

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

PEOPLE'S COMMITTEE OF HO CHI MINH CITY (PCHCMC)

MINISTRY OF PLANNING AND INVESTMENT (MPI)

THE SOCIALIST REPUBLIC OF VIET NAM

**THE DETAILED DESIGN STUDY
ON
HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
IN
THE SOCIALIST REPUBLIC OF VIET NAM**

FINAL REPORT

DRAFT BIDDING DOCUMENTS

**PACKAGE E :
WASTEWATER TREATMENT PLANT
CONSTRUCTION**

VOLUME 1

JUNE 2001

PACIFIC CONSULTANTS INTERNATIONAL

TABLE OF CONTENTS

	Page
INVITATION FOR BIDS.....	1
SECTION 1. INSTRUCTIONS TO BIDDERS.....	1-1
A. General	1-1
1. Scope of Bid	1-1
2. Source of Funds	1-2
3. Eligible Bidders.....	1-2
4. Eligible Equipment and Services	1-3
5. Qualification of the Bidder	1-3
6. One Bid per Bidder	1-4
7. Cost of Bidding	1-4
8. Site Visit.....	1-4
B. Bidding Documents	1-5
9. Contents of Bidding Documents	1-5
10. Clarification of Bidding Documents.....	1-5
11. Amendment of Bidding Documents	1-5
C. Preparation of Bids.....	1-6
12. Language of Bid	1-6
13. Documents Comprising the Bid	1-6
14. Bid Prices	1-7
15. Currencies of Bid and Payment	1-7
16. Bid Validity.....	1-8
17. Bid Security	1-8
18. Alternative Proposals by Bidders.....	1-9
19. Pre-Bid Meeting.....	1-9
20. Format and Signing of Bid	1-10
D. Submission of Bids.....	1-11
21. Sealing and Marking of Bids	1-11
22. Deadline for Submission of Bids	1-11
23. Late Bids.....	1-11
24. Modification Substitution, and Withdrawal of Bids.....	1-11
E. Bid Opening and Evaluation.....	1-13
25. Bid Opening.....	1-13
26. Process to be Confidential	1-14
27. Clarification of Bids	1-14
28. Examination of Bids and Determination of Responsiveness	1-14
29. Correction of Errors.....	1-14
30. Conversion to Single Currency for Comparison of Bids.....	1-15
31. Evaluation and Comparison of Bids.....	1-15

F. Award of Contract	1-16
32. Award.....	1-16
33. Employer’s Right to Accept any Bid and to Reject any or all Bids	1-16
34. Notification of Award	1-16
35. Signing of Agreement.....	1-16
36. Performance Security.....	1-17
SECTION 2. GENERAL CONDITIONS OF CONTRACT	2-1
SECTION 3. CONDITIONS OF PARTICULAR APPLICATION.....	3-1
SECTION 4. SPECIFICATIONS (REFER TO VOLUME 2).....	4-1
SECTION 5. FORM OF BID, APPENDIX TO BID, FORM OF BID SECURITY AND LIST OF ELIGIBLE SOURCE COUNTRIES OF JBIC ODA LOANS.....	5-1
FORM OF BID.....	5-3
APPENDIX TO BID	5-4
FORM OF BID SECURITY (BANK GUARANTEE)	5-7
LIST OF ELIGIBLE COUNTRIES OF JBIC ODA LOANS.....	5-8
SECTION 6. BILL OF QUANTITIES.....	6-1
PREAMBLE TO THE BILL OF QUANTITIES.....	6-3
SECTION 7. SAMPLE FORM OF AGREEMENT	7-1
Form of Agreement	7-3
SECTION 8. SAMPLE FORMS OF SECURITIES.....	8-1
FORM OF PERFORMANCE SECURITY (BANK GUARANTEE).....	8-3
FORM OF BANK GUARANTEE FOR ADVANCE PAYMENT SECURITY	8-4
SECTION 9. SCHEDULES OF SUPPLEMENTARY INFORMATION	9-1
SCHEDULE 1: General Information	9-3
SCHEDULE 2: Joint Venture Summary	9-4
SCHEDULE 3: Financial Capabilities	9-5
SCHEDULE 4: Current Contract Commitments / Works in Progress.....	9-7
SCHEDULE 5: Construction Schedule.....	9-8
SCHEDULE 6: Method Statement.....	9-9
SCHEDULE 7: Key Personnel	9-10
SCHEDULE 8: Curriculum Vitae of Key Personnel.....	9-11
SCHEDULE 9: Proposed Equipment.....	9-12
SCHEDULE 10: Subcontractors.....	9-13
SCHEDULE 11: Estimated Labour	9-14
SCHEDULE 12: Estimated Cash Flow	9-15
SCHEDULE 13: Unit Rate Analysis	9-16
SCHEDULE 14: Breakdown of Lump Sum Prices	9-17
SCHEDULE 15: Particulars of Plant to be Furnished by Contractor	9-18
SCHEDULE 16: Checklist of Bid Documents for Envelope No. 2 : Financial Bid	9-19
SCHEDULE 17: Checklist of Bid Documents for Envelope No. 1 : Technical Bid	9-20
SECTION 10. DRAWINGS (REFER TO VOLUME 3).....	10-1
SECTION 11. DISPUTE ADJUDICATION PROCEDURE.....	11-1

INVITATION FOR BIDS

**THE SOCIALIST REPUBLIC OF VIETNAM
PEOPLE'S COMMITTEE OF HO CHI MINH CITY**

PROJECT MANAGEMENT UNIT

6th Floor, 216 Nguyen Dinh Chieu, District 3, Ho Chi Minh City, Vietnam
Telephone: 84-8-9300529, Fax: 84-8-9300528

INVITATION FOR BIDS

HO CHI MINH CITY WATER ENVIRONMENT IMPROVEMENT PROJECT

Under JBIC Loan Agreement No. _____

Package E : Construction of Wastewater Treatment Plant

Date: _____

Loan No.: _____

Contract No.: _____

1. The Government of the Socialist Republic of Vietnam has received an ODA Loan from JAPAN BANK FOR INTERNATIONAL COOPERATION (hereinafter referred to as JBIC) under a loan agreement dated _____ towards the cost of Ho Chi Minh City Water Environment Improvement Project, and intends to apply a portion of the proceeds of the loan to payments under the contract for **Package E: Construction of Wastewater Treatment Plant**. Disbursement of an ODA Loan by JBIC will be subject, in all respects, to the terms and conditions of the Loan Agreement, including the disbursement procedures and the "Guidelines for Procurement under JBIC ODA Loans". No party other than The Government of the Socialist Republic of Vietnam shall derive any rights from the Loan Agreement or have any claim to loan proceeds.
2. JBIC requires that bidders and contractors, as well as Project Management Unit, People's Committee of Ho Chi Minh City (the Employer) and the Government of the Socialist Republic of Vietnam (the Borrower), under contracts funded with JBIC ODA Loans and other Japanese ODA, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, JBIC;
 - (a) will reject a proposal award if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;
 - (b) will recognize a contractor as ineligible, for a period determined by JBIC, to be awarded a contract funded with JBIC ODA Loans if it at any times determines that the contractor has engaged in corrupt or fraudulent practices in competing for, or in executing, another contract funded with JBIC ODA Loans or other Japanese ODA
3. The Project Management Unit, People's Committee of Ho Chi Minh City ("the Employer" invites sealed bids from prequalified, eligible bidders for the construction and completion of Ho Chi Minh City Water Environment Improvement Project, **Package E: Construction of Wastewater Plant**.

The scope of work to be undertaken by the contractor consists of the construction manufacture, delivery, installation, testing and commissioning, design of particular mechanical and Electrical Plant, and technical guidance and training of local personnel for the operation and maintenance of the completed facility.

The wastewater treatment plant shall have a capacity to treat an average daily flow of 141,000 cubic metres per day which allows for future extensions of the facility to cater for future demands. The main elements of the work are as follows:

Construction Works comprising:

- Site preparation works including filling, ground stabilization and piling;
- Structural works for the Treatment Plant;
- A road bridge;
- Roads, drainage, landscaping;
- Effluent and inlet pipes;
- Conveyance sewer including pipe jacking works;
- Buildings comprising lift pump station, chlorinator building, main building (control room etc), blower building and dewatering and centrifugal thickener building;
- A high voltage sub-station; and
- Compost plant facility

Treatment Plant Works comprising:

- Lift pump station comprising inflow gate, coarse screen and grit chamber
- Primary sedimentation tanks
- Aeration tanks
- Final sedimentation tanks
- Disinfection tank
- Gravity thickeners
- Centrifugal thickeners
- Sludge storage tank
- Sludge dewatering equipment
- Composting plant
- High voltage sub station

4. Prequalified Bidders may obtain further information from, and inspect and acquire the bidding documents, at the office of the Employer, at

6th Floor, 216 Nguyen Dinh Chieu,
District 3, Ho Chi Minh City,
Vietnam

Telephone : 84-8-9300529
Fax : 84-8-9300528

5. Bidding will be in accordance with the Exchange of Notes dated March 30, 2001, the Handbook for Procurement under JBIC ODA Loans dated January 2000, Decree No 88/1999/ND-CP dated 1st September 1999 and Decree 14/2000/ND-CP dated 5th May 2000 of the Socialist Republic of Vietnam.
6. A complete set of bidding documents may be purchased by interested, eligible bidders on submission of a written application to the above office, and upon payment of a non-refundable fee of _____
7. Bids shall be prepared and submitted strictly in accordance with all JBIC guidelines applicable to the project, the instructions given in this document and with all prevailing Government of the Socialist Republic of Vietnam rules and regulations regarding taxation, import duties and other matters relevant to successful execution of the Works. It is the responsibility of each Bidder to appraise himself fully of all relevant Government rules and regulations, irrespective of whether or not specific reference to them is made in the Contract Documents

8. All bids must be accompanied by a security of _____ or an equivalent amount in a freely convertible currency, and must be delivered to :

Project Management Unit
6th Floor, 216 Nguyen Dinh Chieu,
District 3, Ho Chi Minh City,
Vietnam

at or before _____ hours on _____. Bids will be opened immediately thereafter in the presence of bidders' representatives who choose to attend.

9. The estimated date of award is _____

Director, Project Management Unit

INSTRUCTIONS TO BIDDERS

SECTION 1. INSTRUCTIONS TO BIDDERS

A. GENERAL

1. Scope of Bid

1.1. The Project Management Unit, People's Committee of Ho Chi Minh City as agent for the Government of the Socialist Republic of Vietnam, (hereinafter referred to as the Employer) wishes to receive bids from prequalified bidders for the construction and completion of Ho Chi Minh City Water Environment Improvement Project

Package E: Construction of Wastewater Treatment Plant

comprising, but not limited to, the construction manufacture, delivery, installation, testing and commissioning, design of particular mechanical and Electrical Plant, and technical guidance and training of local personnel for the operation and maintenance of the completed facility.

The wastewater treatment plant shall have a capacity to treat an average daily flow of 141,000 cubic metres per day which allows for future extensions of the facility to cater for future demands. The main elements of the work, which are more particularly described elsewhere in the bidding documents are as follows:

Construction Works comprising:

- Site preparation works including filling, ground stabilization and piling;
- Structural works for the Treatment Plant;
- A road bridge;
- Roads, drainage, landscaping;
- Effluent and inlet pipes;
- Conveyance sewer including pipe jacking works;
- Buildings comprising lift pump station, chlorinator building, main building (control room etc), blower building and dewatering and centrifugal thickener building;
- A high voltage sub-station; and
- Compost plant facility

Treatment Plant Works comprising:

- Lift pump station comprising inflow gate, coarse screen and grit chamber
- Primary sedimentation tanks
- Aeration tanks
- Final sedimentation tanks
- Disinfection tank
- Gravity thickeners
- Centrifugal thickeners
- Sludge storage tank
- Sludge dewatering equipment
- Composting plant
- High voltage sub station

(hereinafter referred to as the Works)

1.2. The successful bidder will be expected to complete the Works within 1320 days from the date of commencement of the Works.

2. Source of Funds

- 2.1. The [Government of the Socialist Republic of Vietnam](#) has received an ODA Loan from JAPAN BANK FOR INTERNATIONAL COOPERATION (hereinafter referred to as JBIC) towards the cost of the Ho Chi Minh City Water Environment Improvement Project, and intends to apply a portion of the proceeds of the loan to payments under this contract. Disbursement of an ODA Loan by JBIC will be subject, in all respects, to the terms and conditions of the Loan Agreement, including the disbursement procedures and the “Guidelines for Procurement under JBIC ODA Loans”. No party other than The Government of the Socialist Republic of Vietnam shall derive any rights from the Loan Agreement or have any claim to loan proceeds.
- 2.2. JBIC requires that bidders and contractors, as well as Project Management Unit, People’s Committee of Ho Chi Minh City (the Employer) and the Government of the Socialist Republic of Vietnam (the Borrower), under contracts funded with JBIC ODA Loans and other Japanese ODA, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, JBIC;
 - a. will reject a proposal for award if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;
 - b. will recognize a contractor as ineligible, for a period determined by JBIC, to be awarded a contract funded with JBIC ODA Loans if it at any times determines that the contractor has engaged in corrupt or fraudulent practices in competing for, or in executing, another contract funded with JBIC ODA Loans or other Japanese ODA.

3. Eligible Bidders

- 3.1 This invitation to bid is open to prequalified bidders meeting the following requirements:
 - (a) a bidder (including all members of a joint venture) shall be from an eligible source country as listed in [Section 5](#); and
 - (b) A bidder (including all members of a joint venture) shall not be one of the following:
 - (i) A firm or an organization which has been engaged by the Employer to provide consulting services for the preparation related to procurement for or implementation of this project;
 - (ii) Any association/affiliates (inclusive of parent firm) of a firm or an organization mentioned in subparagraph (i) above; or
 - (iii) A firm or an organization who lends, or temporarily seconds its personnel to firms or organizations which are engaged in consulting services for the preparation related to procurement for or implementation of the project, if the personnel would be involved in any capacity on the same project.
 - (c) A bidder shall be pre-qualified for the contract as notified by the Employer.
- 3.2. Bidders shall provide such evidence of their eligibility satisfactory to the Employer as the Employer shall reasonably request.

4. Eligible Equipment and Services

- 4.1. Any contract under which equipment and/or services are procured from eligible source countries as defined in Sub-Clause 3.1 above for the implementation of the project will be eligible for financing under JBIC ODA Special Environmental Loans if the combined costs of such equipment and services are not less than 51 percent of the price of the said contract.
- 4.2. At the Employer's request, bidders may be required to provide evidence of the origin of equipment and services.
- 4.3 Major items of plant, including lift pump, blower, sludge scraper, diffuser, centrifugal thickener, centrifugal dehydrator and mixing machine shall be procured from Japan for the purposes of fulfilling the 51percent requirement of clause 4.1. Major items of plant which may exceed the 51 percent requirement should also be procured from Japan, as first preference, or from a G7 country.

5. Qualification of the Bidder

- 5.1. To be qualified for award of Contract, bidders shall :
 - (a) submit a written power of attorney authorizing the signatory of the bid to commit the bidder; and
 - (b) submit documentary evidence establishing that the bidder has adequate experience, financial capacity and technical capability to undertake the Contract. Confirmation of these matters may involve the updating, verification and reassessment of information which may previously have been considered during prequalification, and an assessment of the bidder's proposals regarding work methods, scheduling and resourcing which shall be provided in sufficient detail to confirm the bidder's capability to complete the works in accordance with the specification and the time for completion.
- 5.2. Bids submitted by a joint venture of two or more firms as partners shall comply with the following requirements :
 - (a) the bid, and in case of a successful bid, the Form of Agreement, shall be signed so as to be legally binding on all the partners;
 - (b) one of the partners shall be authorized to be in charge; and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the partners;
 - (c) the partner in charge shall be authorized to incur liabilities, receive payments and receive instructions for and on behalf of any or all partners of the joint venture;
 - (d) all partners of the joint venture shall be jointly and severally liable for the execution of the contract in accordance with the Contract terms, and a relevant statement to this effect shall be included in the authorization mentioned under (b) above, as well as in the Bid Form and the Form of Agreement (in case of a successful bid); and
 - (e) a copy of the agreement entered into by the joint venture partners, which shall clearly show the scope of work and responsibilities of each joint venture partner, shall be submitted with the bid.

- 6. One Bid per Bidder** 6.1 Each bidder shall submit only one bid either by himself, or as a partner in a joint venture. A bidder who submits or participates in more than one bid (other than alternatives pursuant to Sub-Clause 18.1) will be disqualified. Bidders having joint venture partners which participate in more than one bid will also be disqualified.
- 7. Cost of Bidding** 7.1. The bidder shall bear all costs associated with the preparation and submission of its bid, and the Employer will in no case be responsible or liable for those costs.
- 8. Site Visit** 8.1. 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.
- 8.2. 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, cost, and expenses incurred as a result of the inspection.
- 8.3 The Employer may conduct a Site visit concurrently with the Pre-Bid meeting referred to in Clause 19.

B. BIDDING DOCUMENTS

- 9. Contents of Bidding Documents**
- 9.1 The bidding documents are those stated below, and should be read in conjunction with any Addenda issued in accordance with Clause 11 :
- Invitation for Bids
 - Section 1. Instruction to Bidders
 - Section 2. Part I – General Conditions
 - Section 3. Part II – Conditions of Particular Application
 - Section 4. Specifications (included in Volume 2)
 - Section 5. Form of Bid, Appendix to Bid, Form of Bid Security and List of Eligible Source Countries of JBIC ODA Loans
 - Section 6. Bill of Quantities
 - Section 7. Sample Forms of Agreement
 - Section 8. Sample Forms of Security
 - Section 9. Schedules of Supplementary Information
 - Section 10. Drawings (included in Volume 3)
 - Section 11. Dispute Adjudication Procedure
- 9.2 The bidder is expected to examine carefully the contents of the bidding documents. Failure to comply with the requirements of bid submission will be at the bidder's own risk. Pursuant to Clause 28, bids which are not substantially responsive to the requirements of the bidding documents will be rejected.
- 10. Clarification of Bidding Documents**
- 10.1 A prospective bidder requiring any clarification of the bidding documents may notify the Employer in writing or by fax (hereinafter, the term "fax" is deemed to include electronic transmission such as facsimile, cable and telex) at the Employer's address indicated in the Invitation for Bids. The Employer will respond to any request for clarification which he receives earlier than **28 days** prior to the deadline for submission of bids. Copies of the Employer's response will be forwarded to all purchasers of the bidding document, including a description of the inquiry.
- 11. Amendment of Bidding Documents**
- 11.1. At any time prior to the deadline for submission of bids, the Employer may, for any reason, whether at its own initiative or in response to a clarification request by a prospective bidder, modify the bidding documents by issuing addenda.
- 11.2. Any addendum thus issued shall be part of the bidding documents pursuant to Sub-Clause 9.1, and shall be communicated in writing or by fax to all purchasers of the bidding documents. Prospective bidders shall promptly acknowledge receipt of each Addendum by fax to the Employer.
- 11.3. To afford prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer shall extend as necessary the deadline for submission of bids, in accordance with Clause 22.

C. PREPARATION OF BIDS

12. Language of Bid 12.1 The bid, and all correspondence and documents, related to the bid, exchanged between the bidder and the Employer shall be written in the English language.

13. Documents Comprising the Bid 13.1. The bid submitted by the bidder shall comprise two (2) components, a technical bid and financial bid, presented separate envelopes and containing the documents as follows:

(1) Envelope No.1: Technical Bid

- (a) Bid Security
- (b) Power of Attorney pursuant to the requirements of clause 5.
- (c) Update of Financial Capacity
- (d) Joint Venture Agreement
- (e) Qualification and Eligibility Documents:
 - Schedule 1: General Information
 - Schedule 2 Joint Venture Summary
 - Schedule 3: Financial Capacity
 - Schedule 4: Current Contract Commitments / Works in Progress
 - Schedule 5: Construction Schedule
 - Schedule 6: Method Statement
 - Schedule 7: Key Personnel and Organization Chart
 - Schedule 8: CVs of Key Personnel
 - Schedule 9 Proposed Equipment
 - Schedule 10: Subcontractors
 - Schedule 11: Estimated Labour
 - Schedule 15: Particulars of Plant
 - Schedule 16: Check List of Bid Documents for Envelope 1
- (f) Any other materials required to be completed and submitted by bidders, other than information relating to pricing of the bid, in accordance with these Instructions to Bidders.

The inclusion of any information relating to pricing of the bid in Envelope No. 1 shall result in disqualification of the bid.

(2) Envelope No. 2: Financial Bid

- (a) Form of Bid and Appendix to Bid
- (b) Priced Bill of Quantities
- (c) Other Data
 - Schedule 12: Estimated Cash Flow
 - Schedule 13: Unit Rate Analysis
 - Schedule 14: Breakdown of Lump Sums
 - Schedule 17: Check List of Bid Document for Envelope 2

The documents listed under Sections 5, 6, and 9 of Sub-Clause 9.1 shall be filled in without exception, subject to extensions thereof, in format and to the provisions of Sub-Clause 17.2 regarding the alternative forms of bid security.

- 14. Bid Prices**
- 14.1. Unless stated otherwise in the bidding documents, the contract shall be for the whole Works as described in Sub-Clause 1.1, based on the schedule of unit rates and prices submitted by the bidder.
- 14.2. The bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items against which no rate or price is entered by the bidder will not be paid for by the Employer when executed and shall be deemed covered by other rates and prices in the Bill of Quantities.
- 14.3. All duties, taxes, and other levies, other than import duties from which the Contractor shall be exempted, 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. The bidder shall be familiar with the Tax laws of the Vietnam.
- 14.4. The rates and prices quoted by the bidder are subject to adjustment during the performance of the Contract in accordance with the provisions of Clause 70 of the Conditions of Contract. The bidder shall furnish the indices and weightings for the price adjustment formulae in the Appendix to Bid, and shall submit with its bid such other supporting information as required under Clause 70 of the Conditions of Contract.
- 14.5. The rates and prices quoted by the bidder shall include allowance for care, protection and repair of existing services pursuant to his liability for all damages and interference to the public and private facilities in accordance with Sub-Clause 79.1 of the Conditions of Contract.
- 14.6. The bidder shall complete a Unit Rate Analysis in the format shown in Schedule 13 of Section 9, for every unit rate item for which the combined equivalent total cost exceeds three-tenths (0.30) of one percent of the net bid sum. The analysis shall exclude Vietnamese VAT but shall include all other costs and charges including the costs of materials, labour and Equipment needed for the execution of respective payment items.
- 14.7. The bidder shall complete a Breakdown of Lump Sum Prices in the format shown in Schedule 14 of Section 9, for every lump sum payment item. The analysis shall exclude Vietnamese VAT but shall include all other costs and charges including the costs of materials, labour and Equipment needed for the execution of respective payment items.
- 15. Currencies of Bid and Payment**
- 15.1. The unit rates and prices shall be quoted by the bidder separately in
- (a) Japanese Yen for those inputs to the Works which the bidder expects to supply from outside Vietnam (referred to as “the foreign currency requirements”); and
 - (b) Vietnamese Dong for those inputs to the Works which the bidder expects to supply from inside Vietnam.
- 15.2. Payment of the contract price shall be made in the currency or currencies in which the bid price is expressed in the bid of the successful bidder.

15.3. The rates of exchange to be used by the bidder for currency conversion during bid preparation shall be the selling rates for similar transactions prevailing on the date **28 days** prior to the date of bid opening, as published by **the State Bank of Vietnam**.

15.4. The foreign currency requirements generally include the following:

- (a) expatriate staff and labour employed directly on the Works;
- (b) social, insurance, medical and other charges relating to such expatriate staff and labour, and foreign travel expenses;
- (c) imported Plant and materials, both temporary and permanent, including fuels, oil and lubricants required for the Works;
- (d) depreciation of imported Plant and Contractor's Equipment, including spare parts, required for the Works;
- (e) foreign insurance and freight charges for imported materials, Plant and Contractors Equipment, including spare parts; and
- (f) overhead expenses, fees, profit, and financing charges arising outside **Vietnam** in connection with the works.

15.5. Bidders may be required by the Employer to clarify their local and foreign currency requirements, and to substantiate that the amounts included in the unit rates and prices and shown in the Appendix to Bid are reasonable and responsive to Sub-Clause 15.1, in which case a detailed breakdown of its foreign currency requirements shall be provided by the bidder.

15.6 Bidders should note that during the progress of the Works, the foreign currency portions of the outstanding balance of the Contract Price may be adjusted by agreement between the Employer and the Contractor in order to reflect any changes in foreign currency requirements for the Contract, in accordance with Sub-Clause 72.2 of the Conditions Contract. Any such adjustment shall be effected by comparing the amounts quoted in the bid with the amounts already used in the Works and the Contractor's future needs for imported items.

16. Bid Validity 16.1. Bids shall remain valid for a period of **120 days** after the date of bid opening specified in Clause 25.

16.2. In exceptional circumstances, prior to the expiry of the original bid validity period, the Employer may request that the bidders extend the period of validity for a specified additional period. The request and the responses thereto shall be made in writing or by fax. A bidder may refuse the request without forfeiting its bid security. A bidder agreeing to the request will not be required or permitted to modify its bid, but will be required to extend the validity of its bid security for the period of the extension, and in compliance with Clause 17 in all respects.

17. Bid Security 17.1. The bidder shall furnish, as part of its bid, a bid security in the amount of **Vietnamese Dong** _____, or an equivalent amount in a freely convertible currency.

- 17.2. The Bid Security shall, at the bidder's option, be in the form of certified cheque, bank draft, standby letter of credit or guarantee from a reputable bank. The format of the bank guarantee shall be accordance with the sample form of bid security included in Section 5; other formats may be permitted, subject to the prior approval of the Employer. Letters of credit and bank guarantees shall remain valid for a period of 28 days beyond the validity of the bid.
- 17.3. Any bid not accompanied by an acceptable bid security shall be rejected by the Employer as non-responsive.
- 17.4. The Bid securities of unsuccessful bidders will be returned as promptly as possible, but not later than 28 days after the expiration of the period of bid validity.
- 17.5. The bid security of the successful bidder will be returned when the bidder has signed the Agreement and furnished the required performance security.
- 17.6. The bid security may be forfeited
 - (a) if the bidder withdraws its bid during the period of bid validity; or
 - (b) if the bidder does not accept the correction of its bid price, pursuant to Sub-Clause 29.2; or
 - (c) in the case of a successful bidder, if he fails within the specified time limit to
 - (i) sign the Agreement, or
 - (ii) furnish the required performance security

18. Alternative Proposals by Bidders

- 18.1. Bidders shall submit offers which comply with the documents including the basic technical design as indicated in the Drawings and Specifications. Alternatives will not be considered. The attention of bidders is drawn to the provisions of Clause 28 regarding the rejection of bids which are not substantially responsive to the requirements of the bidding documents.

19. Pre-Bid Meeting

- 19.1. The bidder or its official representative is invited to attend a pre-bid meeting, which will take place at

Project Management Unit
 6th Floor, 216 Nguyen Dinh Chieu
 District 3, Ho Chi Minh City
 Vietnam

on _____(time and date)

- 19.2. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 19.3. The bidder is requested to submit any questions in writing or by fax, to reach the Employer not later than one week before the meeting.
- 19.4. Minutes of Meeting, including the text of the questions raised and the responses given, will be transmitted without delay to all purchasers of the bidding documents. Any modification of the bidding documents listed in Sub-Clause 9.1 which 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 Clause 11 and not through the minutes of the pre-bid meeting.

19.5. Bidders are advised to attend the pre-bid meeting. However, non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder. Bidders who do not attend the pre-bid meeting assume the responsibility to comply with modifications to the bidding documents mentioned in sub-Clause 19.4 above and which are communicated through an Addendum pursuant to Clause 11.

**20. Format and
Signing of
Bid**

20.1. The bidder shall prepare one (1) original and four (4) copies of the Bid documents comprising the bid as described in Clause 13 of these Instructions to Bidders and clearly marked as follows:

ORIGINAL, Envelope No.1, Technical Bid;

ORIGINAL, Envelope No2, Financial Bid;

COPY 1, Envelope No1, Technical Bid;

COPY 1, Envelope No. 2, Financial Bid;

and so forth for copies 2 to 4.

In the event of discrepancy between them, the original shall prevail.

20.2. The original and all copies of the bid shall be typed or written in indelible ink (in the case of copies, photostats are also acceptable) and shall be signed by a person or persons duly authorized to sign on behalf of the bidder, pursuant to Sub-Clauses 5.1 (a) or 5.2 (b), as the case may be. All pages of the bid where entries or amendments have been made shall be initialed by the person or persons signing the bid.

20.3. The bid shall contain no alterations, omissions, or additions, except those to comply with instructions issued by the Employer, or as necessary to correct errors made by the bidder, in which case such corrections shall be initialed by the person or persons signing the bid.

D. SUBMISSION OF BIDS

- 21. Sealing and Marking of Bids**
- 21.1 The bidder shall seal the original and each copy of each envelope of the bid in an inner and an outer envelope, duly marking the envelopes as describe, in clause 20.1
- 21.2. The inner and outer envelopes shall
- (a) be addressed to the Employer at the following address:
Project Management Unit
6th Floor, 216 Nguyen Dinh Chieu,
District 3, Ho Chi Minh City,
Vietnam
 - (b) bear the following identification in addition to the marking described in clause 20.1:
 - Bid for
Ho Chi Minh City Water Environment Improvement Project
[Package E: Construction of Wastewater Treatment Plant.](#)
 - Bid Reference Number: _____
 - DO NOT OPEN BEFORE(time and date)
- 21.3. In addition to the identification required in Sub-Clause 21.2, the inner envelopes shall indicate the name and address of the bidder to enable the bid to be returned unopened in case it is declared “late” pursuant to Clause 23.
- 21.4. If the outer envelope is not sealed and marked as above, 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 specified above no later than(*time and date*)
- 22.2. The Employer may, at its discretion, extend the deadline for submission of bids by issuing an addendum in accordance with Clause 11, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will thereafter be subject to the deadline as extended.
- 23. Late Bids**
- 23.1 Any bid received by the Employer after the deadline for submission of bids prescribed in Clause 22 will be returned unopened to the bidder.
- 24. Modification Substitution, and Withdrawal of Bids**
- 24.1 The bidder may modify or withdraw its bid after bid submission, provided that written notice of the modification or withdrawal is received by the Employer prior to the deadline for submission of bids.
- 24.2. The bidder’s modification or withdrawal notice shall be prepared, sealed, marked, and delivered in accordance with the provisions of Clause 21, with the outer and inner envelopes additionally marked “MODIFICATION” or “WITHDRAWAL,” as appropriate. A withdrawal notice may also be sent by fax but must be followed by a signed confirmation copy.

24.3. No bid may be modified by the bidder after the deadline for submission of bids.

24.4 Withdrawal of a bid during the interval between the deadline for submission of bids and expiration of the period of bid validity specified in the Form of Bid may result in the forfeiture of the bid security pursuant to Clause 17.

E. BID OPENING AND EVALUATION

25. Bid Opening

25.1. The Employer, supported by the Engineer, will open the technical bids, including modifications made pursuant to Clause 24, in the presence of bidders' representatives who choose to attend, at(time and date)

Project Management Unit
6th Floor, 216 Nguyen Dinh Chieu,
District 3, Ho Chi Minh City,
Vietnam

The bidders' representatives who are present shall sign a register evidencing their attendance.

25.2 The financial bids of those bidders whose bids were found to be technically acceptable will be opened in the same manner and with the same conditions as stated in clause 25.1.

An announcement of technically acceptable bids will be made by the Employer, in writing, withindays of the opening of the technical bids and will advise the date of the opening of the financial bids which shall be not earlier than 7 days from the date of such announcement.

25.3 Envelopes marked "WITHDRAWAL" shall be opened first and the name of the bidder shall be read out. Bids for which an acceptable notice of withdrawal has been submitted pursuant to Clause 24 shall not be opened.

25.4 The following will be announced and recorded at each of the respective bid openings.

For Technical Bids:

- the bidders' names
- withdrawals
- the presence or absence of bid security
- the results of checking for completeness of necessary documents in each bid
- any other details the Employer and/or the Engineer may consider appropriate

For Financial Bids:

- the names of bidders whose bids were found to be technically acceptable
- the names of bidders representatives in attendance
- withdrawals, subject to clause 17.6
- the bid prices
- the total amount of each bid
- bid modifications (only where invited)

The bidders' representatives will be required to sign the record.

25.5 The Employer, assisted by the Engineer, shall prepare, besides the record of bid openings, minutes of the bid openings, including the information disclosed to those present in accordance with Sub-Clause 25.4.

- 26. Process to be Confidential** 26.1. Information relating to the examination, clarification, evaluation and comparison of bids, and recommendations for the award of a contract shall not be disclosed to bidders or any other persons not officially concerned with such process until the award to the successful bidder has been announced. Any effort by a bidder to influence the Employer's processing of bids or award decisions may result in the rejection of the bidder's bid.
- 27. Clarification of Bids** 27.1. To assist in the examination, evaluation, and comparison of bids, the Employer may, at its discretion, ask any bidder for clarification of its bid, including breakdowns of unit rates. The request for clarification and the response shall be in writing or by fax, but no change in the price or substance of the bid shall be sought, offered, or permitted except as require to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the bids in accordance with Clause 29.
- 28. Examination of Bids and Determination of Responsiveness** 28.1. Prior to the detailed evaluation of the technical and financial proposals of the bids, the Employer will determine whether each bid (i) meets the eligibility criteria of JBIC ODA Loans; (ii) has been properly signed; (iii) is accompanied by the required securities; (iv) is substantially responsive to the requirements of the bidding documents; and (v) provides any clarification and/or substantiation that the Employer may require pursuant to Clause 27.
- 28.2 A substantially responsive bid is one which conforms to all the terms, conditions, and specifications of the bidding documents, without material deviation or reservation. A material deviation or reservation is one (i) which affects in any substantial way the scope, quality, or performance of the Works; (ii) which limits in any substantial way, inconsistent with the bidding documents, the Employer's rights or the bidder's obligations under the Contract; or (iii) whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids.
- 28.3. If a bid is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.
- 29. Correction of Errors** 29.1 Bids determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Arithmetic errors will be corrected by the Employer on the following basis. If there is a discrepancy between the unit rate and the total cost per item that is obtained by multiplying the unit rate and the quantity, the unit rate shall prevail and the total cost per item will be corrected unless in the opinion of the Employer there is an obvious misplacement of the decimal point in the unit rate, in which case the total cost per item as quoted will govern and the unit rate corrected. If there is a discrepancy between the total bid amount and the sum of the total cost per item, the sum of the total cost per item shall prevail and the total bid amount will be corrected.
- 29.2. The amount stated in the Form of Bid will be adjusted by the Employer in accordance with the above procedure for the correction of errors and, shall be considered as binding upon the bidder. If the bidder does not accept the corrected amount of bid, its bid will be rejected, and the bid security may be forfeited in accordance with Sub-Clause 17.6 (b).

- 30. Conversion to Single Currency for Comparison of Bids** 30.1. The Employer will convert the amounts in various currencies in which the Bid Price is payable (excluding Provisional Sums) to **Vietnam Dong** at the selling exchange rates officially prescribed for similar transactions as established by **The State Bank of Vietnam 28 days** prior to the date of bid opening.
- 31. Evaluation and Comparison of Bids** 31.1. The Employer will evaluate the financial bids and compare only the bids for which the technical bids have been determined to be substantially responsive in accordance with Clause 28 and qualified for award of Contract in accordance with Clause 5.
- 31.2 In evaluating the financial bids, the Employer will determine for each bid the Evaluated Bid Price by adjusting the Bid Price as follows:
- (a) making any correction for errors pursuant to Clause 29.
 - (b) excluding Provisional Sums and the provision, if any, for Contingencies in the Summary Bill of Quantities;
 - (c) making an appropriate adjustment for any other acceptable variations or deviations submitted in accordance with Clause 18;
 - (d) applying any discounts offered by the bidder for the award;
 - (e) converting the amount resulting from applying (a) to (d) above to a single currency in accordance with Clause 30.
- 31.3. The Employer reserves the right to accept or reject any variation or deviation. Variation, deviations, and other factors that are in excess of the requirements of the bidding documents or otherwise result in the accrual of unsolicited benefits to the Employer shall not be taken into account in bid evaluation.
- 31.4. The evaluation of bids shall take into account the price and other commercial features of the offer. In addition, it may also take into account other criteria such as those in the sample listed below:
- Construction Time Schedule
 - Construction Method
 - Quality Control System
 - Labour and Materials
 - Safety Measures
- 31.5 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.
- 31.6. If the bid of the successful bidder is seriously unbalanced in relation to the Engineer's estimate of the cost of work to be performed under the Contract, 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, the Employer may require that the amount of the performance security set forth in Clause 36 be increased at the expense of the successful bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful bidder under the Contract.

F. AWARD OF CONTRACT

- 32. Award**
- 32.1. The award of the Contract shall be in every respect subject to the compliance with the JBIC Guidelines for Procurement under JBIC ODA Loans and the JBIC ODA Loan Handbook dated January, 2000. The decision to award shall rest solely with the Employer which shall be based solely on the evaluation report prepared by the Engineer. The Employer's decision shall be conclusive and final but shall be subject to the approval of JBIC.
- 32.2 Subject to Clause 33 and the approval of JBIC, the Employer will award the Contract to the bidder whose technical proposal has been determined to be substantially responsive to the bidding documents and who has offered the lowest Evaluated Bid Price. Such award shall be made provided that such bidder has been determined to be (i) eligible in accordance with the provisions of Sub-Clauses 3.1 and 4.1; and (ii) qualified in accordance with the provisions of Clause 5. When there was a pre-qualification, the latter examination shall be limited to confirming that the bidders' conditions for pre-qualification remain substantially unchanged, but this examination a prerequisite for award.
- 33. Employer's Right to Accept any Bid and to Reject any or all Bids**
- 33.1. Notwithstanding Clause 32, 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 award of Contract, without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders of the grounds for the Employer's action.
- 34. Notification of Award**
- 34.1. Prior to expiration of the period of bid validity prescribed by the Employer, the Employer will notify the successful bidder by cable confirmed by registered letter that its bid has been accepted. This letter (hereinafter and in the Conditions of Contract called the "Letter of Acceptance") shall specify the sum which the Employer will pay the Contractor in consideration of the execution and completion of the Works and rectification of defects therein by the Contractor as prescribed by the Contract (hereinafter and in the Conditions of Contract called "the Contract Price").
- 34.2 The notification of award will constitute the formation of the Contract.
- 35. Signing of Agreement**
- 35.1. Within 28 days from the date that the Employer notifies the successful bidder that its bid has been accepted, the Employer will send the bidder the Form of Agreement provided in the bidding documents, incorporating all agreements between the parities.
- 35.2. Within 28 days of receipt of the Form of Agreement, the successful bidder shall sign the Form.
- 35.3 Immediately after the signing of the Contract the Employer will apply for the concurrence of JBIC. The Contract shall not be effective until such concurrence has been received. The date of JBIC's concurrence shall be the effective date of the Contract.

- 36. Performance Security**
- 36.1 Within 28 days of receipt of the **Letter of Acceptance** from the Employer, the successful bidder shall furnish to the Employer a performance security in an amount of **ten (10)** percent of the Contract Price in accordance with the Conditions of Contract. The form of performance security provided in Section 8 of the bidding documents may be used or some other form acceptable to the Employer.
- 36.2. Failure of the successful bidder to comply with the requirements of Clauses 35 or 36 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security.

SECTION 2. GENERAL CONDITIONS OF CONTRACT

CONDITIONS OF CONTRACT

PART I : GENERAL CONDITIONS

The Conditions of Contract, Part I : General Conditions, shall be those forming Part I of the "Conditions of Contract for Works of Civil Engineering Construction", fourth edition 1987, reprinted in 1992 with further amendments, prepared by the *Federation Internationale des Ingenieurs-Conseils (FIDIC)*. These Conditions are subject to the variations and additions set out in Part II hereof entitled "Conditions of Particular Application".

SECTION 3. CONDITIONS OF PARTICULAR APPLICATION

CONDITIONS OF CONTRACT

PART II : CONDITIONS OF PARTICULAR APPLICATION

- Sub-Clauses 1.1** (a) (i) The Employer is The Project Management Unit, People's Committee of Ho Chi Minh City, Socialist Republic of Vietnam
- Definitions (a) (iv) The Engineer is(*insert name of consultant*) and includes the Engineer's personnel representatives or is legal successors.
- Sub-para. (a) (iv) is also amended by adding the following words after the word "Conditions":
- "or any other competent person appointed by the Employer, and notified to the Contractor, to act in replacement of the Engineer".
- Sub-para. (b) (v) of Sub-Clause 1.1 is amended by the adding the following words at the end:
- "The word 'Tender' is synonymous with 'Bid', and the words 'Tender Documents' with 'Bidding Documents'.
- In Sub-para. (e) (iv), substitute "Sub-Clause 60.13" for "Sub-Clause 60.8"
- Sub-Clauses 2.1** The Engineer shall obtain the specific approval of the Employer before taking any of the following actions specified in Part I:
- Engineer's Duties and Authority (a) approving subletting of any part of the Works under Clause 4;
- (b) certifying additional cost determined under Clause 12;
- (c) determining an extension of time under Clause 44;
- (d) issuing a variation under Clause 51, except:
- (i) in an emergency situation, as reasonably determined by the Engineer; or
- (ii) if such variation would increase the Contract Price by less than [the amount stated in the Appendix to Bid](#); or
- (e) fixing rates or prices under Clause 52.
- Sub-Clause 5.1** The language is the English Language.
- Language and Law The law is that in force in the Socialist Republic of Vietnam
- Sub-Clause 5.2** Delete the documents listed 1-6 and substitute:
- Priority of Contract Documents (1) the Contract Agreement (if completed);
- (2) the Letter of Acceptance;
- (3) the Bid and the Appendix to Bid;
- (4) the Conditions of Contract, Part II;
- (5) the Conditions of Contract, Part I;
- (6) the Specifications;
- (7) the Drawings;
- (8) the priced Bill of Quantities.

- Sub-Clause 8.1** Delete the second paragraph and substitute:
- Contractor's
General
Responsibilities
- “The Contractor shall promptly notify the Employer and the Engineer of any error, omission, fault or other defect in the design of or Specification for the Works which he discovers when reviewing the Contract or executing the Works.”
- Supplement Sub-clause 8.1 with the following provisions:
- Insofar as may be consistent with his obligations under the Contract and available supply, the Contractor shall make maximum feasible use of local labour, local materials and local services.
- Within fifty six (56) days after the receipt of the Engineer's notice to commence the Works pursuant to Sub-Clause 41.1, the Contractor shall establish at the Site an office duly equipped for the Contractor's Representative and his supervisory personnel. The Contractor shall maintain this office throughout the Contract period. The said office shall be the legal domicile of the Contractor. All correspondence sent to this office shall be deemed to have been sent to the Contractor's head office.
- Sub-Clause 9.1** Substitute the text of Sub-clause 9.1 with the following:
- Contract
Agreement
- Within twenty eight (28) days of receipt of the Letter of Acceptance from the Employer together with confirmation of all agreements made between the two parties, the Contractor shall furnish the Performance Security and enter into and execute the Contract Agreement. For this purpose, the Contractor shall prepare and submit, at his own cost, to the Employer two (2) originals of the Contract Agreement using the Form of Agreement included in these Bidding Documents.
- Within fourteen (14) days of signing of the Contract Agreement, the Contractor shall also furnish, at his own cost, ten (10) bound copies of the Contract Documents as listed in the Agreement in the form and manner approved by the Employer.
- Sub-Clause 10.1** Replace the text of Sub-Clause 10.1 with the following:
- Performance
Security
- “The Contractor shall provide security for his proper performance of the Contract to the Employer within 28 days after the receipt of the Letter of Acceptance. The performance security shall be in the form of a bank guarantee, issued either (a) by a bank located in the country of the Employer or a foreign bank through a correspondent bank located in the country of the Employer, or (b) directly by a foreign bank acceptable to the Employer, as stipulated by the Employer in the Appendix to Bid. The performance security shall be denominated in the types and proportions of currencies in which the Contract Price is payable. When providing such security to the Employer, the Contractor shall notify the Engineer of so doing.
- Without limitation to the provisions of the preceding paragraph, whenever the Engineer determines an addition 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, at the Engineer's written request, shall promptly increase the value of the performance security in that currency by an equal percentage. The performance security of joint venture shall be in the name of the joint venture.

Sub-Clause 11.2 Add new Sub-Clause 11.2:
Access to Data “Data made available by the Employer in accordance with Sub-Clause 11.1 shall be deemed to include data listed elsewhere in the Contract as open for inspection at:
Project Management Unit
6th Floor, 216 Nguyen Dinh Chieu,
District 3, Ho Chi Minh City,
Vietnam”

Sub-Clause 14.1 Substitute the text of Sub-clause 14.1 with the following:
Program to Be Submitted Within twenty eight (28) calendar days after receiving the notice to commence pursuant to Sub-Clause 41.1, the Contractor shall submit to the Engineer for his consent a detailed construction programme based on the key dates stated in the Bidding Documents. The programme shall be in the form of a Critical Path Method Network (CPM Network) showing the order of procedure and a description of the construction methods and arrangements which he proposes to adopt for the execution of the Works and construction of his temporary facilities including survey, preparation of drawings, design, manufacture, delivery to the Site, transport, storage, survey, test, erection and maintenance and preparation of as built drawings and operation and maintenance manuals as applicable.

The above programme shall also be submitted in the form of a Time Bar-chart.

The CPM Network shall be prepared in accordance with commonly accepted practices and shall show graphically the chain of activities/sub-activities and their sequential relationship with each other from the start of construction to the completion of the Contract. It shall show clearly all activities and their durations along with earliest and latest event times, the first and last dates of submission of the Contractor's drawings, each date of shop inspection by the Engineer for the Section or Portion of the Works; and shall meet the provisions of the Contract in all respects.

The Time Bar-chart Schedule shown in months shall list all main activities and applicable sub-activities.

In preparing the CPM Network and the Time Bar-chart Schedule, the Contractor shall make due allowances for reasonably foreseeable delays, which may be caused by floods, inclement weather, all types of holiday periods, local working conditions, problems relating to maintenance of equipment, problems relating to obtaining of materials/supplies, and similar items. Under no circumstances shall the CPM Network or the Time Bar-chart Schedule show a completion date beyond the "Time for Completion" stated in the Appendix to Bid.

The CPM network shall be prepared using an up-to-date, proprietary computer software package, a copy of which shall be provided to the Engineer.

Upon approval by the Engineer of the Contractor's construction programme, it shall be referred to as the Contractual Construction Programme, and become an integral part of the Contract. The Contractual Construction Programme shall supersede all other programmes and shall be deemed to be the programme on which the

Contractor has based his Contract Price and in accordance with which he will execute the Works. The approval by the Engineer of such programme, however, shall not relieve the Contractor of any of his duties or responsibilities under the Contract

Sub-clause 14.2 Substitute the text of Sub-clause 14.2 with the following:

- Revised
Programme

If at any time it should appear to the Engineer that the actual progress of the Works does not conform to or could be foreseen to be delayed from the Contractual Construction Programme to which consent has been given under Sub-clause 14. 1, the Contractor shall submit, at the request of the Engineer or immediately after identification of such possibility, a revised programme showing the modifications to such programme to ensure completion of the Works within the Time for Completion.

The revised programme shall be prepared in the form of a CPM Network and a Time Bar-chart Schedule, and shall be submitted within ten (10) days of the request, together with a report outlining the necessary corrective actions to be taken to ensure completion of the Works within the Time of Completion.

The Employer shall have the right to withhold the payment at any time if the Contractor fails to submit the Contractual Construction Programme or revised construction programmes due to his failure, negligence or omission.

Sub-Clause 14.3 “The time within which the detailed cash flow estimate shall be submitted shall be 28 days from the date of the Letter of Acceptance

Cash Flow
Estimate to Be
Submitted

Sub-Clause 15.2 Add the following Sub-Clause 15.2:

Language
Ability of
Contractor’s
Representative

“If the Contractor’s authorized representative is not, in the opinion of the Engineer, fluent in the English Language, the Contractor shall have available on site at all times a competent interpreter to ensure the proper transmission of instructions and information.”

Sub-clause 16.1 Supplement Sub-Clause 16.1 with the following:

Contractor's
Employees

The Contractor is encouraged, to the extent practicable and reasonable, to employ qualified professional staff from Vietnam. Local tradesmen and labourers shall be employed to the greatest extent possible. Employment of professional skilled expatriate staff will be permitted subject to satisfactory justification and approval of the Engineer.

Sub-Clause 16.3 Add the following Sub-Clause 16.3:

Language
Ability of
Superintending
Staff

“A reasonable proportion of the Contractor’s superintending staff shall have a working knowledge of the language specified in the Appendix to Bid, or the Contractor shall have available on site at all times a sufficient number of competent interpreters to ensure the proper transmission of instructions and information.”

- Sub-Clause 19.1** Add the following Sub-Clause 19.1(d):
- Safety,
Security and
Protection of
the
Environment
- “comply with all provisions in the loan agreement between JBIC and the Employer with respect to the protection of the environment”.
- Supplement Sub-Clause 19.1 with the following:
- The formulation and enforcement of an adequate safety programme shall be an obligation of the Contractor with respect to all the Works under this Contract, regardless of whether performed by the Contractor or his Subcontractors. Within twenty eight (28) calendar days after commencement of the Works, the Contractor shall submit to the Engineer a written safety programme as may be necessary to provide against accidents, unsafe acts, and so forth, covering the overall Works, and which shall be based on the laws and regulations of Vietnam.
- Sub-clause 19.3** Add the following new Sub-Clause 19.3:
- Pollution
Control
- The Contractor shall at all times use his best endeavours to prevent the dumping of debris, oil, oily mixtures, or other substances which might cause pollution of the atmosphere, land, river, canal or other places. Waste water from concrete production shall be clarified in settlement basins or by other means that will prevent discharge of cement into rivers or streams.
- The Contractor shall submit for the consent of the Engineer his proposals for handling and disposal of such materials. These proposals shall meet relevant Vietnamese regulations.
- Sub-Clause 20.4** Amend Sub-Clause 20.4 to read as follows:
- Employer’s
Risks
- The Employer’s risk are
- (a) insofar as they directly affect the execution of the Works in the country where the Permanent Works are to be executed:
- (i) war and hostilities (whether war be declared or not), invasion, act of foreign enemies;
 - (ii) rebellion, revolution, insurrection, or military or usurped power, or civil war;
 - (iii) ionizing radiation, or contamination by radioactivity from any nuclear fuel, or from any nuclear waste from the combustion of nuclear fuel, radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof;
 - (iv) pressure waves caused by aircraft or other aerial devices traveling at sonic or supersonic speeds;
 - (v) riot, commotion or disorder, unless solely restricted to the employees of the Contractor or of his Subcontractors and arising from the conduct of the Works;
- (b) loss or damage due to the use or occupation by the Employer of any Section or part of the Permanent Works, except as may be provided for in the Contract;
- (c) loss or damage to the extent that it is due to the design of the Works, other than any part of the design provided by the Contractor or for which the Contractor is responsible; and

- (d) any operation of the forces of nature (insofar as it occurs on the Site) which an experienced contractor:
 - (i) could not have reasonably foreseen, or
 - (ii) could reasonably have foreseen, but against which he could not reasonably have taken appropriate measures to prevent loss or damage to physical property occurring.

Sub-Clause 21.1 Add the following words at the end of sub-paras. (a) and (b) of Sub-Clause 21.1
 Insurance of Works and Contractor's Equipment
 "it being understood that such insurance shall provide for compensation to be payable in currencies required to rectify the loss or damage incurred,"

Sub-Clause 21.2 Sub-para. (a) of Sub-Clause 21.2 is amended by deletion of the words "...from the start of work at the Site..." and by the substitution thereof of the words "from the first working day after the Commencement Date...."

Sub-Clause 21.4 Sub-Clause 21.4 is amended to read as follows:
 Exclusions
 "There shall be no obligation for the insurances in Sub-Clause 21.1 to include loss or damage caused by the risk listed under Sub-Clause 20.4 paras. (a) (i) to (iv)."

Sub-Clause 25.1 Sub-Clause 25.1 is amended by inserting the words "...as soon as practicable after the respective insurances have been taken out but in any case..." before the words "...prior to the start of work at the Site...."

CLAUSE 34 Add the following Sub-Clauses 34.2 to 34.20:

Sub-Clause 34.2 The Contractor shall pay rates of wages and observe conditions of labour not less favourable than those established for the trade or industry in Ho Chi Minh City, Vietnam.
 Rates of Wages and Conditions of Labour
 Where the absence of established rates of wages or conditions of labour or the dissimilarity of the general circumstances in the trade or industry in which the Contractor is engaged, prevents the Contractor from observing rates of wages, hours and condition of labour ascertained under this Sub-Clause, then the Contractor, in fixing the wages, hours and conditions of labour of his employees, shall be guided by the advice of the Ministry of Labour, Invalids and Social Affairs.

Sub-Clause 34.3 The Contractor shall not recruit or attempt to recruit his staff and labour from amongst persons in the service of the Employer or the Engineer.
 Employment of Persons in the Service of Others

Sub-Clause 34.4 The Contractor shall be responsible for the return to the place where they were recruited or to their domicile of all such persons as he recruited and employed for the purposes of or in connection with the Contract and shall maintain such persons as are to be so returned in a suitable manner until they shall have left the Site or, in the case of persons who are not nationals of and have been recruited outside Vietnam, shall have left Vietnam.
 Repatriation of Labour

- Sub-Clause 34.5** Records The Contractor shall maintain records in English of the time worked by and the wages paid to his employees adequate to show that he is complying with the requirements of this Clause, and these records shall be made available to the Engineer at his request.
- Sub-Clause 34.6** Display The Contractor shall at all times during the continuance of the Contract, display for the information of his employees in every factory, workshop or place occupied or used by him for the execution on the Contract, a copy of this Clause together with a notice setting out the general rates of wages, hours and conditions of labour of his employees.
- Sub-Clause 34.7** Remedy on Default Should a claim be made to the Employer alleging the Contractor's default in payment of fair wages or wages of workmen employed on the Contract, and if proof thereof satisfactory to the Engineer is furnished to the Engineer, the Employer may, failing payment by the Contractor, pay the claim out of any money due or which may become due to the Contractor under the Contract.
- Sub-Clause 34.8** Recruitment of Labour Any unskilled labour which is required by the Contractor for the Works shall be recruited locally by the Contractor.
- Sub-Clause 34.9** Housing of Labour Save insofar as the Contract otherwise provides, the Contractor shall provide and maintain such accommodation and amenities as he may consider necessary for all his staff and labour, employed for the purposes of or in connection with the Contract, including all fencing, water supply (both for drinking and other purposes), electricity supply, sanitation, cookhouses, fire prevention and fire-fighting equipment, air conditioning, cookers, refrigerators, furniture and other requirements in connection with such accommodation or amenities. On completion of the Contract, unless otherwise agreed with the Employer, the temporary camps/housing provided by the Contractor shall be removed and the site reinstated to its original condition, all to the approval of the Engineer.
- Sub-Clause 34.10** Accident Prevention Officer; Accidents The Contractor shall have on his staff at the Site an officer dealing only with questions regarding the safety and protection against accidents of all staff and labour. This officer shall be qualified for this work and shall have the authority to issue instructions and shall take proactive measures to prevent accidents.
- Sub-Clause 34.11** Health and Safety Due precautions shall be taken by the Contractor, and at his own cost, to ensure the safety of his staff and labour and, in collaboration with and to the requirements of the local health authorities, to ensure that ambulance services are available at the Site, camps and housing at all times and that suitable medical staff, first aid equipment and stores, sick bay and suitable arrangements are made for the prevention of epidemics and for all necessary welfare and hygiene requirements.
- Sub-Clause 34.12** Toilet Facilities The Contractor shall provide and maintain adequate toilet facilities at convenient locations on the Site (including camp accommodation areas) for use by his staff and labour in order to ensure a high standard of cleanliness and hygienic conditions on the Site. These facilities shall be cleaned and maintained daily to the satisfaction of the Engineer. The Contractor shall instruct his staff and labour to use only these facilities. Disposal of sewage shall be as approved by Government health authorities

- Sub-Clause 34.13** Epidemics In the event of any outbreak of illness of an epidemic nature, the Contractor shall comply with and carry out such regulations, orders and requirements as may be made by the Government, or the local medical or sanitary authorities, for the purpose of dealing with and overcoming the same.
- Sub-Clause 34.14** Burial of the Dead The Contractor shall make all necessary arrangements for the transport, to any place as required for burial, of any of his expatriate employees or members of their families who may die in Vietnam. The Contractor shall also be responsible, to the extent required by the local regulations, for making any arrangements with regard to burial of any of his local employees who may die while engaged upon the Works.
- Sub-Clause 34.15** Supply of Foodstuffs The Contractor shall arrange for the provision of a sufficient supply of suitable food at reasonable prices for all his staff, labour and Subcontractors, for the purposes of or in connection with the Contract.
- Sub-Clause 34.16** Supply of Water The Contractor shall, so far as is reasonably practicable, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of his staff and labour.
- Sub-Clause 34.17** Alcoholic Liquor or Drugs The Contractor shall not, otherwise than in accordance with the Statutes, Ordinances and Government Regulations or Orders for the time being in force, import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or suffer any such importation, sale, gift, barter or disposal by his Subcontractors, agents, staff or labour.
- Sub-Clause 34.18** Arms and Ammunition The Contractor shall not give, barter or otherwise dispose of to any person or persons, any arms or ammunition of any kind or permit or suffer the same as aforesaid.
- Sub-Clause 34.19** Festivals and Religious Customs The Contractor shall in all dealings with his staff and labour have due regard to all recognized festivals, days of rest and religious or other customs in Vietnam.
- Sub-Clause 34.20** Disorderly Conduct The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst his staff and labour and for the preservation of peace and protection of persons and property in the neighbourhood of the Works against the same.
- Sub-Clause 35.2** Records of Safety and Health Add the following Sub-clause:
The Contractor shall maintain such records and make such reports concerning safety, health and welfare of persons and damage to property as the Engineer may from time to time prescribe.
- Sub Clause 35.3** Reporting of Accidents Add the following Sub-clause:
The Contractor shall report to the Engineer details of any accident as soon as possible after its occurrence. In the case of any fatality or serious accident, the Contractor shall notify the Engineer immediately by the quickest available means.
The Contractor shall also notify the competent authority whenever such report is required by law.

Sub-Clause 41.1	Delete from the first sentence:
Commencement of Works	“after the date of the Letter of Acceptance”
Sub-Clause 46.1	Supplement Sub-clause 46.1 with the following:
Rate of Progress	Such necessary steps to expedite progress so as to comply with the Time for Completion stipulated above include any one or more or all of the following: <ul style="list-style-type: none"> (i) to increase his working forces, (ii) to increase his Contractor’s Equipment, (iii) to execute additional shifts, (iv) to perform overtime work, and (v) to take whatever other steps which may be necessary to complete the Works in accordance with the approved Contractual Construction Programme stipulated in Sub-Clause 14.1 within the Time for Completion.
Sub-Clause 48.5	Add the following Sub-Clause:
Prevention from Testing	<p>If the Contractor is prevented from carrying out the Tests on Completion by a cause for which the Employer or the Engineer or other contractors employed by the Employer are responsible, the Employer shall be deemed to have taken over the Works on the date when the Tests on Completion would have been completed but for such prevention. The Engineer shall issue a Taking-Over Certificate accordingly. Provided always that the Works shall not be deemed to have been taken over if they are not substantially in accordance with the Contract.</p> <p>If the Works are taken over under this Sub-Clause the Contractor shall nevertheless carry out the Tests on Completion during the defects Liability Period. The Engineer shall require the Tests to be carried out by giving 14 days notice.</p> <p>Any additional costs to which the Contractor may be put, in making the Tests on Completion during the Defects Liability Period, shall be added to the Contract Price.</p>
Sub-Clause 49.5	The provisions of this Clause shall apply to all replacements or renewals of Plant carried out by the Contractor to remedy defects and damage as if the replacements and renewals had been taken over on the date they were completed. The Defects Liability Period for the Works shall be extended by a period equal to the period during which the Works cannot be used by reason of a defect or damage. If only part of the Works is affected the Defects Liability Period shall be extended only for the part. In neither case shall the Defects Liability Period extend beyond 3 years from the date of taking over.
Extension of Defects Liability	<p>When progress in respect of Plant has been suspended under Clause 40, the Contractor’s obligations under this Clause shall not apply to any defects occurring more than 3 years after the Time for Completion established on the date of the Letter of Acceptance.</p>

- Sub-Clause 52.1** Add final sentences as follows:
- Valuations of Variations “Where the Contract provides for the payment of the Contract Price in more than one currency, and varied work is valued at, or on the basis of, the rates and prices set out in the Contract, payment for such varied work shall be made in the amounts of various currencies specified in the Appendix to Bid for payment of the Contract Price. Where the Contract provides for payment of the Contract Price in more than one currency, and new rates or prices are agreed, fixed or determined as stated above, the amount payable in each of the applicable currencies shall be specified when the rates or prices are agreed, fixed or determined, it being understood that in specifying these amounts the Contractor and the Engineer (or, failing agreement, the Engineer) shall take into account the actual or expected currencies of cost of the inputs of the varied work without regard to the amounts of various currencies specified in the Appendix to Bid for payment of the Contract Price.”
- Sub-Clause 52.2** Add a final sentence to the first paragraph, as follows:
- Power of Engineer to Fix Rates “Where the Contract provides for the payment of the Contract Price in more than one currency, the amount payable in each of the applicable currencies shall be specified when the rates or prices are agreed, fixed or determined as stated above, it being understood that in specifying these amounts the Contractor and the Engineer (or failing agreement, the Engineer) shall take into account the actual or expected currencies of cost of the inputs of the varied work without regard to the amounts of various currencies specified in the Appendix to Bid for payment of the Contract Price.”
- Sub-Clause 52.2** Add a third paragraph:
- Power of Engineer to Fix Rates “Provided further that no change in the rate or price for any item contained in the Contract shall be considered unless such item accounts for an amount more than 2 percent of the Contract Price as stated in the Letter of Acceptance and the actual quantity of work executed under the item exceeds or falls short of the quantity set out in the Bill of Quantities by more than 25 percent.”
- Sub-Clause 52.3** Add a final sentence as follows:
- Variations Exceeding 15 percent “Where the Contract provides for the payment of the Contract Price in more than one currency, the amount payable in each of the applicable currencies shall be specified when such further sum is agreed or determined, it being understood that in specifying these amounts the Contractor and the Engineer (or failing agreement, the Engineer) shall take into account the currencies in which the Contractor’s Site and general overhead cost of the Contract were incurred without being bound by the amounts of various currencies specified in the Appendix to Bid for payment of the Contract Price.”
- Sub-Clause 54.3** Supplement Sub-Clause 54.3 with the following:
- Customs Clearance The Contractor and his Subcontractors shall be allowed to import into Vietnam all materials, goods, Plant, Contractor’s Equipment, spare parts and other items (called as "Goods") which are needed to execute the Works in accordance with the provision of Sub-Clause 73.2 hereof. The Contractor shall be responsible for the following import license and subject to pre-shipment inspection for import of Goods, where required.

(1) Import license

The Contractor will be responsible for obtaining the necessary import licenses required under the Vietnamese regulations for the import into Vietnam of all the Goods being supplied from outside of the country, including those goods supplied under the Contract in the name of the Employer, and all the administrative work associated therewith. The Employer will provide reasonable assistance to the Contractor in respect thereof

(2) Pre-shipment Inspection

All imported Goods shall be inspected prior to shipment to verify quality and quantity, if the Employer so requests. In such case all costs shall be borne by the Employer.

If such pre-shipment inspection is required, the names of the Inspection Agencies appointed by the Vietnamese authorities to act under this Contract will be notified to the Contractor on the Import Licenses, which is obtained by the Contractor. The pre-shipment inspection authorizes the Contractor to ship the Goods.

The Contractor should establish contact and liaise with Inspection Agencies immediately upon learning of their names.

The cost of presentation of the Goods to the Inspection Agencies, unpacking, handling etc, shall be paid by the Contractor.

The Contractor shall not import any item which is prohibited by the laws of Vietnam.

If the Employer or Engineer so require, the Contractor shall furnish satisfactory proof of ownership or right to use the construction equipment, Temporary Works, material, etc., placed at the Site.

Sub-clause 56.1

Works to be Measured

Substitute Sub-clause 56.1 with the following:

The Contractor shall prepare and submit to the Engineer all necessary field notes and other records taken and computations made for the purpose of quantity measurement, of which the forms shall be approved by the Engineer, for the monthly progress payment as prescribed in Clause 60. The measurement of work quantities made by the Contractor shall be verified and certified by the Engineer based on the documents mentioned above.

The Contractor shall furnish all personnel, equipment and materials required to make such surveys and computations as necessary to determine the quantities of work performed. Unless otherwise prescribed in the Specifications or the Drawings, all measurement for payment shall be made by the dimensions, lines and grades shown on the Drawings or by direct survey of which methods shall be approved by the Engineer.

The documents submitted for measurement of payment shall become the property of the Employer and shall be used to the extent necessary to determine the monthly progress payment to be made to the Contractor under the Contract. Direct survey if done shall be subject to check and verification by the Engineer and all errors in the said survey work and relating computations as found in such checking shall be immediately corrected by the Contractor.

Clause 60

Certificates
and Payment

Clause 60 of the General Conditions is deleted and the following Sub-Clauses 60.1-60.14 are substituted therefore:

Sub-Clause 60.1

Monthly
Statements

Disbursement procedures of JBIC ODA Loans shall be applied for disbursement of the proceeds of JBIC ODA Loans for eligible payment under this contract. The Contractor shall submit a statement in **three (3)** copies to the Engineer at the end of each month, in a tabulated form approved by the Engineer, showing the amounts to which the Contractor considers himself to be entitled. The statement shall include the following items, as applicable, which shall be taken into account in the sequence listed:

- (a) the estimated Contract value of the Temporary and Permanent Works executed up to the end of the month in question, determined in accordance with Sub-Clause 56.1, at the unit rates and prices included in the Contract, in the various currencies of the Contract Price in which the contract is payable;
- (b) the actual value certified for payment for the Temporary and Permanent Works executed up to the end of the previous month, at the unit rates and prices included in the Contract, in the various currencies of the Contract Price;
- (c) the estimated Contract value at the unit rates and prices included in the Contract of the Temporary and Permanent Works for the month in question, in the various currencies of the Contract Price, obtained by deducting (b) from (a);
- (d) the value of any variation executed up to the end of the month in question, less the amount certified in the previous Interim Payment Certificate, expressed in the relevant amounts of foreign and local currencies, pursuant to Clause 52;
- (e) amounts approved in respect of Daywork executed up to the end of the month in question, less the amount for Daywork certified in the pervious Interim Payment Certificate, indicating the amounts of foreign and local currencies as determined from the Daywork Schedule of the Bill of Quantities;
- (f) amounts reflecting changes in cost and legislation, pursuant to Clause 70, expressed in the relevant amounts of foreign and local currencies;
- (g) any credit or debit for the month in question in respect of materials and Plant for the Permanent Works, in the relevant amounts, in foreign and local currencies, and under the conditions set forth in Sub-Clause 60.3;
- (h) any amount to be withheld under the retention provisions of Sub-Clause 60.5, determined by applying the percentage set forth in Sub-Clause 60.5 to the amounts in foreign and local currencies due under paragraphs **60.1(c), (d), (e), and (f)**;
- (i) any amounts to be deducted as repayment of the Advance under the provisions of Sub-Clause 60.7; and
- (j) any other sum, expressed in the applicable currency or currencies, to which the Contractor may be entitled under the Contract or otherwise.

Sub-Clause 60.2

Monthly
Payments

The said statement shall be approved or amended by the Engineer in such a way that, in his opinion, it reflects the amounts in various currencies due to the Contractor in accordance with the Contract, after deduction, other than pursuant to Clause 47, of any sums which may have become due and payable by the Contractor to the Employer. In cases where there is a difference of opinion as to the value of any item, the Engineer's view shall prevail. Within 28 days of receipt of the monthly statement referred to in Sub-Clause 60.1, the Engineer shall determine the amounts due to the Contractor and shall deliver to the Employer and the Contractor and Interim Payment Certificate, certifying the amounts due to the Contractor.

Provided that the Engineer shall not be bound to certify any payment under this sub-clause if the net amount thereof, after all retention and deductions, would be less than the Minimum Amount of Interim Payment Certificates stated in the Appendix to Bid.

Notwithstanding the terms of this clause or any other clause of the Contract, no amount will be certified by the Engineer for payment until the performance security has been provided by the Contractor and approved by the Employer.

Sub-Clause 60.3

Materials and
Plant for the
Permanent
Works

With respect to materials and Plant brought by the Contractor to the Site for incorporation in the Permanent Works, the Contractor shall (i) receive a credit in the month in which imported materials and Plant are shipped, (ii) receive a credit in the month in which locally produced materials and Plant are brought to the Site and (iii) be charged a debit in the month in which they are incorporated in the Permanent Works, both such credit and debit to be determined by the Engineer in accordance with the following provisions:

- (a) No credit shall be given unless the following conditions shall have been met to the Engineer's satisfaction:
 - (i) the materials and Plant are in accordance with the specifications for the Works;
 - (ii) the materials and Plant have been delivered to the Site and are properly stored and protected against loss, damage, or deterioration;
 - (iii) in the case of imported materials and Plant, the shipping documents are complete;
 - (iv) the Contractor's records of the requirement, orders, receipts, and use of materials and Plant are kept in a form approved by the Engineer, and such records are available for inspection by the Engineer;
 - (v) the Contractor has submitted a statement of his cost of acquiring and delivering the materials and Plant to the Site, together with such documents as may be required for the purpose of evidencing such cost; and
 - (vi) the origin of the materials and Plant and the currencies of payment therefor are those indicated in the Appendix to Bid.

- (b) the amount to be credited to the Contractor shall be the equivalent of 75 percent of the Contractor's reasonable cost of the materials and Plant delivered to the Site, as determined by the Engineer after review of the documents listed in paragraph (a) (v) above; or for each item of mechanical Plant and electrical Plant included in payment items 4.1 and 5.1 respectively of the Bill of Quantities, the amount credited shall be 75 percent of the amount entered in the Bill of Quantities;
- (c) the amount to be debited to the Contractor for any materials and Plant incorporated into the Permanent Works shall be equivalent to the credit previously granted to the Contractor for such materials and Plant pursuant to Sub-Clause (b) above, as determined by the Engineer; and
- (d) the currencies in which the respective amounts shall be credited or debited as set forth above shall be determined by the Engineer provided (i) that in the case of a credit, the currencies shall be those listed in Appendix to Bid for the relevant item of materials or Plant; and (ii) that in the case of a debit, the currencies shall be those in which the credit for the respective item of materials or Plant had been given.

Sub-Clause 60.4 All disbursements shall be made using the disbursement procedures defined in the Loan Agreement between the Employer and JBIC.
 Payment

Foreign Currency Portion Payments:

Payments in foreign currency shall be made in accordance with the Commitment Procedure for JBIC ODA Loans.

The foreign currency portion shall be paid under an irrevocable Letter of Credit to be opened by the Employer in favour of the Contractor, based on the Letter of Commitment issued by JBIC.

Local Currency Portion Payments:

Payments in local currency shall be paid in accordance with the Reimbursement Procedure for JBIC ODA Loans.

The local currency portion shall be paid by the Employer under a domestic Letter of Credit issued by the Bank of the Employer or directly into the bank account nominated by the Contractor.

Sub-Clause 60.5 A retention amounting to the [percentage stipulated in the Appendix to Bid](#) of the amounts due in each currency, determined in accordance with the procedure set out in Sub-Clause 60.1 (h) shall be made by the Engineer in the first and following Interim Payment Certificates.
 Retention
 Money

Sub-Clause 60.6 Upon the issue of the Taking-Over Certificate with respect to the whole of the Works, one half of the Retention Money, or upon the issue of a Taking-Over Certificate with respect to a Section or part of the Permanent Works only such proportion thereof as the Engineer determines having regard to the relative value of such Section or part of the Permanent Works, shall be certified by the Engineer for payment to the Contractor.
 Payment of
 Retention
 Money

At the request of the Contractor, the second half of the Retention Money may also be released at the issue of the Taking-Over Certificate provided a bank guarantee is provided by the Contractor for an amount equal to half the Retention Money for the period from the issue of the Taking-Over Certificate to the expiry of the Contract Period.

Upon the expiration of the Defects Liability Period for the Works, the other half of the Retention Money shall be certified by the Engineer for payment to the Contractor. Provided that, in the event of different Defects Liability Periods being applicable to different Sections or parts of the Permanent Works pursuant to Clause 48, the expression "expiration of the Defects Liability Period" shall, for the purposes of this sub-clause, be deemed to mean the expiration of the latest of such periods.

Provided also that if at such time, there shall remain to be executed by the Contractor any work instructed, pursuant to Clauses 49 and 50, in respect of the Works, the Engineer shall be entitled to withhold certification until completion of such work of so much of the balance of the Retention Money as shall, in the opinion of the Engineer, represent the cost of the work remaining to be executed.

Sub Clause 60.7

Advance
Payment

- (a) The Employer will make an interest-free advance payment to the Contractor exclusively for the costs of mobilization in respect of the Works in an amount equivalent to **fifteen (15) percent** of the Contract Price named in the Letter of Acceptance, payable in the proportions of foreign and local currencies of the Contract Price. Payment of such advance amount will be due under separate certification by the Engineer **within 28 days of the date of the notice to commence** after (i) execution of the Form of Agreement by the parties hereto **with the concurrence of JBIC**; (ii) provision by the Contractor of the performance security in accordance with Sub-Clause 10.1; and (iii) provision by the Contractor of an unconditional bank guarantee in a form and by a bank acceptable to the Employer in amounts and currencies equal to the advance payment. Such bank guarantee shall remain effective until the advance payment has been repaid pursuant to the paragraph (b) below, but the amount thereof shall be progressively reduced by the amount repaid by the Contractor as indicated in Interim Payment Certificates issued in accordance with this Clause.
- (b) The advance payment shall be repaid through percentage deductions from the interim payments certified by the Engineer in accordance with this Clause. Deductions shall commence in the next Interim Payment Certificate following that in which the total of all interim payments certified to the Contractor has reached **the percentage of the Contract Price stipulated in the Appendix to Bid less Provisional Sums**, and shall be made at the rate **stated in the Appendix to Bid** of the amount of all Interim Payment Certificates in the types and proportionate amounts of currencies of the advance payment until such time as the advance payment has been repaid; always provided that the advance payment shall be completely repaid prior to the time when 80 percent of the Contract Price has been certified for payment.

Sub-Clause 60.8

Time of
Payment and
Interest

The amount due to the Contractor under any Interim Payment Certificate issued by the Engineer pursuant to this Clause, or to any other term of the Contract, shall, subject to Clause 47, be paid by the Employer to the Contractor within 56 days after the Contractor's monthly statement has been submitted to the Engineer for certification or, in the case of the Final Payment Certificate pursuant to Sub-Clause 60.13, within 84 days after the Final Statement and written discharge

have been submitted to the Engineer for certification. In the event of the failure of the Employer to make payment within the times stated, the Employer shall pay to the Contractor interest compounded monthly at the rate(s) stated in the Appendix to Bid upon all sums unpaid from the date upon which the same should have been paid, in the currencies in which the payments are due.

Sub-Clause 60.9 The Engineer may by any Interim Payment Certificate make any correction or modification in any previous Interim Payment Certificate which has been issued by him, and shall have authority, if any work is not being carried out to his satisfaction, to omit or reduce the value of such work in any Interim Payment Certificate.

Correction of
Certificates

Sub-Clause 60.10 Not later than 84 days after the issue of the Taking-Over Certificate in respect of the whole of the Works, the Contractor shall submit to the Engineer six copies of a Statement at Completion with supporting documents showing in detail, in the form approved by the Engineer,

Statement at
Completion

- (a) the final value of all work done in accordance with the Contract up to the date stated in such Taking-Over Certificate;
- (b) any further sums which the Contractor considers to be due; and
- (c) an estimate of amounts which the Contractor considers will become due to him under the Contract.

Estimated amounts shall be shown separately in such Statement at Completion. The Engineer shall certify payment in accordance with Sub-Clause 60.2.

Sub-Clause 60.11 Not later than 56 days after the issue of the Defects Liability Certificate pursuant to Sub-Clause 62.1, the Contractor shall submit to the Engineer for consideration six (6) copies of draft final statement with supporting document showing in detail, in the form approved by the Engineer,

Final
Statement

- (a) the value of all work done in the 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 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 (for the purposes of these Conditions referred to as the "Final Statement").

If, following discussions between the Engineer and Contractor and any changes to the draft final statement which may be agreed between them, it becomes evident that a dispute exists, the Engineer shall deliver to the Employer an Interim Payment Certificate for those parts of the draft final statement, if any, which are not in dispute. The dispute shall then be settled in accordance with Clause 67. The Final Statement shall be the agreed upon settlement of the dispute.

Sub-Clause 60.12 Upon submission of the Final Statement, the Contractor shall give to the Employer, with a copy to the Engineer, a written discharge confirming that the total of the Final Statement represents full and final settlement of all monies due to the Contractor arising out of or in

Discharge

respect of the Contract. Provided that such discharge shall become effective only after payment due under the Final Payment Certificate issued pursuant to Sub-Clause 60.13 has been made and the performance security referred to in Sub-Clause 10.1 has been returned to the Contractor.

- Sub-Clause 60.13** Within 28 days after receipt of the Final Statement, and the written discharge, the Engineer shall deliver to the Employer (with a copy to the Contractor) a Final Payment Certificate stating
- Final Payment Certificate
- (a) The amount which, in the opinion of the Engineer, is finally due under the Contract or otherwise, 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, other than under Clause 47, the balance, if any, due from the Employer to the Contractor or from the Contractor to the Employer as the case may be.
- Sub-Clause 60.14** The Employer shall not be liable to the Contractor for any matter or thing arising out of or in connection with the Contract or execution of the Works, unless the Contractor shall have included a claim in respect thereof in his Final Statement and (except in respect of matters or things arising after the issue of the Taking-Over Certificate in respect of the whole of the Works) in the Statement at Completion referred to in Sub-Clause 60.10.
- Cessation of Employer's Liability
- Sub-Clause 65.2** Amend Sub-Clause 65.2 to read as follows:
- Special Risks "The special Risk are the risks defined under para. (a), sub-paras. (i) to (v) of Sub-Clause 20.4."
- Sub-Clause 67.1** The procedure for settlement of disputes is the one stipulated in the Appendix to Bid. If the Employer selects either Version 1 or Version 2, then the relevant clauses from Section 11 of this Volume 1 of the Bidding Documents shall be incorporated in and be part of these Conditions of Particular Application.
- Engineer's Decision
- Sub-Clause 68.2** For the purposes of this Sub-Clause, the addresses are those [specified in the Appendix to Bid](#)
- Notice to Employer and Engineer
- Clause 69** In Sub-Clauses 69.1, 69.4, and 69.5, substitute "Sub-Clause 60.8" for "Sub-Clause 60.10."
- Default of Employer
- Sub-Clause 69.1(a)** In clause 69.1 (a), substitute "56 days" for "28 days".
- Default of Employer
- Sub-Clause 69.1 (d)** Sub-Clause 69.1 (d) is deleted
- Economic Dislocation

Sub-Clause 69.3 Delete from “ but, in addition to the payments specified...” to the end of the sub-clause.
Payment on Termination

Clause 70 Delete Clause 70 in its entirety, and substitute:
Changes in Cost and Legislation

Sub-Clause 70.1 “The amounts payable to the Contractor, and valued at base rates and prices pursuant to Sub-Clause 60.1 (d), (e) and (f), shall be adjusted in respect of the rise or fall in the cost of labor, Contractor’s Equipment, Plant, materials, and other inputs to the Works, by the addition or subtraction of the amounts determined by the formulae prescribed in this Clause.
Price Adjustment

Sub-Clause 70.2 To the extent that full compensation for any rise or fall in costs to the Contractor is not covered by the provisions of this or other Clauses in the Contract, the unit rates and prices included in the Contract shall be deemed to include amounts to cover the contingency of such other rise or fall of costs.
Other Changes in Cost

Sub-Clause 70.3 The amount to be added to or deducted from the Adjustment Interim Payment Certificates in respect of changes in cost and legislation shall be determined from separate formulae for each of the currencies of payment and each of the types of construction work to be performed and Plant to be supplied. The formulae will be of the following general type:
Adjustment Formulae

$$P_n = a + b (L_n/L_o) + c (M_n/M_o) + d (E_n/E_o) + \text{etc.}$$

Where:

“**P_n**” is the adjustment factor to be applied to the estimated value of work carried out in month “**n**”, determined in accordance with Sub-Clause 60.1 (d), (e) and (f);

“**a**” is a fixed constant, [specified in the Appendix to Bid](#), representing the nonadjustable portion in contractual payment,

“**b**”, “**c**”, “**d**”, etc., are weightings or coefficients representing the estimated proportion of each cost element (labor, materials, equipment usage, etc.) in the Works or sections thereof, net of Provisional Sums, [as specified in the Appendix to Bid](#);

“**L_n**”, “**M_n**”, “**E_n**”, etc., are the current cost indices or reference prices of the cost elements in the specific currency for month “**n**”, determined pursuant to Sub-Clause 70.5, applicable to each cost element; and

“**L_o**”, “**M_o**”, “**E_o**”, etc., are the base cost indices or reference prices corresponding to the above cost elements at the date specified in Sub-Clause 70.5.

Sub-Clause 70.4 The sources of indices shall be those listed in the Appendix to Bid, as approved by the Engineer.
Sources of Indices and Weightings

- Sub-Clause 70.5** The base cost indices or prices shall be those prevailing on the day 28 days prior to the latest date for submission of bids. Current indices or prices shall be those prevailing on the day 28 days prior the last day of the period to which a particular Interim Payment Certificate is related. If at any time the current indices are not available, provisional indices as determined by the Engineer will be used, subject to subsequent correction of the amounts paid to the Contractor when the current indices become available.
- Base, Current and Provisional Indices
- Sub-Clause 70.6** If the Contractor fails to complete the Works within the time for completion prescribed under Clause 43, adjustment of prices thereafter until the date of completion of the Works shall be made using either the indices or prices relating to the prescribed time for completion, or the current indices or prices, whichever is more favorable to the Employer, provided that if an extension of time is granted pursuant to Clause 44, the above provision shall apply only to adjustment made after the expiry of such extension of time.
- Adjustment after Completion
- Sub-Clause 70.7** The weightings for each of the factors of cost given in the Appendix to Bid shall be adjusted if, in the opinion of the Engineer, they have been rendered unreasonable, unbalanced or inapplicable as a result of varied or additional work already executed or ordered under Clause 51 or for any other reason.
- Weightings
- Sub-Clause 70.8** If, after the date 28 days prior to the latest date for submission of bids for the Contract, there occur in the country in which the Works are being or are to be executed changes to any National or State Statute, Ordinance, Decree, or other law or any regulation or by-law of any local or other duly constituted authority, or the introduction of any such State Statute, Ordinance, Decree, Law, regulation or by-law which causes additional or reduced cost to the Contractor, other than under the preceding sub-clauses of this clause, in the execution of the Contract, such additional or reduced cost shall, after due consultation with the Employer and the Contractor, be determined by Engineer and shall be added to or deducted from the Contract Price and the Engineer shall notify the Contractor accordingly, with a copy to the Employer. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same shall already have taken into account in the indexing of any inputs to the Price Adjustment Formulae in accordance with the provisions of Sub-Clauses (1) to (7) of this Clause.
- Subsequent Legislation
- Sub-Clause 72.2** Delete the words from “prevailing...” to the end of the sentence and substitute:
- Currency Proportions
- “Selling rates prevailing, as determined by [the State Bank of Vietnam](#) or another appropriate source agreed between the Employer and the Contractor, on the date 28 days prior to the deadline for submission of tenders”

ADDITIONAL CLAUSES

- Sub-Clause 73.1** The prices bid by the Contractor shall include all taxes, duties, and other charges imposed outside the Employer’s country on the production, manufacture, sale, and transport of the Contractor’s Equipment, Plant, materials, and supplies to be used on or furnished under the Contract, and on the services performed under the Contract.
- Foreign Taxation

Sub-Clause 73.2

Local Taxes
and Duties

The Contract is subject to all national and local taxes, duties and levies imposed by the Government of Vietnam or any other charges during the period of the Contract except as noted below. The Contractor shall acquaint himself with the relevant laws and regulations in this manner and include these costs in the rates and prices of various items in his Bid.

(1) Customs and Import Duties

The Contractor and its Subcontractors will be exempt from customs and import duties for the materials, equipment and plant, which will be imported directly by the Contractor and his Subcontractors and incorporated into the Permanent Works under the Contract.

However, for Contractor's Equipment which is imported temporarily for the execution of the Works and re-exported upon completion of the Works, the Contractor will be required to provide deposit or security in accordance with the relevant regulations and laws of the Government. The Contractor shall meet the cost of such deposit or security and the Employer will not reimburse such cost to the Contractor.

Customs duty on import of personal vehicles and effects and local purchase good will not be exempted.

(2) Value Added Tax (VAT)

The Contractor will be exempt from Vietnamese VAT paid by the Contractor for imported and locally procured materials, Contractors Equipment and Plant as well as services for construction, completion and maintenance of the Works.

There will be no exemption from VAT on personal goods locally purchased .

Nothing in the Contract shall relieved the Contractor from his responsibility to pay any tax that may be levied in Vietnam on profits made by him in respect of the Contract. The Contractor shall be deemed to be familiar with the tax laws of Vietnam.

Sub-Clause 73.3

Income Taxes
on Staff

The Contractor's staff and labor will be liable to pay personal income taxes in Vietnam in respect of such of their salaries and wages as are chargeable under the laws and regulations 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 and regulations.

Sub-Clause 73.4

Duties on
Contractor's
Equipment

Notwithstanding the provisions of Sub-Clause 73.2, Contractor's Equipment, including essential spare parts therefor, 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 of completion of the Contract plus six months, in an amount equal to the 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 that the Contractor's Equipment is not exported from the Employer's 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 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 parts 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 law. 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 that Contractor's Equipment and spare parts remaining in the Employer's 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 74.1** If the Contractor, or any of this Subcontractors, agents or servants gives or offers to give to any person any payment, gift, gratuity or commission as an inducement or reward for doing or forbearing to do any action in relation to the Contract or any other contract with the Employer, or for showing or forbearing to show favour or disfavour to any person in relation to the Contract or to any other contract with the Employer, then the Employer may enter upon the Site and the Works and expel the Contractor and provisions of Clause 63 hereof shall apply as if such entry and expulsion had been made pursuant to that clause.
- Sub-Clause 75.1** The Employer shall be entitled to terminate this Contract at any time for the Employer's convenience after giving 56 days prior notice to the Contractor, with a copy to the Engineer. In the event of such termination, the Contractor
- Bribes**
- Termination of Contract for Employer's Convenience
- (a) shall proceed as provided in Sub-Clause 65.7; and
- (b) shall be paid by the Employer as provided in Sub-Clause 65.8.
- Sub-Clause 76.1** (a) Pursuant to Instructions to Bidders, Clause 4, any Plant or services which will be incorporated in or required for the Works, as well as the Contractor's Equipment and other supplies, shall have its origin in eligible source countries as listed in Section 5.
- Restrictions on Eligibility**
- (b) For the purposes of this clause, "origin" means the place where the equipment is produced, or manufactured, or from which the services are provided.
- (c) The origin of Goods and Services is distinct from the nationality of the Supplier.
- Sub-Clause 77.1** All persons in the joint venture shall be jointly and severally bound to the Employer for the fulfillment of the terms of the Contract and shall designate one of such persons to act as a leader with authority to bind the joint venture. The composition or the constitution of the joint venture shall not be altered without the prior consent of the Employer.
- Joint and Several Liability**

Sub-Clause 78.1 The Contractor shall treat the details of the Contract as private and confidential, save insofar as may be necessary for the purposes thereof, and shall not publish or disclose the same or any particulars thereof in any trade or technical paper or elsewhere without the previous consent in writing of the Employer or the Engineer. If any dispute arises as to the necessity of any publication or disclosure for the purpose of the Contract the same shall be referred to the Employer whose determination shall be final.

Details to Be
Confidential

Sub-clause 79.1 The Contractor shall be held liable for all damages and interference to the public and private facilities including roads, bridges, drains and pipes, and electric power cables or telephone lines of any kind either above or below-around caused by him or his Subcontractors in the execution of the Works. Should any damage be done to roads, bridges, drains, pipes, wires, telephone, telegraph, or electric power services, etc.. whether or not shown on the Drawings, the Contractor must make good the same without delay and do any further work considered necessary by the Engineer, all at his own cost. The Contractor shall be deemed to have provided for these contingencies in fixing the rates and prices tendered in the Bill of Quantities.

Damage to
Public
Services

SECTION 4. SPECIFICATIONS
(Refer to Volume 2: Specification)

**SECTION 5. FORM OF BID, APPENDIX TO BID,
FORM OF BID SECURITY
AND
LIST OF ELIGIBLE SOURCE COUNTRIES OF
JBIC ODA LOANS**

FORM OF BID

Name of Contract: _____

To: _____ *[insert name of Employer]*

Gentlemen:

1. Having examined the Conditions of Contract, Specification, Drawings, and Bill of Quantities and Addenda Nos. for the execution of the above-named Works we, the undersigned, offer to execute and complete such Works and remedy any defects therein in conformity with the Conditions of Contract, Specifications, Drawings, Bill of Quantities, and Addenda for the sum of _____
[insert amounts in numbers and words]
[as specified in the Appendix to Bid or such sums as may be ascertained in accordance with the conditions].
2. We acknowledge that the Appendix forms part of our Bid.
3. We undertake, if our Bid is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Engineer's notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Appendix to Bid.
4. We agree to abide by this Bid for the period of _____ days from the date fixed for receiving the same, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
5. Unless and until a formal Agreement is prepared and executed this Bid, together with your written acceptance thereof, shall constitute a binding Contract between us.
6. We understand that you are not bound to accept the lowest or any bid you may receive.

Dated this _____ day of _____ 20 _____

Signature _____ in capacity of _____

duly authorized to sign bids for and on behalf of _____

[in block capitals or typed]

Address : _____

Witness : _____

Address : _____

Occupation : _____

APPENDIX TO BID

Bidders should fill in all the appropriate blank spaces in all parts of the Appendix to Bid. Bidders are required to sign each page of the Appendix to Bid.

CONDITIONS OF CONTRACT SUB-CLAUSE

Engineer's Authority to Issue Variations	2.1 (d)(ii)	* _____ percent of the Contract Price * to be advised
Amount of Performance Security	10.1	The performance security will be in the form of a bank guarantee in the amount(s) of 15 percent of the Contract Price for local currency portion and 15 percent of the Contract Price for foreign currency portion.
Program to be Submitted	14.1	28 days from the date of the letter of acceptance.
Minimum Amount of Third Party Insurance	23.2	US\$ 50,000 per occurrence, with the number of occurrences unlimited.
Time for Issue of the Notice to Commence	41.1	7 days after the date of JBIC's concurrence to the award of the Contract
Time for Completion	43.1	1,320 days from the date of the notice to commence
Amount of Damages Liquidated	47.1	0.05 percent per day
Limit of Liquidated Damages	47.1	ten (10) percent of the final Contract Price
Taking Over of Sections	48.2(a)	<i>Bidders will be advised by addendum if taking over of sections will be permitted</i>
Defects Liability Period	49.1	728 days
Percentage for Adjustment of Provisional Sums	59.4 (c)	<i>Not applicable</i>
Minimum amount of Interim Payment Certificates	60.2	Vietnamese Dong Ten (10) billion (VND 10,000,000,000) or equivalent
Retention Money	60.5	five (5) percent of Interim Payment Certificates
Advance Payment	60.7	fifteen (15) percent of Contract Price
Start Repayment of Advance Payment	60.7	After certification of thirty (30) percent of the Contract Price.
Monthly amortization of	60.7	_____ percent of the amount of monthly Interim Payment Certificates

Advance Payment		
Rate of Interest upon Unpaid Sums	60.8	_____ percent for payments in local currency. For the foreign currency portion, payable in Japanese Yen, the rate shall be the rate for commercial interest for daily borrowing as determined by the Central Bank of Japan plus 2 percent.
Procedure for Settlement of Disputes	67	The procedure for Settlement of Disputes is: Version 1 as specified in Section 11
	67.1	Number of members of Dispute Adjudication Board: Three (3)
	67.1	Member of Dispute Adjudication Board (If not agreed) to be appointed by <i>(to be advised by the Employer)</i>
Number of Arbitrators	67.4	One (1)
Place of Arbitration	67.4	Vietnam
Language of Arbitration	67.4	English
Notices to Employer and Engineer	68.2	The respective addresses are: (a) The Employer Project Management Unit 6th Floor, 216 Nguyen Dinh Chieu, District 3, Ho Chi Minh City, Vietnam (b) The Engineer <i>The address will be advised by the Employer</i>
Sources of Indices	70.4	(See table below)
Rates of Exchange for Currencies used by the Bidder in calculating its Bid Price	72.2	_____
Source for obtaining rates of exchange for currencies used by the bidder in calculating its bid price	72.2	_____

Index for: (Factor)	Origin of Input (country)	Currency of Index	Published Source of Index	Base Value on (date – refer Conditions of Contract Sub Clause 70.5)
(LL) Labour	Local			
(FL) Labour				
(..)				
(..)				
etc.				

FORM OF BID SECURITY (BANK GUARANTEE)

WHEREAS, _____ [*name of Bidder*] (hereinafter called "the Bidder") has submitted his Bid dated _____ [*date*] for the execution of _____ [*name of Contract*] (hereinafter called "the Bid").

KNOW ALL PEOPLE by these presents that We _____ [*name of Bank*] of _____ [*name of country*] having our registered office at _____ [*address*] (hereinafter called "the Bank") are bound unto _____ [*name of Employer*] (hereinafter called "the Employer") in the sum of _____ [*amount*]¹ for which payment well and truly to be made to the said Employer the Bank binds himself, his successors, and assigns by these presents.

SEALED with the Common Seal of the said Bank this _____ days of _____ 20____.

THE CONDITIONS of this obligation are:

- (1) if the Bidder withdraws his Bid during the period of Bid validity specified in the Form of Bid; or
- (2) if the Bidder refuses to accept the correction of errors in his Bid; or
- (3) if the Bidder, having been notified of the acceptance of his Bid by the Employer during the period of Bid validity;
 - (a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidders, if required; or
 - (b) fails or refuses to furnish the Performance Security, in accordance with the Instruction to Bidders;

we undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date 28 days after the deadline for submission of bids or such deadline as stated in the Instruction to Bidders, or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

DATE _____ SIGNATURE OF THE BANK _____

WITNESS _____

SEAL _____

[*signature, name, and address*]

¹ The Bidder should insert the amount of the guarantee in words and figures denominated in the currency of the Employer's country or an equivalent amount in a freely convertible currency. This figure should be the same as shown in Clause 17.1 of the Instructions to Bidders.

LIST OF ELIGIBLE COUNTRIES OF JBIC ODA LOANS

The Socialist Republic of Vietnam

Japan

SECTION 6. BILL OF QUANTITIES

BILL OF QUANTITIES

PREAMBLE TO THE BILL OF QUANTITIES

1. The Bill of Quantities shall be read in conjunction with this Preamble, the Instructions to Bidders, the General Conditions of Contract, the Specifications, and the Drawings.
2. The quantities given in the Bill of Quantities are estimated and provisional, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer and valued at the rates and prices tendered in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix within the terms of the Contract.
3. For the purpose of ascertaining the value and amount of work done, the Works shall be measured at such frequency as may be necessary for the purpose of payment under Clause 60 (Certificates and Payment) of the Conditions of Contract. Permanent Works shall be measured net, notwithstanding any general or local custom, except where otherwise specifically described or prescribed in the Contract.
4. The rates and prices bid in the priced Bill of Quantities shall, except insofar as it is otherwise provided under the Contract, include all Contractor's Equipment, 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.
5. 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.
6. The whole cost of complying with the provisions of the Contract shall be included in the items provided in the priced Bill of Quantities, and where no items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related items of work.
7. General directions and descriptions of work and materials are not necessarily repeated nor summarized in the Bill of Quantities. References to the relevant sections of the contract documentation shall be made before entering prices against each item in the priced Bill of Quantities.
8. The method of measurement of completed work for payment shall be in accordance with the relevant measurement and payment clause for each pay item described in Specifications.
9. Errors will be corrected by the Employer for any arithmetic errors pursuant to Clause 29 of the Instructions to Bidders.
10. Where reference is made in the Bill of Quantities to specific Drawings or parts of the Specification or Conditions of Contract, unless otherwise stated, such references shall not limit general requirements stated elsewhere in the Contract.

11. The following abbreviations are used in the Bill of Quantities:

L.S.	: Lump Sum
m ³	: cubic metre
m ²	: square metre
m	: linear metre
km	: kilometre
No.	: number
kg	: kilogram
dia.	: diameter
tonne	: metric ton

12. Linear dimension shown in the description of items in the Bill of Quantities are in millimeters unless noted otherwise.

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
CONSTRUCTION OF WASTEWATER TREATMENT PLANT**

SUMMARY OF BILL OF QUANTITIES

BILL No.	DESCRIPTION	AMOUNT		
		FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	COMBINED EQUIVALENT TOTAL (VND X 1000)
1	GENERAL ITEMS			
2	CIVIL WORKS			
3	BUILDING WORKS			
4	MECHANICAL WORKS			
5	ELECTRICAL WORKS			
6	PROVISIONAL SUM			
NET BID SUM				#
Add Net VAT at% of the # VND Equivalent of the Net Bid Sum				
TOTAL BID SUM		*	*	
		(YEN)	(VND)	(VND-Equivalent)

- (i) Foreign Currency Component of Total Bid Sum, written in words.
Yen
- (ii) Local Currency Component of Total Bid Sum, written in words.
VND.....
- (iii) VND Equivalent of Combined Total Bid Sum, written in words.
.....
- (iv) Exchange rate as specified by the Employer, used to convert the foreign currency component to VND:
One Yen =VND
- (*) Carry Forward to Bid

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 1: GENERAL ITEMS										
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
1.1	MOBILIZATION AND DEMOBILIZATION	L.S.	Item							1.7.4
1.2	ESTABLISHMENT	L.S.	Item							1.8.3.2
1.3	DRAWINGS:									
1.3.1	Preparation of Working Drawings, Shop Drawings and other Drawings	L.S.	Item							1.3.7.1
1.3.2	Preparation of As-Built Drawings	L.S.	Item							1.3.7.2
1.4	SURVEYING	L.S.	Item							1.11.4
1.5	ENGINEER' TRANSPORT:									
1.5.1	Provision of Cars: including all consumables, maintenance, insurance and driver	L.S.	Item							1.8.8.3
1.5.2	Provision of Motor Bikes including all consumables, maintenance and insurance	L.S.	Item							1.8.8.3

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 1: GENERAL ITEMS										
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND x 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
1.6	SOIL INVESTIGATION									
1.6.1	Test Boring, Laboratory Testing and Preparation of Report	L.S.	Item							1.9.4
1.7	ENGINEER'S ACCOMMODATION									
1.8.1	Provision of 2-bedroom, airconditioned, serviced apartment in modern apartment building	month	44							1.8.9.2
Total for Bill No. 1 (Carried forward to Summary) :										

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.1	Preparatory Works:								
2.1.1	Clearing and Grubbing: including hauling and disposal in designated area	m ²	146,058						2.9.2
2.1.2	Demolition: including hauling and disposal in designated area	m ³	30						2.9.3
2.1.3	Common Excavation: including testing by penetrometer and hauling to designated disposal area	m ³	146,058						3.6.1.1
2.1.4	Sandy Soil Fill: including supply and placement	m ³	77,972						3.6.2.2
2.1.5	Temporary Access Road (6,000 wide gravel pavement): including construction, maintenance and removal and reinstatement of site.	m	464						2.9.8
2.1.6	Soil Improvement of lower zone by Soil Cement Mixing Method: including all materials and execution	L.S.	Item						2.9.4.1
2.1.7	Soil Improvement in upper zone by Sand Replacement Method: including all materials and execution	m ³	0						2.9.4.2
2.1.8	Timber Piling 80-100 dia x 4,500: including supply and installation	m	116,833						5.5.2
2.1.9	Earth Fill Embankment for Permanent Dike: including hauling selected soil from stockpile and placement	m ³	12,615						3.6.2.1
2.1.10	Protection of Power Towers	L.S.	Item						2.9.5
2.1.11	Care of Water	L.S.	Item						2.9.1
				Sub-total of Item 2.1:-					

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.2	Jetty Works:								
2.2.1	Steel Sheet Pile: including supply and installation	m ²	779						5.5.3
2.2.2	Reinforced Concrete Pile (400 x 400): including supply, transportation and stacking	m	2,288						5.5.1.1
2.2.3	Driving Reinforced Concrete Pile (400 x 400): including handling pitching, driving to required bearing value	m	2,205						5.5.1.2
2.2.4	Pile Head Treatment (for 400 x 400 RC Pile): including breaking back pile head and bending of reinforcement	No.	104						5.5.1.3
2.2.5	Concrete Class E: including supply, placement and formwork	m ³	102						4.4.1
2.2.6	Deformed Reinforcing Bars: including supply, bending and placement	kg	9						4.4.2
2.2.7	Steel Stairs : including fabrication, painting and installation	kg	1,052						8.7.3
				Sub-total of Item 2.2:-					
2.3	Earth Works and Piling for Buildings and Facilities:								
2.3.1	Common Excavation: including shoring, hauling and disposal within the Site	m ³	103,832						3.6.1.1

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.3.2	Common Excavation : including shoring, hauling and disposal in designated area outside the Site	m ³	0						3.6.1.1
2.3.3	Sand Backfill: including supply and placement	m ³	162,284						3.6.2.3
2.3.4	Earth Backfill: including hauling selected soil from stockpile and placement	m ³	142,579						3.6.2.1
2.3.5	Timber Piling 80-100 dia x 3,000: including supply and installation	m	300,342						5.5.2
2.3.6	Reinforced Concrete Test Pile (300 x 300): including supply, transportation and stacking	m	12						5.5.1.1
2.3.7	Driving of Reinforced Concrete Piles 300 x 300: including handling pitching, driving to required bearing value	m	36						5.5.1.2
2.3.8	Reinforced Concrete Test Pile (400 x 400): including supply, transportation and stacking	m	144						5.5.1.1
2.3.9	Driving Reinforced Concrete Test Pile (400 x 400):	m	432						5.5.1.2
2.3.10	Test Loading of RC Pile: including provision of all equipment, instruments, kentledge and preparation of report	No.	13						5.5.1.4
2.3.11	Reinforced Concrete Pile (300 x 300): including supply, transportation and stacking	m	372						5.5.1.1

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.3.12	Driving of Reinforced Concrete Piles 300 x 300: including handling pitching, driving to required bearing value	m	344						5.5.1.2
2.3.13	Pile Head Treatment (for 300 x 300 RC Pile): including breaking back pile head and bending of reinforcement	No.	10						5.5.1.3
2.3.14	Reinforced Concrete Pile (400 x 400): including supply, transportation and stacking	m	217,253						5.5.1.1
2.3.15	Driving Reinforced Concrete Pile (400 x 400): including handling pitching, driving to required bearing value	m	223,113						5.5.1.2
2.3.16	Pile Head Treatment (for 400 x 400 RC Pile): including breaking back pile head and bending of reinforcement	No.	6,250						5.5.1.3
2.3.10	Sand Bedding: including supply and placement	m ³	5,936						3.6.2.3
				Sub-total of Item 2.3:-					
2.4	Lift Pumping Station:								
2.4.1	Concrete Class G: including supply, placement and formwork	m ³	104						4.4.1
2.4.2	Concrete Class E: including supply, placement and formwork	m ³	2,588						4.4.1

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.4.3	Concrete Class F: including supply, placement and formwork	m ³	108						4.4.1
2.4.4	Cement Mortar Surfacing (t=20 mm): including supply and placement	m ²	371						4.4.3
2.4.5	Deformed Reinforcing Bars: including supply, bending and placement	kg	255,451						4.4.2
2.4.6	Water Stop: including supply, installation and protection	m	96						4.4.4.1
2.4.7	Elastic Joint Filler (t=20 mm): including supply and installation	m ²	0						4.4.4.2
2.4.8	Joint Sealant: including supply and installation	litre	0						4.4.4.3
2.4.9	Dowel Bars: including supply and installation complete with PVC sleeves	kg	0						4.4.4.4
2.4.10	Tar Epoxy Resin Coating: including surface preparation and application of 3 coats	m ²	1,436						11.8.6
				Sub-total of Item 2.4:-					
2.5	Primary Sedimentation Tank, Aeration Tank and Final Sedimentation Tank:								
2.5.1	Concrete Class G: including supply, placement and formwork	m ³	1,418						4.4.1

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.5.2	Concrete Class E: including supply, placement and formwork	m ³	25,080						4.4.1
2.5.3	Concrete Class F: including supply, placement and formwork	m ³	2,551						4.4.1
2.5.4	Cement Mortar Surfacing (t=20 mm): including supply and placement	m ²	48						4.4.3
2.5.5	Cement Mortar Surfacing (t=100 mm): including supply and placement	m ²	3,870						4.4.3
2.5.6	Deformed Reinforcing Bars: including supply, bending and placement	kg	2,342,064						4.4.2
2.5.7	Water Stop: including supply, installation and protection	m	1,852						4.4.4.1
2.5.8	Elastic Joint Filler (t=20 mm): including supply and installation	m ²	257						4.4.4.2
2.5.9	Joint Sealant: including supply and installation	litre	1,234						4.4.4.3
2.5.10	Dowel Bars: including supply and installation complete with PVC sleeves	kg	0						4.4.4.4
2.5.11	Tar Epoxy Resin Coating: including surface preparation and application of 3 coats	m ²	8,440						11.8.6
				Sub-total of Item 2.5:-					

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
2.6	Disinfection Tank:									
2.6.1	Concrete Class G: including supply, placement and formwork	m ³	71							4.4.1
2.6.2	Concrete Class E: including supply, placement and formwork	m ³	1,302							4.4.1
2.6.3	Concrete Class F: including supply, placement and formwork	m ³	196							4.4.1
2.6.4	Cement Mortar Surfacing (t=20 mm): including supply and placement	m ²	39							4.4.3
2.6.5	Deformed Reinforcing Bars: including supply, bending and placement	kg	109,376							4.4.2
2.6.6	Water Stop: including supply, installation and protection	m	45							4.4.4.1
2.6.7	Elastic Joint Filler (t=20 mm): including supply and installation	m ²	0							4.4.4.2
2.6.8	Joint Sealant: including supply and installation	litre	0							4.4.4.3
2.6.10	Connection Pipe (Steel Pipe 2,500 dia. x t=18): including fabrication, internal and external coating, wrapping and installation	m	64							7.13.10

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

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				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.6.11	Flexible Joints (Rubber & Steel 2,500 dia.); including design, supply and installation	L.S.	Item						7.13.11
				Sub-total of Item 2.6:-					
2.7	Water Supply Facility:								
2.7.1	Concrete Class G: including supply, placement and formwork	m ³	164						4.4.1
2.7.2	Concrete Class E: including supply, placement and formwork	m ³	2,811						4.4.1
2.7.3	Concrete Class F: including supply, placement and formwork	m ³	97						4.4.1
2.7.4	Cement Mortar Surfacing (t=20 mm): including supply and placement	m ²	110						4.4.3
2.7.5	Deformed Reinforcing Bars: including supply, bending and placement	kg	264,875						4.4.2
2.7.6	Water Stop: including supply, installation and protection	m	102						4.4.4.1
2.7.7	Elastic Joint Filler (t=20 mm): including supply and installation	m ²	59						4.4.4.2
2.7.8	Joint Sealant: including supply and installation	litre	56						4.4.4.3
2.7.9	Dowel Bars: including supply and installation complete with PVC sleeves	kg	0						4.4.4.4
				Sub-total of Item 2.7:-					

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.8	Effluent Pipe:								
2.8.1	Concrete Class G: including supply, placement and formwork	m ³	47						4.4.1
2.8.2	Concrete Class E: including supply, placement and formwork	m ³	532						4.4.1
2.8.3	Concrete Class F: including supply, placement and formwork	m ³	0						4.4.1
2.8.4	Precast Concrete Pipe (2,500 dia.): including supply and laying	m	101						7.13.4
2.8.5	Deformed Reinforcing Bars: including supply, bending and placement	kg	25,568						4.4.2
2.8.6	Water Stop: including supply, installation and protection	m	21						4.4.4.1
2.8.7	Elastic Joint Filler (t=20 mm): including supply and installation	m ²	37						4.4.4.2
2.8.8	Joint Sealant: including supply and installation	litre	21						4.4.4.3
2.8.9	Dowel Bars: including supply and installation complete with PVC sleeves	kg	0						4.4.4.4
2.8.10	Riprap (t=500): including supply and placement	m ²	178						3.6.2.7
				Sub-total of Item 2.8:-					

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.9	Pipe Gallery:								
2.9.1	Concrete Class G: including supply, placement and formwork	m ³	202						4.4.1
2.9.2	Concrete Class E: including supply, placement and formwork	m ³	3,554						4.4.1
2.9.3	Concrete Class F: including supply, placement and formwork	m ³	150						4.4.1
2.9.4	Cement Mortar Surfacing (t=20 mm): including supply and placement	m ²	0						4.4.3
2.9.5	Deformed Reinforcing Bars: including supply, bending and placement	kg	291,887						4.4.2
2.9.6	Water Stop: including supply, installation and protection	m	683						4.4.4.1
2.9.7	Elastic Joint Filler (t=20 mm): including supply and installation	m ²	262						4.4.4.2
2.9.8	Joint Sealant: including supply and installation	litre	345						4.4.4.3
2.9.9	Dowel Bars: including supply and installation complete with PVC sleeves	kg	0						4.4.4.4
				Sub-total of Item 2.9:-					

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.10	Main Building Substructure								
2.10.1	Concrete Class G: including supply, placement and formwork	m ³	106						4.4.1
2.10.2	Concrete Class E: including supply, placement and formwork	m ³	1,450						4.4.1
2.10.3	Concrete Class F: including supply, placement and formwork	m ³	167						4.4.1
2.10.4	Cement Mortar Surfacing (t=20 mm): including supply and placement	m ²	41						4.4.3
2.10.5	Deformed Reinforcing Bars: including supply, bending and placement	kg	156,069						4.4.2
2.10.6	Water Stop: including supply, installation and protection	m	52						4.4.4
2.10.7	Elastic Joint Filler (t=20 mm): including supply and installation	m ²	24						4.4.4.2
2.10.8	Joint Sealant: including supply and installation	litre	34						4.4.4.3
2.10.9	Dowel Bars: including supply and installation complete with PVC sleeves	kg	0						4.4.4.4
				Sub-total of Item 2.10:-					

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.11	Blower Building Substructure								
2.11.1	Concrete Class G: including supply, placement and formwork	m ³	114						4.4.1
2.11.2	Concrete Class E: including supply, placement and formwork	m ³	1,979						4.4.1
2.11.3	Concrete Class F: including supply, placement and formwork	m ³	88						4.4.1
2.11.4	Cement Mortar Surfacing (t=20 mm): including supply and placement	m ²	96						4.4.3
2.11.5	Deformed Reinforcing Bars: including supply, bending and placement	kg	239,584						4.4.2
2.11.6	Water Stop: including supply, installation and protection	m	52						4.4.4.1
2.11.7	Elastic Joint Filler (t=20 mm): including supply and installation	m ²	24						4.4.4.2
2.11.8	Joint Sealant: including supply and installation	litre	34						4.4.4.3
2.11.9	Dowel Bars: including supply and installation complete with PVC sleeves	kg	0						4.4.4.4
				Sub-total of Item 2.11:-					

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.12	Dewatering Building Substructure								
2.12.1	Concrete Class G: including supply, placement and formwork	m ³	213						4.4.1
2.12.2	Concrete Class E: including supply, placement and formwork	m ³	3,167						4.4.1
2.12.3	Concrete Class F: including supply, placement and formwork	m ³	203						4.4.1
2.12.4	Cement Mortar Surfacing (t=20 mm): including supply and placement	m ²	45						4.4.3
2.12.5	Deformed Reinforcing Bars: including supply, bending and placement	kg	294,790						4.4.2
2.12.6	Water Stop: including supply, installation and protection	m	126						4.4.4.1
2.12.7	Elastic Joint Filler (t=20 mm): including supply and installation	m ²	68						4.4.4.2
2.12.8	Joint Sealant: including supply and installation	litre	65						4.4.4.3
2.12.9	Dowel Bars: including supply and installation complete with PVC sleeves	kg	0						4.4.4.4
2.12.10	Tar Epoxy Resin Coating: including surface preparation and application of 3 coats	m ²	1,631						11.8.6
				Sub-total of Item 2.12:-					

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE		AMOUNT			COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
2.13	Gravity Thickener:									
2.13.1	Concrete Class G: including supply, placement and formwork	m ³	31							4.4.1
2.13.2	Concrete Class E: including supply, placement and formwork	m ³	441							4.4.1
2.13.3	Concrete Class F: including supply, placement and formwork	m ³	7							4.4.1
2.13.4	Cement Mortar Surfacing (t=50 mm): including supply and placement	m ²	296							4.4.3
2.13.5	Deformed Reinforcing Bars: including supply, bending and placement	kg	37,479							4.4.2
2.13.6	Water Stop: including supply, installation and protection	m	0							4.4.4.1
2.13.7	Elastic Joint Filler (t=20 mm): including supply and installation	m ²	0							4.4.4.2
2.13.8	Joint Sealant: including supply and installation	litre	0							4.4.4.3
2.13.9	Dowel Bars: including supply and installation complete with PVC sleeves	kg	0							4.4.4.4
2.13.10	Tar Epoxy Resin Coating: including surface preparation and application of 3 coats	m ²	540							11.8.6
				Sub-total of Item 2.13:-						

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.14	Compost Plant:								
2.14.1	Compost Plant: Fermentation Tank								
2.14.1.1	Concrete Class G: including supply, placement and formwork	m ³	444						4.4.1
2.14.1.2	Concrete Class E: including supply, placement and formwork	m ³	3,827						4.4.1
2.14.1.3	Concrete Class F: including supply, placement and formwork	m ³	0						4.4.1
2.14.1.4	Cement Mortar Surfacing (t=20 mm): including supply and placement	m ²	38						4.4.3
2.14.1.5	Deformed Reinforcing Bars: including supply, bending and placement	kg	305,980						4.4.2
2.14.1.6	Water Stop: including supply, installation and protection	m	176						4.4.4.1
2.14.1.7	Elastic Joint Filler (t=20 mm): including supply and installation	m ²	84						4.4.4.2
2.14.1.8	Joint Sealant: including supply and installation	litre	120						4.4.4.3
2.14.1.9	Dowel Bars: including supply and installation complete with PVC sleeves	kg	0						4.4.4.4
				Sub-total of Item 2.14.1:-					

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

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				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.14.2	Compost Plant: Deodorizing Soil Filter Tank								
2.14.2.1	Concrete Class G: including supply, placement and formwork	m ³	50						4.4.1
2.14.2.2	Concrete Class E: including supply, placement and formwork	m ³	276						4.4.1
2.14.2.3	Concrete Class F: including supply, placement and formwork	m ³	0						4.4.1
2.14.2.4	Deformed Reinforcing Bars: including supply, bending and placement	kg	22,105						4.4.2
2.14.2.5	Water Stop: including supply, installation and protection	m	15						4.4.4.1
2.14.2.6	Elastic Joint Filler (t=20 mm): including supply and installation	m ²	5						4.4.4.2
2.14.2.7	Joint Sealant: including supply and installation	litre	12						4.4.4.3
2.14.2.8	Dowel Bars: including supply and installation complete with PVC sleeves	kg	0						4.4.4.4
				Sub-total of Item 2.14.2:-					

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

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				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.14.3	Compost Plant: Weigh Bridge								
2.14.3.1	Concrete Class G: including supply, placement and formwork	m ³	6						4.4.1
2.14.3.2	Concrete Class E: including supply, placement and formwork	m ³	14						4.4.1
2.14.3.3	Concrete Class F: including supply, placement and formwork	m ³	0						4.4.1
2.14.3.4	Cement Mortar Surfacing (t=20 mm): including supply and placement	m ²	0						4.4.3
2.14.3.5	Deformed Reinforcing Bars: including supply, bending and placement	kg	622						4.4.2
2.14.3.6	Water Stop: including supply, installation and protection	m	0						4.4.4.1
2.14.3.7	Elastic Joint Filler (t=20 mm): including supply and installation	m ²	0						4.4.4.2
2.14.3.8	Joint Sealant: including supply and installation	litre	0						4.4.4.3
2.14.3.9	Dowel Bars: including supply and installation complete with PVC sleeves	kg	0						4.4.4.4
				Sub-total of Item 2.14.3:-					

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.15	Bridge:								
2.15.1	Temporary Works for Bridge:								
2.15.1.1	Temporary Works for Bridge Construction: including all temporary structures for bridge construction works and removal after completion of bridge	L.S.	Item						10.7.6
2.15.2	Piers:								
2.15.2.1	Reinforced Concrete Test Pile (400 x 400): including supply, transportation and stacking	m	48						5.5.1.1
2.15.2.2	Driving Reinforced Concrete Test Pile (400 x 400)	m	144						5.5.1.2
2.15.2.3	Test Loading of RC Pile: including provision of all equipment, instruments, kentledge and preparation of report	No.	1						5.5.1.4
2.15.2.4	Reinforced Concrete Pile (400 x 400): including supply, transportation and stacking	m	3,456						5.5.1.1
2.15.2.5	Driving Reinforced Concrete Pile (400 x 400): including handling pitching, driving to required bearing value	m	3,360						5.5.1.2
2.15.2.6	Pile Head Treatment (for 400 x 400 RC Pile): including breaking back pile head and bending of reinforcement	No.	192						5.5.1.3

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.15.2.7	Concrete Class G: including supply, placement and formwork	m ³	23						4.4.1
2.15.2.8	Concrete Class E: including supply, placement and formwork	m ³	241						4.4.1
2.15.2.9	Deformed Reinforcing Bars: including supply, bending and placement	kg	15,740						4.4.2
2.15.3	Abutments:								
2.15.3.1	Reinforced Concrete Test Pile (400 x 400): including supply, transportation and stacking	m	24						5.5.1.1
2.15.3.2	Driving Reinforced Concrete Test Pile (400 x 400)	m	72						5.5.1.2
2.15.3.3	Reinforced Concrete Pile (400 x 400): including supply, transportation and stacking	m	1,440						5.5.1.1
2.15.3.4	Driving Reinforced Concrete Pile (400 x 400): including handling pitching, driving to required bearing value	m	1,400						5.5.1.2
2.15.3.5	Pile Head Treatment (for 400 x 400 RC Pile): including breaking back pile head and bending of reinforcement	No.	80						5.5.1.3
2.15.3.6	Concrete Class G: including supply, placement and formwork	m ³	6						4.4.1
2.15.3.7	Concrete Class E: including supply, placement and formwork	m ³	108						4.4.1

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.15.3.8	Deformed Reinforcing Bars: including supply, bending and placement	kg	7,160						4.4.2
2.15.3.9	Gravel Bed Layer	m ³	6						3.6.2.6
2.15.3.10	Common Excavation: including shoring, hauling and disposal within the Site	m ³	141						3.6.1.1
2.15.3.11	Sand Backfill: including supply and placement	m ³	1						3.6.2.3
2.15.3.12	Timber Piling 80-100 dia x 4,500: including supply and installation	m	27,754						5.5.2
2.15.3.13	Free Draining Gravel: including supply and placement	m ³	30						3.6.2.5
2.15.3.14	Sand:Cement Mortar	m ³	30						4.4.3(b)
2.15.3.15	Wet Stone Masonry: including supply and construction	m ³	59						10.7.5
2.15.3.16	Precast Concrete Toe Block (Concrete Class E): including supply and installation	m ³	24						4.4.1
2.15.4	Superstructure:								
2.15.4.1	Elastomeric Bridge Bearings: including supply and installation	No.	100						10.7.7

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.15.4.2	Prestressed Concrete Bridge Girders: including supply, transportation and installation	No.	50						10.7.8
2.15.4.3	Concrete Class E (for Parapet Wall): including supply, placement and formwork	m ³	52						4.4.1
2.15.4.4	Concrete Class D (for Deck Slab): including supply, placement and formwork	m ³	143						4.4.1
2.15.4.5	Deformed Reinforcing Bars: including supply, bending and placement	kg	29,930						4.4.2
2.15.4.6	Deck Drains (100 mm dia galv. pipe): including supply and installation	m	28						10.7.9
2.15.4.7	Painting of Parapet: including supply of materials and application	m ²	308						10.7.10
2.15.4.8	Galvanized Steel Guard Rail and Posts: including supply and installation	kg	3,060						8.7.3
2.15.5	Approach Slabs:								
2.15.5.1	Concrete Class E (for Approach Slabs): including supply, placement and formwork	m ³	29						4.4.1
2.15.5.2	Deformed Reinforcing Bars: including supply, bending and placement	kg	5,440						4.4.2
2.15.5.3	Gravel Bed Layer	m ³	13						3.6.2.6
			Sub-total of Item 2.15:-						

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

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				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.16	Road Works:								
2.16.1	Subgrade Preparation	m ²	47,292						6.12.1
2.16.2	Sub Base Course : including supply and placement	m ³	9,497						6.12.2
2.16.3	Base Course (Crushed Aggregate): including supply and placement	m ³	4,746						6.12.3
2.16.4	Asphalt Binder Course : including supply and placement	tonne	8,354						6.12.4
2.16.5	Asphalt Surface Course : including supply and placement	tonne	5,321						6.12.5
2.16.6	Prime Coat: including supply and application	litre	71,832						6.12.6
2.16.7	Tack Coat: including supply and application	litre	23,820						6.12.7
2.16.8	Concrete Curb and Channel	m	7,375						6.12.8
2.16.9	Precast Concrete Guide Posts: including supply, installation and painting	No.	0						6.12.9
2.16.10	Road Marking	m ²	0						6.12.10
				Sub-total of Item 2.16:-					

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

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				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.17	Stormwater Drainage Works:								
2.17.1	Sand Bedding: including supply and placement	m ³	221						3.6.2.3
2.17.2	Concrete Class E (U-Channel, Manhole): including supply, placement and formwork	m ³	1,251						4.4.1
2.17.3	Concrete Class F (Invert Concrete): including supply, placement and formwork	m ³	663						4.4.1
2.17.4	Concrete Class G (Levelling Concrete): including supply, placement and formwork	m ³	234						4.4.1
2.17.5	Precast Concrete Cover (600Wx1000L, t=100) for U-Channel: including supply and placement	No.	4,752						7.13.9
2.17.6	Precast Concrete Cover (800Wx1000L, t=150) for U-Channel: including supply and placement	No.	343						7.13.9
2.17.7	Precast Concrete Cover (1200Wx1000L, t=150) for U-Channel: including supply and placement	No.	100						7.13.9
2.17.8	Precast Concrete Cover of Catch Basin Type 1 (400x400): including supply and placement	No.	50						7.13.9
2.17.9	Precast Concrete Cover of Catch Basin Type 2 (1000x1000): including supply and placement	No.	8						7.13.9
2.17.10	Elastic Joint Filler (t=20 mm): including supply and installation	m ²	520						4.4.4.2

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

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2.17.11	Joint Sealant: including supply and installation	litre	3,288						4.4.4.3
2.17.12	Outfall Structure Type 1 (BxH=600x1450)	No.	2						7.13.12
2.17.13	Outfall Structure Type 2 (BxH=1000x1450)	No.	3						7.13.12
				Sub-total of Item 2.17:-					
2.18	Landscaping Works:								
2.18.1	Main Gate Posts : including fabrication and construction	No.	4						9.4.4
2.18.2	Sliding Gate Leaf (Type-2) complete with track: including fabrication and construction	No.	2						9.4.4
2.18.3	Swing Door complete with reinforced concrete columns: including fabrication and construction	No.	1						9.4.4
2.18.4	Grid Fence (Type-A): including fabrication and construction	m	126						9.4.4
2.18.5	Wire Net Fence (Type-B) complete with concrete columns: including fabrication and construction	m	1,488						9.4.4
2.18.6	Grassing (by sodding method) : including supply, planting and maintenance	m ²	695						9.4.1

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

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2.18.7	Grassing (by sprigging method): including supply, planting and maintenance	m ²	62,226						9.4.1
2.18.8	Flowering Shrubs (group planting) : including supply, planting and maintenance	m ²	28						9.4.3
2.18.9	Flowering Shrubs (individual planting H=1000): including supply, planting and maintenance	No.	165						9.4.2
2.18.10	Tree (excluding palms) 3,000 4,000 high: including supply, planting and maintenance	No.	234						9.4.2
2.18.11	Coconut Palm (H=1,500): including supply, planting and maintenance	No.	63						9.4.2
2.18.12	Palm Tree (H=2,500): including supply, planting and maintenance	No.	6						9.4.2
				Sub-total of Item 2.18:-					
2.19	Sanitary Sewer:								
2.19.1	Precast Reinforced Concrete Pipe (300 dia.): including supply and laying	m	342						7.13.4
2.19.2	PVC Pipe (225 dia.): including supply, installation and support	m	83						7.13.7
2.19.3	Concrete Class E: including supply, placement and formwork	m ³	13						4.4.1

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

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2.19.4	Concrete Class F: including supply, placement and formwork	m ³	1						4.4.1
2.19.5	Concrete Class G: including supply, placement and formwork	m ³	1						4.4.1
2.19.6	Granolithic Topping: including supply and placement	m ²	9						7.13.8
2.19.7	Deformed Reinforcing Bars: including supply, bending and placement	kg	1,192						4.4.2
2.19.8	Cast Iron Manhole Cover (Type A): including supply and installation	No.	11						7.13.6
				Sub-total of Item 2.19:-					
2.20	Metal Works:								
2.20.1	Balustrade: including supply, fabrication and installation	kg	0						8.7.3
2.20.2	Ladder Rungs: including supply and installation in wall of manholes and others	No.	162						8.7.1
2.20.3	Grating Cover: including fabrication and installation	kg	10,719						8.7.3
2.20.4	Fabricated Manhole Cover: including supply, fabrication and placement	kg	281						8.7.2
				Sub-total of Item 2.20:-					

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

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				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.21	Miscellaneous Works:								
2.21.1	Precast Concrete Cover Slabs complete with support frames: including supply and installation	L.S.	Item						11.9.1
2.21.2	Overflow Weir: including supply and installation	L.S.	Item						11.9.3
2.21.3	Stop Logs: including supply and installation	L.S.	Item						11.9.4
2.21.4	Sky Lights: including supply and installation	L.S.	Item						11.9.5
2.21.5	Forged Steel Hook: including supply and installation	No.	100						11.9.2
2.21.6	Laboratory Equipment	L.S.	Item						11.9.7
				Sub-total of Item 2.21:-					
2.22	Conveyance Sewer:								
2.22.1	Earthworks:								
2.22.1.1	Common Excavation for Conveyance Sewer (Depth <= 3 m) : including shoring, hauling and disposal in designated area	m ³	0						3.6.1.1

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

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2.22.1.2	Common Excavation (3 m < Depth) of Conveyance Sewer: including shoring, hauling and disposal in designated area	m ³	3,399						3.6.1.1
2.22.1.3	Excavation of Shafts: including shoring, ground improvement, hauling and disposal of spoil in designated area	m ³	1,634						3.6.1.2
2.22.1.4	Sandy Soil Backfill: including supply and placement	m ³	2,234						3.6.2.2
2.22.1.5	Sand Bedding: including supply and placement	m ³	121						3.6.2.3
				Sub-total of Item 2.22.1:-					
2.22.2	Conveyance Sewer (CM38 - CM39) by Pipe Jacking Method:								
2.22.2.1	Concrete Class E: including supply, placement and formwork	m ³	0						4.4.1
2.22.2.2	Concrete Class F: including supply, placement and formwork	m ³	0						4.4.1
2.22.2.3	Deformed Reinforcing Bars: including supply, bending and placement	kg	0						4.4.2
2.22.2.4	Precast Reinforced Jacking Concrete Pipe (1,200 dia): including supply, pipe jacking, ground treatment and all associated works	m	220						7.13.5
				Sub-total of Item 2.22.2:-					

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

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2.22.3	Conveyance Sewer (CM39 - CM 41) Box Section Sewer constructed by open cut method:								
2.22.3.1	Reinforced Concrete Pile (300 x 300): including supply, transportation and stacking	m	5,239						5.5.1.1
2.22.3.2	Driving of Reinforced Concrete Piles 300 x 300: including handling pitching, driving to required bearing value	m	5,070						5.5.1.2
2.22.3.3	Pile Head Treatment (for 300 x 300 RC pile): including breaking back pile head and bending of reinforcement	No.	169						5.5.1.3
2.22.3.4	Concrete Class E (for Box Culvert): including supply, placement and formwork	m ³	373						4.4.1
2.22.3.5	Concrete Class G : including supply, placement and formwork	m ³	53						4.4.1
2.22.3.6	Deformed Reinforcing Bars: including supply, bending and placement	kg	28,750						4.4.2
2.22.3.7	Water Stop: including supply, installation and protection	m	53						4.4.4.1
2.22.3.8	Elastic Joint Filler (t=20 mm): including supply and installation	m ²	17						4.4.4.2
				Sub-total of Item 2.22.3:-					

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

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2.22.4	Manholes:								
2.22.4.1	Concrete Class E: including supply, placement and formwork	m ³	12						4.4.1
2.22.4.2	Deformed Reinforcing Bars: including supply, bending and placement	kg	1,000						4.4.2
2.22.4.3	Cast Iron Manhole Cover (Type A): including supply and installation	No.	3						7.13.6
				Sub-total of Item 2.22.4:-					
2.22.5	Maintenance Chambers:								
2.22.5.1	Reinforced Concrete Pile (300 x 300): including supply, transportation and stacking	m	1,116						5.5.1.1
2.22.5.2	Driving of Reinforced Concrete Piles (300 x 300): including handling pitching, driving to required bearing value	m	1,080						5.5.1.2
2.22.5.3	Pile Head Treatment (for 300 x 300 reinforced concrete piles): including breaking back pile head and bending of reinforcement	No.	36						5.5.1.3
2.22.5.4	Sand Bedding: including supply and placement	m ³	30						3.6.2.3
2.22.5.5	Concrete Class E: including supply, placement and formwork	m ³	203						4.4.1

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 2: CIVIL WORKS

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				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
2.22.5.6	Concrete Class F: including supply, placement and formwork	m ³	7						4.4.1
2.22.5.7	Concrete Class G: including supply, placement and formwork	m ³	0						4.4.1
2.22.5.8	Deformed Reinforcing Bars: including supply, bending and placement	kg	12,578						4.4.2
2.22.5.9	Cast Iron Manhole Cover (Type A): including supply and installation	No.	4						7.13.6
				Sub-total of Item 2.22.5:-					
				Total for Bill Item 2.22; Conveyance Sewer:					
				Total for Bill No. 2 (Carried Forward to Summary):					

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 3: BUILDING WORKS

ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
3.1	Lift Pumping Station:								
3.1.1	Architectural and Structural Works	L.S.	Item						14.5.1
3.1.2	Mechanical and Plumbing Works	L.S.	Item						14.5.2
3.1.3	Electrical Works	L.S.	Item						14.5.3
				Sub-total of Item 3.1:-					
3.2	Chlorine Storage Building:								
3.2.1	Architectural and Structural Works	L.S.	Item						14.5.1
3.2.2	Mechanical and Plumbing Works	L.S.	Item						14.5.2
3.2.3	Electrical Works	L.S.	Item						14.5.3
				Sub-total of Item 3.2:-					

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 3: BUILDING WORKS

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				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
3.3	Blower Building:								
3.3.1	Architectural and Structural Works	L.S.	Item						14.5.1
3.3.2	Mechanical and Plumbing Works	L.S.	Item						14.5.2
3.3.3	Electrical Works	L.S.	Item						14.5.3
				Sub-total of Item 3.3:-					
3.4	Main Office Building:								
3.4.1	Architectural and Structural Works	L.S.	Item						14.5.1
3.4.2	Mechanical and Plumbing Works	L.S.	Item						14.5.2
3.4.3	Electrical Works	L.S.	Item						14.5.3
				Sub-total of Item 3.4:-					

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 3: BUILDING WORKS

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				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
3.5	Dewatering and Centrifugal Thickener Building:								
3.5.1	Architectural and Structural Works	L.S.	Item						14.5.1
3.5.2	Mechanical and Plumbing Works	L.S.	Item						14.5.2
3.5.3	Electrical Works	L.S.	Item						14.5.3
				Sub-total of Item 3.5:-					
3.6	Compost Plant Facility Buildings:								
3.6.1	First Fermentation Tank Building:								
3.6.1.1	Architectural and Structural Works	L.S.	Item						14.5.1
3.6.1.2	Mechanical and Plumbing Works	L.S.	Item						14.5.2
3.6.1.3	Electrical Works	L.S.	Item						14.5.3
				Sub-total of Item 3.6.1:-					

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 3: BUILDING WORKS

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				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
3.6.2	Second Fermentation Tank Building:								
3.6.2.1	Architectural and Structural Works	L.S.	Item						14.5.1
3.6.2.2	Mechanical and Plumbing Works	L.S.	Item						14.5.2
3.6.2.3	Electrical Works	L.S.	Item						14.5.3
				Sub-total of Item 3.6.2:-					
3.6.3	Storage Vessel Building:								
3.6.3.1	Architectural and Structural Works	L.S.	Item						14.5.1
3.6.3.2	Mechanical and Plumbing Works	L.S.	Item						14.5.2
3.6.3.3	Electrical Works	L.S.	Item						14.5.3
				Sub-total of Item 3.6.3:-					

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 3: BUILDING WORKS

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3.6.4	Sub-Storage Vessel Building:								
3.6.4.1	Architectural and Structural Works	L.S.	Item						14.5.1
3.6.4.2	Mechanical and Plumbing Works	L.S.	Item						14.5.2
3.6.4.3	Electrical Works	L.S.	Item						14.5.3
				Sub-total of Item 3.6.4:-					
3.6.5	Compost Control Building:								
3.6.5.1	Architectural and Structural Works	L.S.	Item						14.5.1
3.6.5.2	Mechanical and Plumbing Works	L.S.	Item						14.5.2
3.6.5.3	Electrical Works	L.S.	Item						14.5.3
				Sub-total of Item 3.6.5:-					

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 3: BUILDING WORKS

ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
Total for Bill Item 3.6; Compost Plant Facilities:									
3.7	Guard House:								
3.7.1	Architectural and Structural Works	L.S.	Item						14.5.1
3.7.2	Mechanical and Plumbing Works	L.S.	Item						14.5.2
3.7.3	Electrical Works	L.S.	Item						14.5.3
Sub-total of Item 3.7:-									
3.8	Stair Houses: Stair A, B, C								
3.8.1	Architectural and Structural Works	L.S.	Item						14.5.1
3.8.2	Mechanical and Plumbing Works	L.S.	Item						14.5.2
3.8.3	Electrical Works	L.S.	Item						14.5.3
Sub-total of Item 3.8:-									

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 3: BUILDING WORKS

ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
3.9	Ventilation of Underground Civil Structure								
3.9.1	Mechanical and Plumbing Works	L.S.	Item						14.5.2
3.9.2	Electrical Works	L.S.	Item						14.5.3
				Sub-total of Item 3.9:-					
				Total for Bill No. 3 (Carried Forward to Summary):					

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 4: MECHANICAL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
4.1	Supply of Mechanical Equipment:									
4.1.1	Grit Chamber Equipment:									
4.1.1.1	Inflow Gate with 1,500mm W x 1,500mm H	set	2							12.19.1
4.1.1.2	Coarse Screen with screen gap 100mm	set	2							12.19.1
4.1.1.3	Chain Block with 1 t	set	1							12.19.1
				Sub-total of Item 4.1.1:-						
4.1.2	Lift Pump Equipment:									
4.1.2.1	Lift Pump (1) with 700mm dia x 66.7m ³ /min x 14m	set	3							12.19.1
4.1.2.2	Connecting Gate with 1,500mm W x 1,500mm H	set	1							12.19.1
4.1.2.3	Hoist with 10t	set	1							12.19.1
4.1.2.4	Floor Drainage Pump with 65mm dia x 0.3m ³ /min x 10m	set	12							12.19.1
				Sub-total of Item 4.1.2:-						

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 4: MECHANICAL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
4.1.3	Distribution Tank Equipment:								
4.1.3.1	Distribution Weir with 1,000mm W x 1,000mm ST	set	4						12.19.1
				Sub-total of Item 4.1.3:-					
4.1.4	Blower Equipment:								
4.1.4.1	Blower (1) with 600mm dia x 360m ³ /min x 6.8mAg	set	2						12.19.1
4.1.4.2	Discharge Valve (1) with 500mmdia	set	2						12.19.1
4.1.4.3	Check Valve (1) with 500mm dia	set	2						12.19.1
4.1.4.4	Air Filter with opening 2.3m W x 2.8m H	set	2						12.19.1
4.1.4.5	Crane with 10t	set	1						12.19.1
4.1.4.6	Floor Drainage Pump with 65mm dia x 0.3m ³ /min x 10m	set	2						12.19.1
				Sub-total of Item 4.1.4:-					

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 4: MECHANICAL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
4.1.5	Primary Sedimentation Tank Equipment:									
4.1.5.1	Inflow Weir with 500mm W x 400mm ST	set	10							12.19.1
4.1.5.2	Bypass Gate with 1,000mm W x 1,000mm ST	set	1							12.19.1
4.1.5.3	Sludge Scraper with(5.0m W x 13.0m L x 3.0m H) x 2 channel	set	10							12.19.1
4.1.5.4	Scum Skimmer with 300mm dia	set	20							12.19.1
4.1.5.5	Scum Pump with 80mm dia x 0.8m ³ /min x 10m	set	2							12.19.1
4.1.5.6	Raw Sludge Pump with 80mm dia x 0.5m ³ /min x 14m	set	3							12.19.1
4.1.5.7	Raw Sludge Valve with 150mm dia	set	10							12.19.1
4.1.5.8	Comminuter	set	1							12.19.1
				Sub-total of Item 4.1.5:-						

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 4: MECHANICAL WORKS										
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
4.1.6	Aeration Tank Equipment:									
4.1.6.1	Inflow Weir with 500mm W x 500mm ST	set	10							12.19.1
4.1.6.2	Step Feeding Weir with 500mm W x 500mm ST	set	30							12.19.1
4.1.6.3	Diffuser with 120 l/min, 24 tube/header	set	20							12.19.1
4.1.6.4	Diffuser with 120l/min, 18tube/header	set	140							12.19.1
4.1.6.5	Air Flow Control Valve with 350mm dia	set	10							12.19.1
				Sub-total of Item 4.1.6:-						
4.1.7	Final Sedimentation Tank Equipment:									
4.1.7.1	Inflow Gate with 500mm W x 500mm ST	set	10							12.19.1
4.1.7.2	Sludge Scraper with (5.0m W x 26.0m L x 3.5m H) x 2 channel	set	10							12.19.1

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 4: MECHANICAL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
4.1.7.3	Scum Skimmer with 300mm dia	set	20						12.19.1	
4.1.7.4	Scum Pump with 80mm dia x 0.8m ³ /min x 10m	set	2						12.19.1	
4.1.7.5	Return Sludge Pump (25%) with 250mm dia x 5.6m ³ /min x 6m	set	4						12.19.1	
4.1.7.6	Return Sludge Valve with 350mm dia	set	10						12.19.1	
4.1.7.7	Excess Sludge Pump with 100mm dia x 1.2m ³ /min x 13m	set	3						12.19.1	
4.1.7.8	Excess Sludge Valve with 150mm dia	set	10						12.19.1	
4.1.7.9	Sluice Valve with 350mm dia	set	14						12.19.1	
4.1.7.10	Comminuter with 200mm dia	set	1						12.19.1	
4.1.7.11	Floor Drainage Pump with 65mm dia x 0.3m ³ /min x 10m	set	14						12.19.1	
				Sub-total of Item 4.1.7:-						

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 4: MECHANICAL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
4.1.8	Disinfection Equipment:									
4.1.8.1	Inflow Gate with 2,000mm W x 2,000mm H	set	1							12.19.1
4.1.8.2	Bypass Gate with 2,000mm W x 2,000mm H	set	1							12.19.1
4.1.8.3	Sodium Hypochlorite Tank with 13m ³	set	2							12.19.1
4.1.8.4	Sodium Hypochlorite Pump with 25mm dia x 0.82 ~ 1.62 l/min	set	3							12.19.1
				Sub -total of 4.1.8:-						
4.1.9	Treated Water Supply Equipment:									
4.1.9.1	Secondary Effluent Gate with 1,000mm W x 1,000mm ST	set	1							12.19.1
4.1.9.2	Treated Water Supply Pump (1) with 150 x 125mm dia x 3.2m ³ /min x 30m	set	2							12.19.1
4.1.9.3	Treated Water Strainer (1) with 250mm dia x 6.4m ³ /min	set	1							12.19.1

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 4: MECHANICAL WORKS											
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE	
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)				
4.1.9.4	Treated Water Supply Pump (2) with 125 x 100mm dia x 2.2m ³ /min x 30m	set	2							12.19.1	
4.1.9.5	Treated Water Strainer (2) with 250mm dia x 6.6m ³ /min	set	1							12.19.1	
4.1.9.6	Crane with 2 t safe working load x span 6.5m	set	1							12.19.1	
4.1.9.7	Floor Drainage Pump with 65mm dia x 0.3m ³ /min x 10m	set	8							12.19.1	
				Sub -total of 4.1.9 :-							
4.1.10	Filtered Water Supply Equipment:										
4.1.10.1	Filtration Supply Pump with 80 x 65mm dia x 0.7m ³ /min x 10m	set	2							12.19.1	
4.1.10.2	Filtration Supply Strainer with 80mm dia x 0.7m ³ /min	set	2							12.19.1	
4.1.10.3	Sand Filter with 0.6m ³ /min	set	2							12.19.1	
4.1.10.4	Filtered Water Supply Pump with 80 x 65mm dia x 1.0m ³ /min x 30m	set	2							12.19.1	

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 4: MECHANICAL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
4.1.10.5	Backwash Pump with 125 x 100mm dia x 2.7m ³ /min x 10m	set	2						12.19.1	
4.1.10.6	Air Wash Blower with 100mm dia x 4.5m ³ /min x 4.5kPa	set	2						12.19.1	
4.1.10.7	Backwash Wastewater Pump with 65 x 50mm dia x 0.35m ³ /min x 15m	set	2						12.19.1	
4.1.10.8	Air Compressor with 400 l/min	set	2						12.19.1	
4.1.10.9	Dehumidifier with 400 l/min	set	1						12.19.1	
				Sub-total of Item 4.1.10:-						
4.1.11	Gravity Thickening Equipment:									
4.1.11.1	Gravity Thickener with 14m dia	set	1						12.19.1	
4.1.11.2	Scum Skimmer with 7,000mm L	set	1						12.19.1	
4.1.11.3	Thickened Sludge Pump with 80mm dia x 0.7m ³ /min x 10m	set	2						12.19.1	
4.1.11.4	Thickener Effluent Pump with 80mm dia x 0.4m ³ /min x 15m	set	2						12.19.1	
4.1.11.5	Floor Drainage Pump with 65mm dia x 0.3m ³ /min x 10m	set	2						12.19.1	
				Sub-total of Item 4.1.11:-						

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 4: MECHANICAL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
4.1.12	Centrifugal Thickening Equipment:									
4.1.12.1	Excess Sludge Mixer with 140m ³	set	1						12.19.1	
4.1.12.2	Excess Sludge Feed Pump with 250mm dia x 35 ~ 105m ³ /h x 10mAq	set	2						12.19.1	
4.1.12.3	Centrifugal Thickener with 70m ³ /h	set	2						12.19.1	
4.1.12.4	Sluice Valve with 350mm dia	set	2						12.19.1	
4.1.12.5	Crane with safe working load of 20 t	set	1						12.19.1	
				Sub-total of Item 4.1.12:-						
4.1.13	Sludge Dewatering Equipment:									
4.1.13.1	Mixed Sludge Mixer with 180m ³	set	2						12.19.1	
4.1.13.2	Mixed Sludge Feed Pump with 125mm dia x 15 ~ 45m ³ /h x 10mAq	set	2						12.19.1	
4.1.13.3	Centrifugal Denhydrater with 30m ² /h	set	2						12.19.1	
4.1.13.4	Cake Hopper with 10m ³	set	2						12.19.1	
4.1.13.5	Dump Truck	set	2						12.19.1	

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 4: MECHANICAL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
4.1.13.6	Polymer Hopper and Polymer Feeder with 1,500l and 2,000cc/min	set	2						12.19.1	
4.1.13.7	Polymer Dissolution Tank with 10m ³	set	2						12.19.1	
4.1.13.8	Polymer Feed Pump with 0.04 ~ 0.13m ³ /min	set	2						12.19.1	
4.1.13.9	Treated Water Inflow Valve	set	1						12.19.1	
4.1.13.10	Water Supply Pump Unit with 2.62m ³ /min x 35mAq	set	1						12.19.1	
4.1.13.11	Air Compressor	set	2						12.19.1	
4.1.13.12	Dehumidifier	set	1						12.19.1	
4.1.13.13	Crane with safe working load of 20 t	set	1						12.19.1	
4.1.13.14	Chain Block	set	1						12.19.1	
				Sub-total of Item 4.1.13:-						

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 4: MECHANICAL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
4.1.14	Recycle Flow Equipment:								
4.1.14.1	Recycle Flow Mixer	set	1						12.19.1
4.1.14.2	Recycle Flow Pump	set	2						12.19.1
				Sub-total of Item 4.1.14:-					
4.1.15	Fermenting Equipment:								
4.1.15.1	Mixing Machine	set	2						12.19.1
4.1.15.2	Suction Fan	set	4						12.19.1
4.1.15.3	Humidifying Pump	set	2						12.19.1
				Sub-total of Item 4.1.15:-					

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 4: MECHANICAL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
4.1.16	Curing Equipment:								
4.1.16.1	Dump Truck	set	4						12.19.1
4.1.16.2	Shovel Loader	set	9						12.19.1
4.1.16.3	Truck Scale	set	1						12.19.1
				Sub -total of 4.1.16:-					
4.1.17	Deodorization Equipment:								
4.1.17.1	Deodorization Soil Filter	set	1						12.19.1
4.1.17.2	Deodorization Fan	set	2						12.19.1
4.1.17.3	Spray Water Pump	set	1						12.19.1
4.1.17.4	Wastewater Drainage Pump	set	1						12.19.1
				Sub-total of Item 4.1.17:-					

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 4: MECHANICAL WORKS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE			AMOUNT			COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE	
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)				
4.1.18	Piping :											
4.1.18.1	Materials for Piping	lot	1								12.19.2	
				Sub-total of Item 4.1.18:-								
4.2	Other Mechanical Works:											
4.2.1	Installation of Equipment and Piping	L.S.	Item								12.19.3	
4.2.2	Site Testing and Commissioning	L.S.	Item								12.19.4	
				Sub-total of Item 4.2:-								
				Total for Bill No. 4 (Carried Forward to Summary):								

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS											
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE			AMOUNT			COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
5.1	Supply of Electrical Equipment:										
5.1.1	22kV Substation (MSUB):										
5.1.1.1	22kV Incoming C-GIS unit	units	2								13.9.1
5.1.1.2	22kV Bus Tie C-GIS unit	unit	1								13.9.1
5.1.1.3	22kV Metering C-GIS unit	unit	1								13.9.1
5.1.1.4	22kV Transformer primary C-GIS unit	unit	1								13.9.1
5.1.1.5	22kV/3.3kV,5000kVA Main Transformer	unit	1								13.9.1
Sub-total of Item 5.1.1:-											

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS											
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE				AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
5.1.2	Main Building:										
5.1.2.1	Main Electric Room (ELCR):										
5.1.2.1.1	3.3kV Incoming Switchgear	unit	1								13.9.1
5.1.2.1.2	3.3kV Feeder Switchgear	units	5								13.9.1
5.1.2.1.3	3.3kV Section Panel	unit	1								13.9.1
5.1.2.1.4	3.3kV Capacitor Panel	units	4								13.9.1
5.1.2.1.5	3.3kV Transformer Primary Panel	unit	1								13.9.1
5.1.2.1.6	750kVA Transformer Cubicle	unit	1								13.9.1
5.1.2.1.7	Low voltage Switchgear	unit	1								13.9.1
5.1.2.1.8	AC Distribution Panel	unit	1								13.9.1

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS										
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
5.1.2.1.9	Motor Control Centre	units	5							13.9.1
5.1.2.1.10	Ry Panel for Motor Control Centre	units	3							13.9.1
5.1.2.1.11	DC Power Supply System	unit	1							13.9.1
5.1.2.1.12	UPS	unit	1							13.9.1
5.1.2.1.13	22kV Substation Control and Protection Panel	unit	1							13.9.1
5.1.2.1.14	OLTC Control Panel	unit	1							13.9.1
5.1.2.1.15	Pipe Gallery Lighting Distribution Board	unit	1							13.9.1
5.1.2.1.16	Outdoor Lighting Distribution Board	unit	1							13.9.1
5.1.2.1.17	Pipe Gallery Ventilation Fan Control Board	unit	1							13.9.1
Sub-total of Item 5.1.2.1:-										

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS											
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE			AMOUNT			COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
5.1.2.2	Main Control Room (CCTR) Equipment:										
5.1.2.2.1	Supervisory Panel	units	4								13.9.1
5.1.2.2.2	Instrumentation Panel	unit	1								13.9.1
5.1.2.2.3	Data Logging System	unit	1								13.9.1
5.1.2.2.4	Interface Panel	units	2								13.9.1
5.1.2.2.5	Bill Metering Panel	unit	1								13.9.1
5.1.2.2.6	Communication Panel	set	1								13.9.1
			Sub-total of Item 5.1.2.2:-								13.9.1

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS										
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE	
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
5.1.2.3	Emergency Generator (GENR):									
5.1.2.3.1	750kVA, 3.3kV Engine Generator	unit	1						13.9.1	
5.1.2.3.2	Generator Control Panel	unit	1						13.9.1	
5.1.2.3.3	Fuel Tank	unit	1						13.9.1	
5.1.2.3.4	Cooling Unit	unit	1						13.9.1	
5.1.2.3.5	Air Compressor	unit	1						13.9.1	
5.1.2.3.6	Inlet Fan	units	4						13.9.1	
5.1.2.3.7	Exhaust Fan	units	4						13.9.1	
				Sub-total of Item 5.1.2.3:-						
				Total for Bill Item 5.1.2; Main Building:						

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS										
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
5.1.3	Lift Pumping Station:									
5.1.3.1	Lift Pump Electric Room (LFER):									
5.1.3.1.1	3.3kV Transformer Primary Panel (Incoming Panel)	set	1							13.9.1
5.1.3.1.2	3.3kV/380-220V, 1500kVA Transformer	unit	1							13.9.1
5.1.3.1.3	Transformer Primary and Secondary Bus Duct	set	1							13.9.1
5.1.3.1.4	Low Voltage Switchgear	set	1							13.9.1
5.1.3.1.5	220kW Lift Pump Starter Panel	units	3							13.9.1
5.1.3.1.6	380V Capacitor Panel	units	3							13.9.1
5.1.3.1.7	AC Distribution Panel	unit	1							13.9.1
5.1.3.1.8	Motor Control Centre	units	3							13.9.1

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS										
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
5.1.3.1.9	Ry Panel for Motor Control Centre	unit	1							13.9.1
5.1.3.1.10	DC Power Supply System	unit	1							13.9.1
5.1.3.1.11	Interface Panel	unit	1							13.9.1
5.1.3.1.12	Outdoor Lighting Distribution Board	unit	1							13.9.1
Sub-total of Item 5.1.3.1:-										
5.1.3.2	Local Control Panel:									
5.1.3.2.1	Local Control Panel for Motor	sets	9							13.9.1
5.1.3.2.2	Local Control Panel for Instrument	set	1							13.9.1
Sub-total of Item 5.1.3.2:-										

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS										
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
5.1.3.3	Instrumentation Equipment:									
5.1.3.3.1	Submerged Diaphragm Type Level Meter	set	1							13.9.1
5.1.3.3.2	Electrode Type Level Control Switch	sets	6							13.9.1
				Sub-total of Item 5.1.3.3:-						
				Total for Bill Item 5.1.3; Lift Pumping Station:						
5.1.4	Wastewater Treatment Facility:									
5.1.4.1	Wastewater Treatment Electric Room (WTER):									
5.1.4.1.1	3.3kV Transformer Primary Panel (Incoming Panel)	set	1							13.9.1
5.1.4.1.2	750kVA Transformer Cubicle	unit	1							13.9.1
5.1.4.1.3	Low voltage Switchgear	unit	1							13.9.1

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS										
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
5.1.4.1.4	AC Distribution Panel	unit	1							13.9.1
5.1.4.1.5	Motor Control Centre	units	14							13.9.1
5.1.4.1.6	Ry Panel for Motor Control Centre	units	7							13.9.1
5.1.4.1.7	DC Power Supply System	unit	1							13.9.1
5.1.4.1.8	UPS	unit	1							13.9.1
5.1.4.1.9	Interface Panel	unit	1							13.9.1
5.1.4.1.10	Pipe Gallery Lighting Distribution Board	unit	1							13.9.1
5.1.4.1.11	Outdoor Lighting Distribution Board	unit	1							13.9.1
Sub-total of Item 5.1.4.1:-										

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS										
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
5.1.4.2	Local Control Panel:									
5.1.4.2.1	Local Control Panel for Motor	sets	58							13.9.1
5.1.4.2.2	Local Control Panel for Instrument	sets	7							13.9.1
				Sub-total of Item 5.1.4.2:-						
5.1.4.3	Instrumentation Equipment:									
5.1.4.3.1	Orifice Type Flow Meter 350m/m	sets	10							13.9.1
5.1.4.3.2	Orifice Type Flow Meter Converter	sets	10							13.9.1
5.1.4.3.3	Electromagnetic Type Flow Meter 100m/m	set	1							13.9.1
5.1.4.3.4	Electromagnetic Type Flow Meter 150m/m	set	1							13.9.1
5.1.4.3.5	Electromagnetic Type Flow Meter 350m/m	sets	2							13.9.1

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS												
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE		
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)					
5.1.4.3.6	Ultrasonic Type Density Meter 100m/m	set	1							13.9.1		
5.1.4.3.7	Ultrasonic Type Density Meter 350m/m	sets	2							13.9.1		
5.1.4.3.8	Flyct Type Level Control Switch	sets	2							13.9.1		
5.1.4.3.9	Electrode Type Level Control Switch	sets	7							13.9.1		
				Sub-total of Item 5.1.4.3:-								
				Total for Bill Item 5.1.4; Wastewater Treatment Facility:								
5.1.5	Chlorination Storage Building Facility:											
5.1.5.1	Chlorination Electric Room (CHER):											
5.1.5.1.1	13.3kV Transformer Primary Panel (Incoming Panel)	set	1							13.9.1		
5.1.5.1.2	750kVA Transformer Cubicle	unit	1							13.9.1		
5.1.5.1.3	Low voltage Switchgear	unit	1							13.9.1		

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS										
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
5.1.5.1.4	AC Distribution Panel	unit	1							13.9.1
5.1.5.1.5	Motor Control Centre	units	8							13.9.1
5.1.5.1.6	Ry Panel for Motor Control Centre	units	4							13.9.1
5.1.5.1.7	DC Power Supply System	unit	1							13.9.1
5.1.5.1.8	UPS	unit	1							13.9.1
5.1.5.1.9	Supervisory Panel	units	1							13.9.1
5.1.5.1.10	Instrumentation Panel	unit	1							13.9.1
5.1.5.1.11	Interface Panel	unit	1							13.9.1
5.1.5.1.12	Pipe Gallery Lighting Distribution Board	unit	1							13.9.1
5.1.5.1.13	Outdoor Lighting Distribution Board	unit	1							13.9.1
Sub-total of Item 5.1.5.1:-										

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS										
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE	
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
5.1.5.2	Local Control Panel:									
5.1.5.2.1	Local Control Panel for Motor	sets	14						13.9.1	
5.1.5.2.2	Local Control Panel for Instrument	sets	5						13.9.1	
				Sub-total of Item 5.1.5.2:-						
5.1.5.3	Instrumentation Equipment:									
5.1.5.3.1	Submerged Diaphragm Type Level Meter	set	1						13.9.1	
5.1.5.3.2	Diaphragm Type Level Meter	sets	2						13.9.1	
5.1.5.3.3	Ultrasonic Type Level Meter with Weir	set	1						13.9.1	
5.1.5.3.4	Electromagnetic Type Flow Meter 25m/m	set	1						13.9.1	
5.1.5.3.5	Flyct Type Level Control Switch	set	1						13.9.1	
5.1.5.3.6	Electrode Type Level Control Switch	sets	5						13.9.1	
				Sub-total of Item 5.1.5.3:-						
Total for Bill Item 5.1.5; Chlorination Storage Building Facility:										

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS										
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
5.1.6	Dewatering & Centrifugal Thickener Facility:									
5.1.6.1	Dewatering Electric Room (DCER):									
5.1.6.1.1	3.3kV Transformer Primary Panel (Incoming Panel)	set	1							13.9.1
5.1.6.1.2	2500kVA Transformer Cubicle	unit	1							13.9.1
5.1.6.1.3	Low voltage Switchgear	unit	1							13.9.1
5.1.6.1.4	AC Distribution Panel	units	3							13.9.1
5.1.6.1.5	Motor Control Centre	units	14							13.9.1
5.1.6.1.6	Ry Panel for Motor Control Centre	units	7							13.9.1
5.1.6.1.7	DC Power Supply System	unit	1							13.9.1
5.1.6.1.8	UPS	unit	1							13.9.1

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS										
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
5.1.6.1.9	Supervisory Panel	units	3							13.9.1
5.1.6.1.10	Instrumentation Panel	unit	1							13.9.1
5.1.6.1.11	Interface Panel	unit	1							13.9.1
5.1.6.1.12	Pipe Gallery Lighting Distribution Board	unit	1							13.9.1
				Sub-total of Item 5.1.6.1:-						
5.1.6.2	Local Control Panel:									
5.1.6.2.1	Local Control Panel for Motor	sets	18							13.9.1
5.1.6.2.2	Local Control Panel for Instrument	sets	5							13.9.1
				Sub-total of Item 5.1.6.2:-						

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS											
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE	
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)				
5.1.6.3	Instrumentation Equipment:										
5.1.6.3.1	Diaphragm Type Level Meter	sets	2							13.9.1	
5.1.6.3.2	Electromagnetic Type Flow Meter 50m/m	sets	2							13.9.1	
5.1.6.3.3	Electromagnetic Type Flow Meter 80m/m	sets	3							13.9.1	
5.1.6.3.4	Electromagnetic Type Flow Meter 100m/m	sets	2							13.9.1	
5.1.6.3.5	Ultrasonic Type Density meter 80m/m	set	1							13.9.1	
5.1.6.3.6	Ultrasonic Type Density meter 150m/m	set	1							13.9.1	
5.1.6.3.7	Ultrasonic Type Density meter 200m/m	set	1							13.9.1	
5.1.6.3.8	Flyct Type Level Control Switch	sets	2							13.9.1	
5.1.6.3.9	Electrode Type Level Control Switch	sets	2							13.9.1	
				Sub-total of Item 5.1.6.3:-							
Total for Bill Item 5.1.6; Dewatering and Centrifugal Facility:											

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS										
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
5.1.7	Blower Building Facility:									
5.1.7.1	Electrical Equipment:									
5.1.7.1.1	3.3kV Incoming Panel	sets	2							13.9.1
5.1.7.1.2	480kW Blower Control Panel	units	2							13.9.1
				Sub-total of Item 5.1.7.1:-						
5.1.7.2	Local Control Panel:									
5.1.7.2.1	Local Control Panel for Motor and AUX.	set	1							13.9.1
				Sub-total of Item 5.1.7.2:-						
5.1.7.3	Instrumentation Equipment:									
5.1.7.3.1	Orifice Type Flow Meter 600m/m	sets	2							13.9.1

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS										
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE		AMOUNT			COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		
5.1.7.3.2	Orifice Type Flow Meter Converter	sets	2							13.9.1
5.1.7.3.3	Electrode Type Level Control Switch	set	1							13.9.1
				Sub-total of Item 5.1.7.3:-						
Total for Bill Item 5.1.7; Blower Building Facility:										
5.1.8	Compost Plant Facility:									
5.1.8.1	Compost Electric Room (CPEP) Equipment:									
5.1.8.1.1	3.3kV Transformer Primary Panel (Incoming Panel)	set	1							13.9.1
5.1.8.1.2	750kVA Transformer Cubicle	unit	1							13.9.1
5.1.8.1.3	Low voltage Switchgear	unit	1							13.9.1
5.1.8.1.4	AC Distribution Panel	unit	1							13.9.1

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS										
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE	
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
5.1.8.1.5	Motor Control Centre	units	5						13.9.1	
5.1.8.1.6	Ry Panel for Motor Control Centre	units	3						13.9.1	
5.1.8.1.7	DC Power Supply System	unit	1						13.9.1	
5.1.8.1.8	UPS	unit	1						13.9.1	
5.1.8.1.9	Supervisory Panel	unit	1						13.9.1	
5.1.8.1.10	Interface Panel	unit	1						13.9.1	
5.1.8.1.11	Outdoor Lighting Distribution Board	unit	1						13.9.1	
				Sub-total of Item 5.1.8.1:-						
5.1.8.2	Local Control Panel:									
5.1.8.2.1	Local Control Panel for Motor	sets	8						13.9.1	
				Sub-total of Item 5.1.8.2:-						

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS										
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE	
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
5.1.8.3	Instrumentation Equipment:									
5.1.8.3.1	Electrode Type Level Control Switch	sets	3						13.9.1	
				Sub-total of Item 5.1.8.3:-						
Total for Bill Item 5.1.8; Compost Plant Facility:										
5.1.9	Pipe Gallery:									
5.1.9.1	Pipe Gallery Equipment:									
5.1.9.1.1	Pipe Gallery Lighting Switch Box	sets	12						13.9.1	
5.1.9.1.2	Pipe Gallery Receptacle Box	sets	26						13.9.1	
				Sub-total of Item 5.1.9.1-						
Total for Bill Item 5.1.9; Pipe Gallery Equipment:										

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS												
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE			AMOUNT			COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE	
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)		FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)				
5.1.10	Outdoor and Road Lighting Equipment:											
5.1.10.1	Guard House:											
5.1.10.1.1	Outdoor Lighting Switch Box	set	1								13.9.1	
				Sub-total of Item 5.1.10.1-								
				Total for Bill Item 5.1.10; Outdoor and Road Lighting Equipment:								
				Total for Bill Item 5.1; Supply of Electrical Equipment:								
5.2	Installation Works:											
5.2.1	Supply of Cables and Bulk materials	L.S.	Item								13.9.2	
5.2.2	Installation of Equipment, Cables and Bulk Materials	L.S.	Item								13.9.2	
				Sub-total of Item 5.2-								

HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT

BILL OF QUANTITIES

BILL NO. 5: ELECTRICAL WORKS										
ITEM NO.	DESCRIPTION	UNIT	PAYMENT CLAUSE REFERENCE	UNIT RATE		AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE	
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
5.3	Testing and Commissioning									
5.3.1	Supervising, Field Inspection & Testing	L.S.	Item						13.9.3	
5.3.2	Electrical Completion Works	L.S.	Item						13.9.3	
5.3.3	Tools	L.S.	Item						13.9.3	
				Sub-total of Item 5.3:-						
Total for Bill No. 5 (Carried Forward to Summary):										

**HO CHI MINH CITY
WATER ENVIRONMENT IMPROVEMENT PROJECT
PACKAGE E
WASTEWATER TREATMENT PLANT**

BILL OF QUANTITIES

BILL NO. 6: PROVISIONAL ITEMS

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT RATE			AMOUNT		COMBINED EQUIVALENT TOTAL (VND X 1000)	PAYMENT CLAUSE REFERENCE
				FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)	FOREIGN CURRENCY COMPONENT (Yen x 1000)	LOCAL CURRENCY COMPONENT (VND x 1000)			
6.1	Transmission Line									
6.1.1	Cable and Bulk material for Transmission Line	Prov. Sum	Item						13.9.4	
6.1.2	Installation for equipment and Bulk material	Prov. Sum	Item						13.9.4	
6.1.3	Supervising and Field inspection & Testing	Prov. Sum	Item						13.9.4	
				Sub-total of Item 6.1:-						
				Total for Bill No. 6 (Carried forward to Summary) :						

SECTION 7. SAMPLE FORM OF AGREEMENT

FORM OF AGREEMENT

AGREEMENT

THIS AGREEMENT made the _____ day of _____ 20 ____ between _____ of _____ (hereinafter called "the Employer") of the one part and _____ of _____ (hereinafter called "the Contractor") of the other part.

WHEREAS the Employer is desirous that certain Works should be executed by the Contractor, viz., _____, and has accepted a Bid by the Contractor for the execution and completion of such Works and the remedying of any defects therein.

NOW THIS AGREEMENT WITNESSETH as follows :

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz. :
 - (a) the Letter of Acceptance;
 - (b) the said Bid and Appendix to Bid;
 - (c) the Conditions of Contract (Part II);
 - (d) the Conditions of Contract (Part I);
 - (e) the Specifications;
 - (f) the Drawings;
 - (g) the Priced Bill of Quantities; and
 - (h) the Schedules of Supplementary Information
3. In consideration of the payment to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any 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 the day and year first before written.

The Common Seal of _____ was hereunto affixed in the presence of _____ was hereunto affixed in the presence of :

or

Signed, sealed, undelivered by the said _____ in the presence of : _____

Binding Signature of Employer _____

Binding Signature of Contractor _____

SECTION 8. SAMPLE FORMS OF SECURITIES

Samples of acceptable forms of performance security are annexed. Bidders should not complete the forms at this time. Only the successful Bidder will be required to provide performance security in accordance with one of the samples, or in a similar form acceptable to the Employer.

**FORM OF PERFORMANCE SECURITY
(BANK GUARANTEE)**

THIS AGREEMENT is made on the _____ day of _____
20____ between _____ [*name of bank*] of _____ [*address of bank*] (hereinafter called "the Guarantor") of the one part and _____ [*name of Employer*] of _____ [*address of Employer*] (hereinafter called "the Employer") of the other part.

WHEREAS

- (1) this Agreement is supplemental to a contract (hereinafter called the Contract) made between _____ [*name of Contractor*] of _____ [*address of Contractor*] (hereinafter called the Contractor) of the one part and the Employer of the other part whereby the Contractor agreed and undertook to execute the Works of _____ [*name of Contract and brief description of the Works*] for the sum of _____ [*amount in Contract currency*] being the Contract Price; and
- (2) the Guarantor has agreed to guarantee the due performance of the Contract in the manner hereinafter appearing.

NOW, THEREFORE, the Guarantor hereby agrees with the Employer as follows :

- (a) If the Contractor (unless relieved from the performance by any clause of the Contract or by statute or by the decision of a tribunal of competent jurisdiction) shall in any respect fail to execute the Contract or commit any breach of his obligations thereunder then the Guarantor will indemnify and pay the Employer the sum of [*amount of Guarantee*], [*amount in words*], such sum being payable in the types and proportions of currencies in which the Contract Price is payable, provided that the Employer or his authorized representative has notified the Guarantor to that effect and has made a claim against the Guarantor before the issue of the Defects Liability Certificate.
- (b) The Guarantor shall not be discharged or released from his guarantee by an arrangement between the Contractor and the Employer, with or without the consent of the Guarantor, or by any alteration in the obligations undertaken by the Contractor, or by any forbearance on the part of the Contractor, whether as to the payment, time, performance, or otherwise, and any notice to the Guarantor of any such arrangement, alteration, forbearance is hereby expressly waived.

This Guarantee shall be valid until a date 28 days from the date of issue of the Taking-Over Certificate.

Given under our hand on the date first mentioned above.

SIGNED BY _____

for and on behalf of the Guarantor in the presence of:

(Witness)

SIGNED BY _____

for and on behalf of the Employer in the presence of:

(Witness)

**FORM OF BANK GUARANTEE
FOR ADVANCE PAYMENT SECURITY
(BANK GUARANTEE)**

To _____
[name of Employer]

[address of Employer]

[name of Contract]

Gentlemen :

In accordance with the provisions of the Conditions of Contract, Sub-clause 60.7 ("Advance Payment") of the above-mentioned Contract, _____ [name and address of Contractor] (hereinafter called "the Contractor") shall deposit with _____ [name of Employer] a bank guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of _____ [amount of Guarantee], _____ [amount in words].

We, the _____ [bank or financial institution], as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to _____ [name of Employer] on his first demand without whatsoever right of objection on our part and without his first claim to the Contractor, in the amount not exceeding _____ [amount of Guarantee], _____ [amount in words] , such amount to be reduced periodically by the amounts recovered by you from the proceeds of the Contract.

We further agree that no change or addition to or other modification of the terms of the Contract or of Works to be performed thereunder or of any of the Contract documents which may be made between _____ [name of Employer] and the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

No drawing may be made by you under this guarantee until we have received notice in writing from you that an advance payment of the amount listed above has been paid to the Contractor pursuant to the Contract.

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until _____ [name of Employer] receives full repayment of the same amount from the Contractor.

Yours Truly,

SIGNATURE AND SEAL :

Name of Bank or Financial Institution : _____
Address : _____
Date : _____

**SECTION 9. SCHEDULES OF SUPPLEMENTARY
INFORMATION**

SCHEDULE 1: GENERAL INFORMATION

PAGE __ OF __ PAGES

Bidders are required to use this schedule to update information supplied during prequalification

Each partner of a joint venture is requested to complete the information in this form. Nationality information should be provided for all owners or applicants who are partnerships or individually-owned firms.

1.	Name of firm	
2.	Head office address	
3.	Telephone	Contract
4.	Fax	Telex
5.	Place of incorporation / registration	Year of incorporation / registration

Nationality of owners		
Name		Nationality
1.		
2.		
3.		
4.		
5.		

SCHEDULE 2: JOINT VENTURE SUMMARY

PAGE _____ OF _____ PAGES

Bidders are required to use this schedule to update information supplied during prequalification

Names of all partners of a joint venture		
1. Lead partner		
2. Partner		
3. Partner		
4. Partner		
5. Partner		
6. Partner		

Total value of annual construction (and/or equipment, goods or services which apply to this contract) turnover, in terms of work billed to clients, in Yen equivalent, converted at the rate of exchange at the end of the period reported:

Annual turnover data (construction only; Yen equivalent)					
Partner	Year 1	Year 2	Year 3	Year 4	Year 5
1. Lead partner					
2. Partner					
3. Partner					
4. Partner					
5. Partner					
6. Partner					
Totals					

SCHEDULE 3: FINANCIAL CAPABILITIES

PAGE _____ OF _____ PAGES

Bidders are required to use this schedule to update information supplied during prequalification

Name of partner of a joint venture

Each partner of a joint venture, should provide financial information to demonstrate that they meet the requirements stated in the Instructions to Applicants. Each applicant or partner of a joint venture must fill in this form. If necessary, use separate sheets to provide complete banker information. A copy of the audited balance sheets and statement of profit and losses should be attached.

Banker	Name of banker	
	Name of banker	
	Telephone	Contact name and title
	Fax	Telex

Summarize actual assets and liabilities in Yen equivalent (at the rates of exchange current at the end of each year) for the previous five years. Based upon known commitments, summarize projected assets and liabilities in Yen equivalent for the next two years, unless the withholding of such information is justified by the Applicant to the satisfaction of the Employer.

Financial information in Yen equivalent	Actual: previous five years					Projected: Next two years	
	1.	2.	3.	4.	5.	6.	7.
1. Total assets							
2. Current assets							
3. Total liabilities							
4. Current liabilities							
5. Sales							
6. Ordinary Profits							
7. Profits before taxes							
8. Profits after taxes							

Specify proposed sources of financing to meet the cash flow demands of the Project, net of current commitments for other contracts (Instructions to Applicants, para. 4.6)

Source of financing	Amount (Yen equivalent)
1.	
2.	
3.	
4.	

Attach any audited financial statements for years subsequent to those submitted during prequalification for each partner of a joint venture.

Firms owned by individuals, and partnerships, may submit their balance sheets certified by a registered accountant, and supported by copies of tax returns, if audits are not required by the laws of their countries of origin.

SCHEDULE 4: CURRENT CONTRACT COMMITMENTS/ WORKS IN PROGRESS

PAGE _____ OF _____ PAGES

Bidders are required to use this schedule to update information supplied during prequalification.

Name of partner of a joint venture

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

Name of contract	Value of outstanding work (current Yen equivalent)	Estimated completion date
1.		
2.		
3.		
4.		
5.		
6.		

SCHEDULE 5: CONSTRUCTION SCHEDULE

This programme, in bar chart form, shall be prepared in such manner as to serve as a basis for working out the progress schedule. This time schedule shall show in sufficient detail, the Bidder's proposed sequence of operations, together with the estimated time for each activity, it shall show that the proposed progress of the Works including mobilization of the Contractor's Equipment and allowance for all lead times and weather delays, meets the requirements of the bid and thus assures completion within the time specified.

The successful bidder will be required to resubmit a more detailed construction schedule in accordance with the General Conditions of Contract.

SCHEDULE 6: METHOD STATEMENT

The method statement must demonstrate the bidder's understanding of the scope of work, how he will overcome anticipated site difficulties and how he will deal with factors peculiar to the this contract, including knowledge of Vietnamese government laws and regulations which may impact on the execution of the Works.

The statement shall also provide detailed description, supported by drawings and separate construction schedules, of the construction methods which the Bidder expects to use and shall address the methods proposed for managing quality and safety and the equipment, materials and labour for each part of the works.

These descriptions shall include information relating to, but not limited to the following aspects of the Works :

(a) Preparatory Works

Proposal for preparing the Site including the method of soil improvement and management of spoil areas

(b) Temporary Works

Proposal for provision of all temporary works including Engineers Site Office and facilities, Contractor's site office, batching plant, etc..

(c) Civil Construction Works

Proposal for construction of the various structures for the wastewater treatment plant and facilities and the bridge

(d) Building Works

Proposals for construction of the various building

(e) Sewer Construction

Proposal for the construction of the portion of the conveyance sewer including the portion to be constructed by pipe jacking method

(f) Mechanical and Electrical Works

Proposal for procurement, installation, completion and testing of the wastewater treatment plant.

(g) Training

Proposal for training in the operation and maintenance of the plant.

SCHEDULE 7: KEY PERSONNEL

The Bidder shall list the key personnel whom he will employ to direct and execute the work together with their qualifications, experience, positions held and nationalities as provided for in the attached sheet.

The Bidder shall also provide a Site management Organization Chart showing all staff that he expects to engage upon the Site and in his head office. All staff shall be shown down to the level of Supervisors.

Position/Duty	Name	Summary of Qualifications and Experience and Present Position
Project Manager		
Civil Engineer		
Civil Supervisor		
etc		

Bidder shall extend this list to include key supervisory personnel.

Detailed curriculum vitae of the listed personnel shall be appended in the format shown in Schedule 8

SCHEDULE 8: CURRICULUM VITAE OF KEY PERSONNEL

The Bidder shall complete one form for each person. Experiences shall be stated in calendar years from the latest.

1. PROPOSED POSITION :
2. NAME :
3. DATE OF BIRTH, AGE :
4. NATIONALITY :
5. EDUCATION :
6. SPECIALITY :
7. REGISTRATION :
8. PERIOD OF EXPERIENCE :
9. COUNTRIES WORKED IN :
10. LANGUAGES SPOKEN :
11. MAJOR EXPERIENCES :

YEAR	DESCRIPTION OF DUTIES	ASSIGNED POSITION
2000		
etc.		

SCHEDULE 9: PROPOSED EQUIPMENT

The Bidder shall list in all major items of Equipment which he proposes to bring on to the Site.

Item No.	Description (Type, Model, Make)	Unit No.	Power Rating (kW)	Capacity or Output	Year of Manufacture	No. of Hours Operated or New	Present Location	Ownership *

* State whether owned, rented or hire-purchased. If rented or hire-purchased, include rental and hire-purchase agreement.

SCHEDULE 10: SUBCONTRACTORS

The Bidder shall enter in this schedule a list of the major portions and approximate value of the work for which he proposes to use subcontractors, together with details of the Subcontractors.

Item	Element of Work	Approximate Value	Name and Address of Subcontractor	Statement of Similar Works Executed

CHEDULE 11: ESTIMATED LABOUR

The Bidder shall complete an estimated labour schedule in a similar format as shown hereunder including the various categories of labour to be deployed for the complete duration of the Works.

Time from Commencement of Works (Months)	Charge Hands	Equipment Operators	Mechanics Welders Fitters Electricians etc.	Carpenters	Masons Concrete Workers	Steel Workers	Labourers		Other *	Total
							Unskilled	Skilled		
3	Local									
	Foreign									
6	Local									
	Foreign									
9	Local									
	Foreign									
12	Local									
	Foreign									
15	Local									
	Foreign									
18	Local									
	Foreign									
etc.										
Completion										

* The above table is an example only. Bidders shall adjust categories as appropriate to the Works.

SCHEDULE 12: ESTIMATED CASH FLOW

Period from Commencement of Works (months)	Estimated Value of Works to be Carried Out During Period		Estimated Value of Advances During Period	
	Local Portion VND	Foreign Portion ¥	Local Portion VND	Foreign Portion ¥
0 – 3				
3 – 6				
6 – 9				
9 – 12				
12 – 15				
15 – 18				
18 – 21				
21 – 24 * etc . .				
Completion				
Subtotal				

** Adjust table to suit the time for completion*

SCHEDULE 13: UNIT RATE ANALYSIS

PAGE ___ OF ___ PAGES

Bidders shall complete a unit rate analysis in the format shown below for unit rate items for which the combined equivalent total cost exceeds three tenths (0.30) of one percent of the net bid sum.

ITEM NUMBER:

DESCRIPTION OF WORK:

UNIT OF WORK:

NO.	DESCRIPTION	UNIT	QTY	UNIT COST		AMOUNT	
				Foreign (Yen)	Local (VND)	Foreign (Yen)	Local (VND)
I	MATERIALS						
	1						
	2						
	3						
II	LABOUR						
	1						
	2						
	3						
III	EQUIPMENT						
	1						
	2						
	3						
SUB-TOTALS							
IV	OVERHEAD AND PROFIT						
V	TOTAL PRICE						
VI	UNIT RATE						

SCHEDULE 14: BREAKDOWN OF LUMP SUM PRICES

PAGE ___ OF ___ PAGES

Bidders shall complete a breakdown of every lump sum price included in the bid and as further clarified in the addendum to the bidding documents.

ITEM NUMBER:

DESCRIPTION OF WORK:

COMPONENTS COMPRISING THE LUMP SUM PRICE	FOREIGN CURRENCY COMPONENT (YEN)	LOCAL CURRENCY COMPONENT (VND)
COMPONENT 1 *		
COMPONENT 2		
ETC		
TOTAL:		

** Bidders shall add description of components included in lump sum price where lump sum price includes more than one component.*

SCHEDULE 15: PARTICULARS OF PLANT TO BE FURNISHED BY CONTRACTOR

The bidder shall complete a data sheet for each item of Plant listed in the Bill of Quantities supplying full details of the item proposed to be supplied and demonstrating its compliance with specified requirements. Where the bidder is unable to provide plant not entirely complying with specified requirements any such non-conformance shall be noted..

Form of Technical Particulars for _____ Plant

1.	<u>Name of item of Plant</u>	
(1)	Manufacture's name
(2)	Type
(3)	Technical Particulars (to be inserted by Bidder)	
	Etc.	

SCHEDULE 16: CHECKLIST OF BID DOCUMENTS FOR ENVELOPE NO. 2 : FINANCIAL BID

The Bidder shall indicate in the following table, which shall be attached to his bid, a tick for each document attached to and forming part of his bid. In addition, he shall assign a document reference number to every document forming part of his bid and indicate such in the following table.

DESCRIPTION OF DOCUMENT(S)	Reference in Bidding Documents	Document Reference No.	Check
Bid Form and Appendix to Bid	13		
Priced Bill of Quantities	13		
Alternative Offers	13		
Schedule 11: Estimated Labour	Section 9		
Schedule 12: Estimated Cash Flow	Section 9		
Schedule 13: Unit Rate Analysis	Section 9		
Schedule 14: Breakdown of Lump Sums	Section 9		
Schedule 17: Check List of Bid Document for Envelope No.2 (Financial Bid)			

SCHEDULE 17: CHECKLIST OF BID DOCUMENTS FOR ENVELOPE NO. 1 : TECHNICAL BID

The Bidder shall indicate in the following table, which shall be attached to his bid, a tick for each document attached to and forming part of his bid. In addition, he shall assign a document reference number to every document forming part of his bid and indicate such in the following table.

Bid Security	13		
Power of Attorney to commit the bidder	13, 5.1 a		
Update of Financial Capacity	13, 5.1 b		
Power of Attorney for Joint Venture	13, 5.2 b		
Joint Venture Agreement	13, 5,2 e		
Qualification and Eligibility Documents:	See below		
Schedule 1: General Information	5.1, Section 9		
Schedule 2: Joint Venture Summary	5.1, Section 9		
Schedule 3: Financial Capability	5.1, Section 9		
Schedule 4: Current Contract Commitments / Works in Progress	5.1, Section 9		
Schedule 5: Construction Schedule	Section 9		
Schedule 6: Method Statement	Section 9		
Schedule 7: Key Personnel and Organization Chart	Section 9		
Schedule 8: Curriculum Vitae of Key Personnel	Section 9		
Schedule 9: Proposed Equipment	Section 9		
Schedule 10: Subcontractors	Section 9		
Schedule 15: Particulars of Plant	Section 9		
Schedule 16: Check List of Documents for Envelope 1 (Technical Bid)	Section 9		
Other (<i>Bidder to insert if applicable</i>)			

SECTION 10. DRAWINGS
(Refer to Volume 3)

SECTION 11. DISPUTE ADJUDICATION PROCEDURE

DISPUTE ADJUDICATION PROCEDURE

Clause 67: Settlement of Disputes: Dispute Adjudication Board Versions 1 and 2

If dispute adjudication board versions 1 or 2 are applied, delete the text of Clause 67 and substitute:

Sub-Clause 67.1 If a dispute of any kind whatsoever arises between the Employer and the Contractor in connection with, or arising out of, the Contract or the execution of the Works, including any dispute as to any opinion, instruction, determination, certificate or valuation of the Engineer, the dispute shall initially be referred in writing to the Dispute Adjudication Board (“the Board”) for its decision. Such reference shall state that it is made under this Sub-Clause.

Dispute
Adjudication
Board

Unless the member or members of the Board have been previously mutually agreed by the parties and named in the Contract the parties shall, within 28 days of the Commencement Date, jointly ensure the appointment of the Board. The Board shall be composed of suitably qualified persons as members, the number of members being either one or three, as stated in the Appendix to Tender. If the Board is to comprise three members, each party shall nominate one member for the approval of the other party, and the parties shall mutually agree upon and appoint the third member (who shall act as chairman).

The terms of appointment of the Board shall:

- (a) incorporate the model terms therefor and procedural rules of the Dispute Adjudication Board published by the FIDIC, included in Annex A and B to Conditions of Particular Applications of Section 11, as they may have been amended by the parties,
- (b) require each member of the Board to be, and to remain throughout his appointment, independent of the parties,
- (c) require the Board to act impartially and in accordance with the Contract, and
- (d) include undertakings by the parties (to each other and to the Board) that the member of the Board shall in no circumstances be liable for anything done or omitted in the discharge of their functions unless the act or omission is shown to have been in bad faith; the parties shall indemnify the members against such claims.

The terms of remuneration of each member of the Board, including the remuneration of any expert from whom the Board may seek advice, shall be mutually agreed upon by the Employer, the Contractor and each member of the Board when agreeing the terms of appointment. In the event of disagreement, the remuneration of each member shall include a daily fee in accordance with the daily fee established from time to time for arbitrators under the administrative and financial regulations of the International Centre for Settlement of Investment Disputes, a retainer fee per calendar month equivalent to three times such daily fee and reimbursement for reasonable expenses. The Employer and the Contractor shall each be responsible for paying one-half of the Board's remuneration.

The appointment of any member of the Board may be terminated (other than on a members own initiative) only by mutual agreement of the Employer and the Contractor. The appointment of each member of the Board shall expire when the discharge referred to in Sub-Clause 60.12 shall have become effective, or at such time as the parties may mutually agree.

If at any time the parties so agree, they may appoint a suitably qualified person or persons to replace (or to be available to replace) any or all members of the Board. Unless the parties agree otherwise, the appointment will come into effect if a member of the Board declines to act or is unable to act as a result of death, disability, resignation or termination of appointment. If any of such circumstances should occur and no such replacement is available, the member shall be replaced in the same manner as such member was nominated or agreed upon.

If any of the following conditions apply, namely:

- (a) either party fails to nominate a member (acceptable to the other party), for a Board of three members, within 28 days of the Commencement Date,
- (b) the parties fail to agree upon the appointment of the third member (to act as the chairman) for a Board of three members within 28 days of the Commencement Date, or
- (c) the parties fail to agree upon the appointment of a replacement member of the Board within 28 days of the date on which a member of the Board declines to act or is unable to act as a result of death, disability, resignation or termination of appointment,

then the appointing body or official named in the Appendix to Tender shall, after due consultation with the parties, appoint such member of the Board, and such appointment shall be final and conclusive.

Sub-Clause 67.2

Procedure for
Obtaining the
Board's Decision

When in accordance with Sub-Clause 67.1 a dispute is referred by one party to the Board, a copy of such reference shall be sent by that party to the other party and (for information) to the Engineer. The parties shall promptly make available to the Board all such additional information, further access to the Site, and appropriate facilities, as the Board may require for the purposes of rendering a decision.

The Board shall have full power, among other things, to:

- (a) establish the procedure to be applied in deciding a dispute,
- (b) decide upon the Board's own jurisdiction, and as to the scope of dispute referred to it,
- (c) take the initiative in ascertaining the facts and matters required for a decision,
- (d) make use of its own specialist knowledge, if any,
- (e) decide upon the payment of interest in accordance with the Contract,
- (f) decide to grant provisional relief such as interim or conservatory measures, and

- (g) open up, review and revise any opinion, instruction, determination, certificate or valuation of the Engineer related to the dispute.

No later than the eighty-fourth day after the day on which it received such reference, the Board, acting as a panel of expert(s) and not as arbitrator(s), shall give notice of its decision, to the parties and (for information) to the Engineer. Such decision, which shall be reasoned, shall state that it is given under this Sub-Clause.

Unless the Contract has already been repudiated or terminated, the Contractor shall, in every case, continue to proceed with the Works with all due diligence, and the Contractor and the Employer, as well as the Engineer, shall give effect forthwith to every decision of the Board, unless and until the same shall be revised, as hereinafter provided, in an amicable settlement or an arbitral award.

If either party is dissatisfied with the Board's decision, then either party, on or before the twenty-eighth day after the day on which it received notice of such decision, may notify the other party and (for information) the Engineer of its dissatisfaction. In either event, such notice of dissatisfaction shall state that it is given under this Sub-Clause, and set out the matter in dispute and the reason(s) for dissatisfaction. Subject to Sub-Clauses 67.5 and 67.6, no arbitration in respect of such dispute may be commenced unless such notice is given.

If the Board has given notice of its decision as to a matter in dispute to the Employer, the Contractor and the Engineer, and no notice of dissatisfaction has been given by either party on or before the twenty-eighth day after the day on which the parties received the Board's decision, then the Board's decision shall become final and binding upon the Employer and the Contractor.

Sub-Clause 67.3

Amicable
Settlement

Where notice of dissatisfaction has been given under Sub-Clause 67.2, the parties shall attempt to settle such dispute amicably before the commencement of arbitration. Provided that unless the parties agree otherwise, arbitration may be commenced on or after the fifty-sixth day after the day on which notice of dissatisfaction was given, even if no attempt at amicable settlement has been made.

Sub-Clause 67.4

Arbitration

Any dispute in respect of which:

- (a) the decision, if any, of the Board has not become final and binding pursuant to Sub-Clause 67.2, and
- (b) amicable settlement has not been reached,

shall be settled, unless otherwise specified in the Contract, under the Rules of Conciliation and Arbitration of the International Chamber of Commerce by one or more arbitrators appointed under such Rules. The arbitrator(s) shall have full power to open up, review and revise any decision of the Board, as well as any opinion, instruction, determination, certificate or valuation of the Engineer, related to the dispute.

Neither party shall be limited in the proceedings before such arbitrator(s), to the evidence or arguments previously put before the Board to obtain its decision.

Arbitration may be commenced prior to or after completion of the Works. Any decision of the Board shall be admissible in evidence in the arbitration. The obligations of the parties, the Engineer and the Board shall not be altered by reason of the arbitration being conducted during the progress of the Works.

Sub-Clause 67.5 Where neither party has given notice of dissatisfaction within the period in Sub-Clause 67.2 and the Board's related decision, if any, has become final and binding, either party may, if the other party fails to comply with such decision, and without prejudice to any other rights it may have, refer the failure itself to arbitration under Sub-Clause 67.4. The provisions of Sub-Clauses 67.2 and (67.3 shall not apply to any such reference.

Failure to
Comply with the
Board's Decision

Sub-Clause 67.5 When the appointment of the members of the Board, including any replacements, has either been terminated or expired, any such dispute referred to in Sub-Clause 67.2 shall be finally settled by arbitration pursuant to Sub-Clause 67.4. The provisions of Sub-Clauses 67.2 and 67.3 shall not apply to any such reference.

Expiry of the
Board's
Appointment

Annex A to Conditions of Particular Application (Version I and Version 2)
FIDIC Model Terms of Appointment for a Dispute Adjudication Board
(see Clause 67 of the Conditions of Particular Application)

Version 1: Terms of appointment for a board of three members

These terms of appointment of a board member are made between:

- (1) [name of Employer] of [address of Employer] (hereinafter called the "Employer")
- (2) [name of Contractor] of [address of Contractor] (hereinafter called the "Contractor")
- (3) [name of Board Member] of [address of Board Member] (hereinafter called the "Board Member")

Whereas

- A. The Employer and the Contractor (hereinafter jointly referred to as the "Parties") have on day of ____ (insert year) entered into a Contract (hereinafter called the "Contract") for the execution of [name of Project] (hereinafter called the "Project").
- B. By Sub-clause 67.1 of the Conditions of Contract (hereinafter called the "Conditions") provision is made for the constitution of a Dispute Adjudication Board (hereinafter called the "Board") which shall comprise three suitably qualified persons.
- C. The Board Member has agreed to serve as [one of the members of][chairman of] the Board on the terms set out herein.

Now it is hereby agreed as follows:

1. The Board Member:
 - (a) hereby accepts this appointment to the Board which is a personal appointment and agrees to be bound by these Terms of Appointment and Sub-Clauses 67.1 and 67.2 of the Conditions as if they were set out herein; and
 - (b) shall be entitled notwithstanding such acceptance to resign this appointment on giving reasonable notice to the Parties.
2. These Terms of Appointment when executed by the Parties and the Board Member shall take effect when the Parties and the last of the three members of the Board have executed terms of appointment.
3. The Board Member shall be and remain impartial and independent of the Parties and shall be under a continuing duty to disclose in writing to each of them and to the other members of the Board any fact or circumstance which might be such as to call into question his impartiality or independence.

Without prejudice to the generality of the foregoing, the Board Member.-

- (a) shall have no interest financial or otherwise in either of the Parties or the Engineer as described in the Contract, or financial interest in the Contract except for payment for services on the Board;
- (b) shall not previously have been employed as a consultant or otherwise by either of the Parties or the Engineer except in those circumstances which have been disclosed in writing to the Parties prior to this appointment;
- (c) shall have disclosed in writing to the Parties and to the other members of the Board, prior to this appointment and to his best knowledge and recollection, any professional or personal relationships with any director, officer or employee of the Parties or the Engineer, and any prior involvement in the Project;

- (d) shall not while a Board Member be employed as a consultant or otherwise by either of the Parties or the Engineer without the prior written consent of the Parties and the other members of the Board;
 - (e) shall not give advice to either of the Parties or to the Engineer concerning the conduct of the project other than in accordance with the Procedural Rules in Annex B to Conditions of Particular Application (the "Rules"); and
 - (f) shall not while a Board Member enter into discussions or make any agreement with either of the Parties or the Engineer regarding employment by any of them whether as a consultant or otherwise after ceasing to be a Board Member.
4. The Board Member warrants that he is experienced in the type of work involved in the Project and the interpretation of contract documents and is, as well, fluent in the language of the Contract. The Board Member shall:
- (a) ensure his availability for all site visits and hearings as are necessary and shall observe the provisions of the Rules;
 - (b) become conversant with the Contract and the progress of the Project by studying all documents received which shall be maintained in a current working file;
 - (c) treat the details of the Contract and all activities and hearings of the Board as private and confidential and shall not publish or disclose the same without the prior written consent of the Parties;
 - (d) not assign, delegate or subcontract any of the tasks under these Terms of Appointment or the Rules;
 - (e) be available to give advice and opinions in conjunction with other members of the Board on any matter relevant to the Project not being a dispute when requested so to do by the Parties.
5. Neither the Employer, the Contractor nor the Engineer shall seek advice from or consultation with the Board member regarding the Project otherwise than in the normal course of the Board's activities under the Contract and the Rules. The only exception to this prohibition shall be where the Parties jointly agree to do so and the other Board Members also agree. The Employer shall be responsible for ensuring the compliance by the Engineer with this Clause.
6. The Board Member will be paid as follows:
- (a) a retainer fee of _____ (*insert amount and currency*) 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 such as secretarial services, photocopying and office supplies incurred in connection with his duties;
 - iv. all services performed hereunder except those referred to in Sub-Clauses (b) and (c) below.

Beginning with the month following that in which the Taking-Over Certificate referred to in Sub-Clause 48.1 of the Conditions (or if there is more than one, the one last issued) has been issued, the Board Member shall receive [only one half of the monthly retainer fee]. (Beginning with the next month after expiry of the Defects Liability Period as defined in the Conditions the Board Member shall no longer receive a monthly retainer fee];

- (b) a daily fee of _____ (insert amount and currency) which shall be considered as payment in full or:
 - 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 Board Members home and the site or other location of a Board meeting;
 - ii. each working day on site visits, hearings or preparing decisions; and
 - iii. each day spent reading the Parties' submissions in preparation for a hearing.
- (c) Cost of telephone calls, courier charges, faxes and telexes incurred in connection with his duties; all reasonable and necessary travel expenses including business class air fare, subsistence and other direct travel expenses. These costs shall be reimbursed in the same currency as that in which fees are payable. Receipts shall be required for all expenses in excess of (insert a number) percent of the daily fee referred to in Sub-Clause (b) above.
- (d) any taxes properly levied in the country of the site on payments made to the Board Member (unless a national or permanent resident of the country of the site) pursuant to this Clause 6. Such reimbursement will be in the same currency as that in which the fees are payable.

The retainer and daily fees shall remain fixed for the [initial] period of tenure of the Board Member [of twelve months]. [Thereafter they shall be adjusted by agreement between the Parties and the Board Member at each anniversary of the execution of these Terms of Appointment].

Payments to the Board Member shall be shared equally by the Employer and the Contractor. The Board member shall submit invoices for payment of all monthly retainer quarterly in advance. Invoices for daily fees and expenses 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 Board Members' invoices within 56 calendar days after receipt of such invoices and shall invoice the Employer (through the monthly statements to be submitted in accordance with Sub-Clause 60.1 of the Conditions) for one-half of the amounts of such invoices. The Employer shall pay such Contractors invoices within the time period specified in the contract for other payments to the Contractor by the Employer.

Failure of either the Employer or the Contractor to make payment in accordance with these Terms of Appointment shall constitute an event of default under the Contract, entitling the non-defaulting party to take the measures set forth, respectively, in Clause 63 or Clause 69.

Notwithstanding such event of default, and without waiver of rights therefrom, in the event that either the Employer or the Contractor fails to make payment in accordance with these Terms of Appointment, the other party may pay whatever amount may be required to maintain the operation of the Board. The party making such payment, in addition to all other rights arising from such default, shall be entitled to reimbursement of all sums paid in excess of one-half of the amount required to maintain operation of the Board, plus all costs of obtaining such sums and interest thereon.

In the event of non-discharge of Board Members' invoices in accordance with previous paragraphs the Board Member may either suspend his services until the invoices are discharged or resign his appointment.

- 7. The Parties may jointly terminate the Board member's appointment hereunder by reasonable notice in writing. Such termination shall be without prejudice to any accrued rights of either of the Parties or the Board Member.

8. The Parties may undertake to each and to the Board Member that the Board Member shall in no circumstances:
- (a) be appointed as an arbitrator in any arbitration between the Parties in connection with the Contract unless the Parties agree otherwise in writing;
 - (b) be called as a witness to give evidence concerning any dispute before an arbitrator appointed under the Conditions unless he accepts such assignment in writing addressed to both Parties; or
 - (c) be liable for any claims for anything done or omitted in the discharge of such Board Members functions unless the act or omission is shown to have been in bad faith.
- The Parties hereby jointly and severally indemnify the Board Member against all or any such claims.
9. If the Board Member shall breach any of the provisions of Clause 3 he shall not be entitled to any fees or expenses hereunder and shall reimburse each of the Employer and the Contractor for any fees and expenses properly paid to him and to any other Board Member if as a consequence of such breach any proceedings or decisions of the Board are rendered void or ineffective.
10. These Terms of Appointment shall be governed by the law of [insert name of country].
11. Any dispute or claim arising out of or in connection with these Terms of Appointment or the breach, termination or invalidity thereof, shall be finally settled under the Rules of Conciliation and Arbitration of the International Chamber of Commerce by a sole arbitrator appointed in accordance with said Rules.

Signed by _____ for and an behalf of the Employer in the presence of	Signed by _____ for and an behalf of the Employer in the presence of	Signed by _____ for and an behalf of the Employer in the presence of
Witness: _____	Witness: _____	Witness: _____
Name: _____	Name: _____	Name: _____
Address: _____	Address: _____	Address: _____
_____	_____	_____
Date: _____	Date: _____	Date: _____

Version 2: Terms of appointment for a board of one member

These terms of appointment of a board member are made between:

- (1) [name of Employer] of [address of Employer] (hereinafter called the "Employer")
- (2) (name of Contractor) of [address of Contractor] (hereinafter called the "Contractor")
- (3) [name of Board Member] of [address of Board Member] (hereinafter called the "Board Member")

Whereas

- A. The Employer and the Contractor (hereinafter jointly referred to as the "Parties") have on day of - (insert year) entered into a Contract (hereinafter called the "Contract") for the execution of [name of Project] (hereinafter called the "Project").
- B. By Sub-clause 67.1 of the Conditions of Contract (hereinafter called the "Conditions") provision is made for the constitution of a Dispute Adjudication Board (hereinafter called the "Board") which shall comprise one suitably qualified person.
- C. The Board Member has agreed to serve on the terms set out herein.

Now it is hereby agreed as follows:

1. The Board Member:
 - (a) hereby accepts this appointment to the Board which is a personal appointment and agrees to be bound by these Terms of Appointment and Sub-Clauses 67.1 and 67.2 of the Conditions as if they were set out herein; and
 - (b) shall be entitled notwithstanding such acceptance to resign this appointment on giving reasonable notice to the Parties.
2. These Terms of Appointment shall take effect when they have been executed by the Parties and the Board Member.
3. The Board Member shall be and remain impartial and independent of the Parties and shall be under a continuing duty to disclose in writing to each of them and to the other members of the Board any fact or circumstance which might be such as to call into question his impartiality or independence.

Without prejudice to the generality of the foregoing, the Board Member:

- (a) shall have no interest financial or otherwise in either of the Parties or the Engineer as described in the Contract, or financial interest in the Contract except for payment for services on the Board;
- (b) shall not previously have been employed as a consultant or otherwise by either of the Parties or the Engineer except in those circumstances which have been disclosed in writing to the Parties prior to this appointment;
- (c) shall have disclosed in writing to the Parties, prior to this appointment and to his best knowledge and recollection, any professional or personal relationships with any director, officer or employee of the Parties or the Engineer, and any prior involvement in the Project;
- (d) shall not while a Board Member be employed as a consultant or otherwise by either of the Parties or the Engineer without the prior written consent of the Parties;
- (e) shall not give advice to either of the Parties or to the Engineer concerning the conduct of the project other than in accordance with the Procedural Rules in Annex B to Conditions of Particular Application (the "Rules"); and
- (f) shall not while a Board Member enter into discussions or make any agreement with either of the Parties or the Engineer regarding employment by any of them whether as a consultant or otherwise after ceasing to be a Board Member.

4. The Board Member warrants that he is experienced in the type of work involved in the Project and the interpretation of contract documents and is, as well, fluent in the language of the Contract. The Board Member shall:
 - (a) ensure his availability for all site visits and hearings as are necessary and shall observe the provisions of the Rules;
 - (b) become conversant with the Contract and the progress of the Project by studying all documents received which shall be maintained in a current working file;
 - (c) treat the details of the Contract and all activities and hearings of the Board as private and confidential and shall not publish or disclose the same without the prior written consent of the Parties;
 - (d) not assign, delegate or subcontract any of the tasks under these Terms of Appointment or the Rules;
 - (e) be available to give advice and opinions on any matter relevant to the Project not being a dispute when requested so to do by the Parties.
5. Neither the Employer, the Contractor nor the Engineer shall seek advice from or consultation with the Board member regarding the Project otherwise than in the normal course of the Board's activities under the Contract and the Rules. The only exception to this prohibition shall be where the Parties jointly agree to do so. The Employer shall be responsible for ensuring the compliance by the Engineer with this Clause.
6. The Board Member will be paid as follows:
 - (a) a retainer fee [-----](*insert amount and currency*) 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 such as secretarial services, photocopying and office supplies incurred in connection with his duties;
 - iv. all services performed hereunder except those referred to in Sub-Clauses (b) and (c) below.

Beginning with the month following that in which the Taking-Over Certificate referred to in Sub-Clause 48.1 of the Conditions (or if there is more than one, the one last issued) has been issued, the Board Member shall receive [only one half of the monthly retainer fee]. [Beginning with the next month after expiry of the Defects Liability Period as defined in the Conditions the Board Member shall no longer receive a monthly retainer fee];

- (b) a daily fee of (*insert amount and currency*) which shall be considered as payment in full or:
 - 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 Board Member's home and the site;
 - ii. each working day on site visits, hearings or preparing decisions; and
 - iii. each day spent reading the Parties' submissions in preparation for a hearing.
- (c) Cost of telephone calls, courier charges, faxes and telexes incurred in connection with his duties; all reasonable and necessary travel expenses including business class air fare, subsistence and other direct travel expenses. These costs shall be reimbursed in the same currency as that in which fees are payable. Receipts shall be required for all expenses in excess of (*insert a number*) percent of the daily fee referred to in Sub-Clause (b) above.
- (d) Any taxes levied in the country of the site on payments made to the Board Member (unless a national or permanent resident of the country of the site) pursuant to this Clause 6. Such reimbursement will be in the same currency as that in which the fees are payable.

The retainer and daily fees shall remain fixed for the [initial] period of tenure of the Board Member [of twelve months]. [Thereafter they shall be adjusted by agreement between the Parties and the Board Member at each anniversary of the execution of these Terms of Appointment].

Payments to the Board Member shall be shared equally by the Employer and the Contractor. The Board member shall submit invoices for payment of all monthly retainer quarterly in advance. Invoices for daily fees and expenses 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 Board Members' invoices within 56 calendar days after receipt of such invoices and shall invoice the Employer (through the monthly statements to be submitted in accordance with Sub-Clause 60.1 of the Conditions) for one-half of the amounts of such invoices. The Employer shall pay such Contractor's invoices within the time period specified in the contract for other payments to the Contractor by the Employer.

Failure of either the Employer or the Contractor to make payment in accordance with these Terms of Appointment shall constitute an event of default under the Contract, entitling the non-defaulting party to take the measures set forth, respectively, in Clause 63 or Clause 69.

Notwithstanding such event of default, and without waiver of rights therefrom, in the event that either the Employer or the Contractor fails to make payment in accordance with these Terms of Appointment, the other party may pay whatever amount may be required to maintain the operation of the Board. The party making such payment, in addition to all other rights arising from such default, shall be entitled to reimbursement of all sums paid in excess of one-half of the amount required to maintain operation of the Board, plus all costs of obtaining such sums and interest thereon.

In the event of non-discharge of Board Members' invoices in accordance with previous paragraphs the Board Member may either suspend his services until the invoices are discharged or resign his appointment.

7. The Parties may jointly terminate the Board member's appointment hereunder by reasonable notice in writing. Such termination shall be without prejudice to any accrued rights of either of the Parties or the Board Member.
8. The Parties may undertake to each and to the Board Member that the Board Member shall in no circumstances:
 - (a) be appointed as an arbitrator in any arbitration between the Parties in connection with the Contract unless the Parties agree otherwise in writing;
 - (b) be called as a witness to give evidence concerning any dispute before an arbitrator appointed under the Conditions unless he accepts such assignment in writing addressed to both Parties; or
 - (c) be liable for any claims for anything done or omitted in the discharge of such Board Members functions unless the act or omission is shown to have been in bad faith.

The Parties hereby jointly and severally indemnify the Board Member against all or any such claims.

9. If the Board Member shall breach any of the provisions of Clause 3 he shall not be entitled to any fees or expenses hereunder and shall reimburse each of the Employer and the Contractor for any fees and expenses properly paid to him if as a consequence of such breach any proceedings or decisions of the Board are rendered void or ineffective.

10. These Terms of Appointment shall be governed by the law of [insert name of country].
11. Any dispute or claim arising out of or in connection with these Terms of Appointment or the breach, termination or invalidity thereof, shall be finally settled under the Rules of Conciliation and Arbitration of the International Chamber of Commerce by a sole arbitrator appointed in accordance with said Rules.

Signed by _____ for and an behalf of the Employer in the presence of Witness: _____ Name: _____ Address: _____ _____ Date: _____	Signed by _____ for and an behalf of the Employer in the presence of Witness: _____ Name: _____ Address: _____ _____ Date: _____	Signed by _____ for and an behalf of the Employer in the presence of Witness: _____ Name: _____ Address: _____ _____ Date: _____
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Annex B to Conditions of Particular Application (Version 1 and Version 2)
FIDIC Procedural Rules of the Dispute Adjudication Board
(see Clause 67 of the Conditions of Particular Application)

Version 1: Procedural rules of the Dispute Adjudication Board of three members

1. The Board shall visit the site at regular intervals [and/or at times of critical construction events] at the request of either the Employer or the Contractor, and in any event not less than [three] times in any twelve month period.
2. The timing of and agenda for each site visit shall be agreed jointly by the Board, the Employer and the Contractor, or in the absence of agreement, shall be decided by the Board.
3. The purpose of site visits is to enable the Board to become and remain acquainted with the progress of the Project and of any actual or potential problems or claims.

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 Board shall prepare a report on its activities during the visit and shall send copies to those parties who attended.

4. The Employer and the Contractor shall furnish to each Board Member one copy of all documents which the Board may request, including Contract documents, progress reports, variation instructions, certificates and other documents pertinent to the performance of the Contract.
5. If any dispute is referred to the Board in accordance with Sub-Clause 67.2 of the Conditions, the Board shall proceed as described therein. The Board may in its discretion, among other things, 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. Subject to the time imparted to the Board to give notice of a decision and other relevant factors, the Board shall afford to each of the Employer and the Contractor reasonable opportunity to present its case in relation to a dispute referred to the Board for decision.

The Board shall act as a Board of impartial experts, not arbitrators, and shall have full authority to conduct any hearing as it thinks fit, not being bound by any rules or procedures other than those set out herein. [Without limiting the foregoing, the Board shall have power to adopt an inquisitorial procedure, to refuse admission to hearing or audience at hearings to any persons other than the Employer, the Contractor and the Engineer and to proceed in the absence of any party who the Board is satisfied received notice of the hearing].

The Board shall not express any opinions during any hearing concerning the merits of any arguments advanced by the Parties. After a hearing is concluded the Board shall convene in private to formulate its decision.

[If a member fails to attend a meeting or hearing, or to fulfill any required function, the other two members may nevertheless proceed and make decisions unless the absent member is the chairman and instructs the other two members not to proceed, or the Parties otherwise agree].

6. The Board shall give notice of its decision in writing to the Employer and the Contractor in accordance with Sub-Clause 67.2 of the Conditions or as otherwise agreed by the Employer and the Contractor in writing.

The Board shall endeavour to reach decisions unanimously, but if this is impossible decisions shall be by a majority and the minority member may prepare a written report for submission to the Employer, the Engineer and the Contractor.

7. All communications between either of the Parties and a Board Member and all hearings shall be in the [English] language. All such communications shall be copied to the other Party and to other members of the Board.

Version 2: Procedural rules of the Dispute Adjudication Board of one member

1. The Board shall visit the site at regular intervals [and/or at times of critical construction events] at the request of either the Employer or the Contractor, and in any event not less than [three] times in any twelve month period.
2. The timing of and agenda for each site visit shall be agreed jointly by the Board, the Employer and the Contractor, or in the absence of agreement, shall be decided by the Board.
3. The purpose of site visits is to enable the Board to become and remain acquainted with the progress of the Project and of any actual or potential problems or claims.

Site visits shall be attended by the Employer, the Contractor and the Engineer and shall be coordinated by the Employer in cooperation 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 Board shall prepare a report on its activities during the visit and shall send copies to those parties who attended.

4. The Employer and the Contractor shall furnish to each Board Member one copy of all documents which the Board may request, including Contract documents, progress reports, variation instructions, certificates and other documents pertinent to the performance of the Contract.
5. If any dispute is referred to the Board in accordance with Sub-Clause 67.2 of the Conditions, the Board shall proceed as described therein. The Board may in its discretion, among other things, 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. Subject to the time imparted to the Board to give notice of a decision and other relevant factors, the Board shall afford to each of the Employer and the Contractor reasonable opportunity to present its case in relation to a dispute referred to the Board for decision.

The Board shall act as a Board of impartial experts, not arbitrators, and shall have full authority to conduct any hearing as it thinks fit, not being bound by any rules or procedures other than those set out herein. [Without limiting the foregoing, the Board shall have power to adopt an inquisitorial procedure, to refuse admission to hearing or audience at hearings to any persons other than the Employer, the Contractor and the Engineer and to proceed in the absence of any party who the Board is satisfied received notice of the hearing].

6. The Board shall not express any opinions during any hearing concerning the merits of any arguments advanced by the Parties. The Board shall give notice of its decision in writing to the Employer and the Contractor in accordance with Sub-Clause 67.2 of the Conditions or as otherwise agreed by the Employer and the Contractor in writing.
7. All communications between either of the Parties and a Board Member and all hearings shall be in the [English] language. All such communications shall be copied to the other Party.