt or Fraudulent Practices] which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under Sub-Clause 1.15 constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures.</p>
Time for access to the Site	2.1	No later than the Commencement Day
Engineer's Duties and Authority	3.1(b)(ii)	Variations resulting in an increase of the Accepted Contract Amount in excess of <u>0.5% (one half percent)</u> shall require approval of the Employer.
Design	4.1	<p>This is a turnkey contract and the Contractor shall develop the studies and design of the entire sewage collection system according to the specifications defined for Lot 1 and Lot 2, within the scope areas delimited by the drawings in Table 1 and Table 2 of item 8 – APPENDICES. The design should be elaborated with all the executive details.</p> <p>The Contractor shall provide the necessary studies, obtain the licenses and produce the reports according to the specifications defined for Lot 1 and Lot 2.</p>

Conditions	Sub-Clause	Data
		The Contractor shall be responsible for the design of each item of Plant and Materials as is required for the item to be in accordance with the Contract, and shall be also responsible for the design of the Permanent Works.
Performance Security	4.2	The performance security will be in the form of a demand guarantee in the amount(s) of 10% (ten percent) of the Accepted Contract Amount and in the same currency(ies) of the Accepted Contract Amount.
Environmental, Social, Health and Safety (ESHS) Performance Security	4.2	<i>Not applicabel</i>
Normal working hours	6.5	Normal working hours are: forty-four (44) hours per week in compliance with the Brazilian Labor Legislation
Delay damages for the Works	8.7 & 14.15(b)	<u>0.1%</u> (one tenth percent) of the Contract Price per day.
Maximum amount of delay damages	8.7	10% (ten percent) of the final Contract Price.
Provisional Sums	13.5.(b)(ii)	There are no provisional sums
Adjustments for Changes in Cost	13.8	Period “n” applicable to the adjustment multiplier “Pn”: 12 months
Total advance payment	14.2	10% (tem percent) of the Accepted Contract Amount payable in the currencies and proportions in which the Accepted Contract Amount is payable
Repayment amortization rate of advance payment	14.2(b)	10% (ten percent) of the amount of each Interim Payment Certificate (excluding the advance payment and deductions for its repayments as well as deductions for retention money) in the currencies and proportions of the advance payment until such time as the advance payment has been repaid

Conditions	Sub-Clause	Data
Percentage of Retention	14.3	5% (five percent) of the amount of each Interim Payment Certificate
Limit of Retention Money	14.3	10% (ten percent) of the Accepted Contract Amount
Plant and Materials	14.5(b)(i)	If Sub-Clause 14.5 applies: Plant and Materials for payment Free on Board: sewage pumps.
	14.5(c)(i)	Plant and Materials for payment when delivered to the Site: sewage pumps.
Minimum Amount of Interim Payment Certificates	14.6	1% (one percent) of the Accepted Contract Amount.
Publishing source of commercial interest rates for financial charges in case of delayed payment	14.8	3% (three percent) above the discount rate of the Central Bank of Brazil
Maximum total liability of the Contractor to the Employer	17.6	The amount of the maximum total liability is equal to the Accepted Contract Amount
Periods for submission of insurance:	18.1	Period for submission of: a. evidence of insurance: 28 (twenty eight) days b. relevant policies: 28 (twenty eight) days
Maximum amount of deductibles for insurance of the Employer's risks	18.2(d)	Maximum amount of deductibles: 1% (one percent)
Minimum amount of third party insurance	18.3	Amount of third party insurance: 10% (ten percent) of Accepted Contract Amount
Date by which the DB shall be appointed	20.2	28 days after the Commencement date
The DB shall be comprised of	20.2	One sole Member
List of potential DB sole members	20.2	Alexandre Magalhães de Mesquita – Lawyer - amdemesquita@gmail.com
Appointment (if not agreed) to be made by	20.3	International Chambers of Commerce - ICC

Conditions	Sub-Clause	Data
Rules of arbitration	20.6(a)	United Nations Commission on International Trade Law (UNCITRAL)

Part B - Specific Provisions

Sub-Clause 1.1.2.7 Contractor's Personnel

Key Personnel

The following is added at the end of the sub-clause:

“Contractor's Personnel includes Key Personnel as named in Part A - Contract Data.”

Sub-Clause 1.1.6.11 Other Definitions

The following is added as Sub-Clause 1.1.6.11

“ESHS” means environmental, social (including sexual exploitation and abuse (SEA) and gender based violence (GBV)), health and safety.

Sub-Clause 4.1 Contractor's General Obligations

Insert in the fifth paragraph after the words “*The Contractor shall, whenever required by the Engineer, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works.*”

“Notwithstanding Sub-Clause 8.1, the Contractor shall not carry out any Works, including mobilization and/or pre-construction activities (e.g. limited clearance for haul roads, site accesses and work site establishment, geotechnical investigations or investigations to select ancillary features such as quarries and borrow pits), unless the Engineer is satisfied that appropriate measures are in place to address environmental, social, health and safety risks and impacts. At a minimum, the Contractor shall apply the Management Strategies and Implementation Plans and Code of Conduct, submitted as part of the Bid and agreed as part of the Contract. The Contractor shall submit, on a continuing basis, for the Engineer's prior approval, such supplementary Management Strategies and Implementation Plans as are necessary to manage the ESHS risks and impacts of ongoing works. These Management Strategies and Implementation Plans collectively comprise the Contractor's Environmental and Social Management Plan (C-ESMP). The C-ESMP shall be approved prior to the commencement of construction activities (e.g. excavation, earth works, bridge and structure works, stream and road diversions, quarrying or extraction of materials, concrete batching and asphalt manufacture). The approved C-ESMP shall be reviewed, periodically (but not

less than every six (6) months), and updated in a timely manner, as required, by the Contractor to ensure that it contains measures appropriate to the Works activities to be undertaken. The updated C-ESMP shall be subject to prior approval by the Engineer.

**Sub-Clause 4.2
Performance Security**

Replace sub-clause 4.2 in its entirety with the following:

“4.2 Performance Security and ESHS Performance Security

The Contractor shall obtain (at its cost) a Performance Security for proper performance and, if applicable, an Environmental, Social, Safety and Health (ESHS) Performance Security for compliance with the Contractor’s ESHS obligations, in the amounts stated in the Contract Data and denominated in the currency(ies) of the Contract or in a freely convertible currency acceptable to the Employer. If amounts are not stated in the Contract Data, this Sub-Clause shall not apply.

The Contractor shall deliver the Performance Security and, if applicable, an ESHS Performance Security to the Employer within 28 days after receiving the Letter of Acceptance, and shall send a copy to the Engineer. The Performance Security shall be issued by a reputable bank or financial institution selected by the Contractor, and shall be in the form annexed to the Particular Conditions, as stipulated by the Employer in the Contract Data, or in another form approved by the Employer. The ESHS Performance Security shall be issued by a reputable bank selected by the Contractor, and shall be in the form annexed to the Particular Conditions, as stipulated by the Employer in the Contract Data, or in another form approved by the Employer.

The Contractor shall ensure that the Performance Security and, if applicable, the ESHS Performance Security are valid and enforceable until the Contractor has executed and completed the Works and remedied any defects. If the terms of the Performance Security and, if applicable, ESHS Performance Security specify its expiry date, and the Contractor has not become entitled to receive the Performance Certificate (which, if applicable, includes satisfactory performance of the ESHS obligations), by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the Performance

Security and, if applicable, the ESHS Performance Security until the Works have been completed and any defects have been remedied.

The Employer shall not make a claim under the Performance Security and, if applicable, the ESHS Performance Security, except for amounts to which the Employer is entitled under the Contract.

The Employer shall indemnify and hold the Contractor harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from a claim under the Performance Security and, if applicable, the ESHS Performance Security to the extent to which the Employer was not entitled to make the claim.

The Employer shall return the Performance Security and, if applicable, the ESHS Performance Security to the Contractor within 21 days after receiving a copy of the Performance Certificate.

Without limitation to the provisions of the rest of this Sub-Clause, whenever the Engineer determines an addition or a reduction to the Contract Price as a result of a change in cost and/or legislation, or as a result of a Variation, amounting to more than 25 percent of the portion of the Contract Price payable in a specific currency, the Contractor shall at the Engineer's request promptly increase, or may decrease, as the case may be, the value of the Performance Security and, if applicable, the ESHS Performance Security in that currency by an equal percentage.”

In the following sub-clauses the term “Performance Security” is replaced with: “Performance Security and, if applicable, an Environmental, Social, Health and Safety (ESHS) Performance Security”:

- 2.1- Right of Access to the Site
- 14.2- Advance Payment
- 14.6- Issue of Interim Payment Certificate
- 14.7(a)- Payment
- 14.9- Payment of Retention money
- 14.12- Discharge

15.2(a)- Termination

15.5- Employer’s Entitlement to Termination for Convenience

16.4(a)- Payment on termination”

**Sub-Clause 4.21
Progress Reports**

Sub-Clause 4.21 (g) is replaced by the following:

“4.21 (g) the Environmental, Social, Health and Safety (ESHS) metrics set out in Appendix B”

At the end of, and as part of Sub-Clause 4.21 add a new paragraph as follows:

“The Contractor shall provide immediate notification to the Engineer of incidents in the following categories. Full details of such incidents shall be provided to the Engineer within the timeframe agreed with the Engineer.

- i. confirmed or likely violation of any law or international agreement;
- ii. any fatality or serious (lost time) injury;
- iii. significant adverse effects or damage to private property (e.g. vehicle accident, damage from fly rock, working beyond the boundary)
- iv. major pollution of drinking water aquifer or damage or destruction of rare or endangered habitat (including protected areas) or species; or
- v. any allegation of gender based violence (GBV), sexual exploitation or abuse, sexual harassment or sexual misbehavior, rape, sexual assault, child abuse, or defilement, or other violations involving children.

**Sub-Clause 6.9
Contractor’s Personnel**

Key Personnel

Sub-Clauses 6.9 (d) is amended by inserting “or” at the end:

“6.9 (d).....; or”

Sub-Clauses 6.9 (e) is inserted as follows:

“6.9 (e) undertakes behavior which breaches the Code of Conduct (ESHS) (e.g. spreading communicable diseases, sexual harassment, gender based

violence, (GBV), sexual exploitation or abuse, illicit activity or crime).”

After the sentence: “*If appropriate, the Contractor shall then appoint (or cause to be appointed) a suitable replacement person.*” the following is added as a new paragraph:

“The Contractor’s Personnel includes Key Personnel. If the Contractor intends to replace a Key Personnel, the Contractor shall, not less than 30 days before the intended date of replacement, give notice to the Engineer, the name, address, academic qualifications and relevant experience of the intended replacement Key Personnel. The Contractor shall not, without the prior consent of the Engineer, revoke the appointment of the Key Personnel or appoint a replacement.”

Sub-Clause 13.3
Variation procedure

Sub-Clause 13.3. (a) is replaced with the following:

“(a) a description of the proposed work to be performed, a programme for its execution and sufficient ESHS information to enable an evaluation of ESHS risks and impacts;”

Sub-Clause 14.1
The Contract Price

(Alternative paragraph)

(e) Notwithstanding the provisions of subparagraph (b), Contractor’s Equipment, including essential spare parts therefore, imported by the Contractor for the sole purpose of executing the Contract shall be temporarily exempt from the payment of import duties and taxes upon initial importation, provided the Contractor shall post with the customs authorities at the port of entry an approved export bond or bank guarantee, valid until the Time for Completion plus six months, in an amount equal to the full import duties and taxes which would be payable on the assessed imported value of such Contractor’s Equipment and spare parts, and callable in the event the Contractor’s Equipment is not exported from the Country on completion of the Contract. A copy of the bond or bank guarantee endorsed by the customs authorities shall be provided by the Contractor to the Employer upon the importation of individual items of Contractor’s Equipment and spare parts. Upon export of individual items of Contractor’s Equipment or spare parts, or upon the completion of the Contract, the

Contractor shall prepare, for approval by the customs authorities, an assessment of the residual value of the Contractor's Equipment and spare part to be exported, based on the depreciation scale(s) and other criteria used by the customs authorities for such purposes under the provisions of the applicable Laws. Import duties and taxes shall be due and payable to the customs authorities by the Contractor on (a) the difference between the initial imported value and the residual value of the Contractor's Equipment and spare parts to be exported; and (b) on the initial imported value of the Contractor's Equipment and spare parts remaining in the Country after completion of the Contract. Upon payment of such dues within 28 days of being invoiced, the bond or bank guarantee shall be reduced or released accordingly; otherwise the security shall be called in the full amount remaining.

Sub-Clause 14.6
Issue of Interim
Payment Certificates

The following is added to the third paragraph as (c):

- (i) if the Contractor was, or is, failing to perform any ESHS obligations or work under the Contract, the value of this work or obligation, as determined by the Engineer, may be withheld until the work or obligation has been performed, and/or the cost of rectification or replacement, as determined by the Engineer, may be withheld until rectification or replacement has been completed. Failure to perform includes, but is not limited to the following:
 1. failure to comply with any ESHS obligations or work described in the Works' Requirements which may include: working outside site boundaries, excessive dust, failure to keep public roads in a safe usable condition, damage to offsite vegetation, pollution of water courses from oils or sedimentation, contamination of land e.g. from oils, human waste, damage to archeology or cultural heritage features, air pollution as a result of unauthorized and/or inefficient combustion;
 2. failure to regularly review C-ESMP and/or update it in a timely manner to address emerging ESHS issues, or anticipated risks or impacts;

- 3.
4. failure to implement the C-ESMP e.g. failure to provide required training or sensitization;
5. failing to have appropriate consents/permits prior to undertaking Works or related activities;
6. failure to submit ESHS report/s (as described in Appendix B), or failure to submit such reports in a timely manner;
7. failure to implement remediation as instructed by the Engineer within the specified timeframe (e.g. remediation addressing non-compliance/s).

Section X. Contract Forms

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Notification of Award

LETTER OF ACCEPTANCE

[letterhead paper of the Employer]

[date]

To: *[name and address of the Contractor]*

This is to notify you that your Bid dated *[date]* for execution of the *[name of the Contract and identification number, as given in the Contract Data]* for the Accepted Contract Amount *[amount in numbers and words] [name of currency]*, as corrected and modified in accordance with the Instructions to Bidders, is hereby accepted by our Agency.

You are requested to furnish the Performance Security within 28 days in accordance with the Conditions of Contract, using for that purpose one of the Performance Security Forms included in Section X, Contract Forms, of the Bidding Documents

Authorized Signature: _____

Name and Title of Signatory: _____

Name of Agency: _____

Attachment: Contract Agreement

Contract Agreement

THIS AGREEMENT made the _____ day of _____, _____, between _____ of _____ (hereinafter “the Employer”), of the one part, and _____ of _____ (hereinafter “the Contractor”), of the other part:

WHEREAS the Employer desires that the Works known as _____ should be executed by the Contractor, and has accepted a Bid by the Contractor for the execution and completion of these Works and the remedying of any defects therein,

The Employer and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.

- (i) the Letter of Acceptance
- (ii) the Letter of Bid
- (iii) the addenda Nos _____(if any)
- (iv) the Particular Conditions
- (v) the General Conditions;
- (vi) the Specification
- (vii) the Drawings; and
- (viii) the completed Schedules and any other documents forming part of the contract, including, but not limited to:
 - the ESHS Management Strategies and Implementation Plans; and
 - Code of Conduct (ESHHS).

3. In consideration of the payments to be made by the Employer to the Contractor as specified in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of _____ on the day, month and year specified above.

Signed by _____ (for the Employer)

Signed by _____ (for the Contractor)

Performance Security

Option 1: (Demand Guarantee)

Beneficiary: _____

Date: _____

PERFORMANCE GUARANTEE No.: _____

Guarantor: _____

We have been informed that _____ (hereinafter called "the Applicant") has entered into Contract No. _____ dated _____ with the Beneficiary, for the execution of _____ (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of ____ (____),¹ such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the Day of, 2...², and any demand for payment under it must be received by us at this office indicated above on or before that date.

¹ The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, less provisional sums, if any, and denominated either in the currency(cies) of the Contract or a freely convertible currency acceptable to the Beneficiary.

² Insert the date twenty-eight days after the expected completion date as described in GC Clause 11.9. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

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

guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

Option 2: Performance Bond

Not Applicable

**Environmental, Social, Health and Safety (ESHS)
Performance Security**

ESHS Demand Guarantee

Not Applicable

Advance Payment Security

Demand Guarantee

Beneficiary: _____

Date: _____

ADVANCE PAYMENT GUARANTEE No.: _____

Guarantor: _____

We have been informed that _____ (hereinafter called "the Applicant") has entered into Contract No. _____ dated _____ with the Beneficiary, for the execution of _____ (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum _____ (_____) is to be made against an advance payment guarantee.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ ()¹ upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:

(c) has used the advance payment for purposes other than the costs of mobilization in respect of the Works; or

(d) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

¹ *The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the Employer.*

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Applicant on its account number _____ at _____.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, less provisional sums, has been certified for payment, or on the ___ day of _____, 2____,² whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date..

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

² *Insert the expected expiration date of the Time for Completion. The Employer should note that in the event of an extension of the time for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."*

Retention Money Security

Demand Guarantee

_____ [Guarantor letterhead or SWIFT identifier code]

Beneficiary: _____ [Insert name and Address of Employer]

Date: _____ [Insert date of issue]

RETENTION MONEY GUARANTEE No.: _____ [Insert guarantee reference number]

Guarantor: [Insert name and address of place of issue, unless indicated in the letterhead]

We have been informed that _____ [insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture] (hereinafter called "the Applicant") has entered into Contract No. _____ [insert reference number of the contract] dated _____ with the Beneficiary, for the execution of _____ [insert name of contract and brief description of Works] (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, the Beneficiary retains moneys up to the limit set forth in the Contract ("the Retention Money"), and that when the Taking-Over Certificate has been issued under the Contract and the first half of the Retention Money has been certified for payment, payment of [insert the second half of the Retention Money or if the amount guaranteed under the Performance Guarantee when the Taking-Over Certificate is issued is less than half of the Retention Money, the difference between half of the Retention Money and the amount guaranteed under the Performance Security and, if required, the ESHS Performance Security] is to be made against a Retention Money guarantee.

At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ *[insert amount in figures]* (_____) *[amount in words]*¹ upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without your needing to prove or show grounds for your demand or the sum specified therein.

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the second half of the Retention Money as referred to above has been credited to the Applicant on its account number _____ at _____ *[insert name and address of Applicant's bank]*.

This guarantee shall expire no later than the day of, 2...², and any demand for payment under it must be received by us at the office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

¹ *The Guarantor shall insert an amount representing the amount of the second half of the Retention Money or or if the amount guaranteed under the Performance Guarantee when the Taking-Over Certificate is issued is less than half of the Retention Money, the difference between half of the Retention Money and the amount guaranteed under the Performance Security and denominated either in the currency(ies) of the second half of the Retention Money as specified in the Contract, or in a freely convertible currency acceptable to the Beneficiary.*

² *Insert the same expiry date as set forth in the performance security, representing the date twenty-eight days after the completion date described in GC Clause 11.9. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."*