

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

NATIONAL WATER SUPPLY AND DRAINAGE BOARD  
MINISTRY OF URBAN DEVELOPMENT, CONSTRUCTION  
AND PUBLIC UTILITIES  
DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

THE DETAILED DESIGN STUDY  
ON  
THE PROJECT FOR REDUCTION  
OF NON-REVENUE WATER  
IN THE GREATER COLOMBO AREA  
IN  
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

FINAL REPORT

(DRAFT) TENDER DOCUMENTS  
FOR LOW INCOME SETTLEMENT ENVIRONMENTAL IMPROVEMENT

MARCH 2001

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NIHON SUIDO CONSULTANTS CO., LTD.

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マイクロ  
フィルム作成

## PART I

**DOCUMENTATION CERTIFICATE**

(To be filled at the time of issue by the officer authorized to issue)

1. CONTRACT NUMBER : \_\_\_\_\_
2. SERIAL NUMBER OF  
TENDER DOCUMENT : \_\_\_\_\_
3. (a) ISSUED TO : \_\_\_\_\_  
\_\_\_\_\_  
(b) ADDRESS : \_\_\_\_\_  
\_\_\_\_\_
4. TELEPHONE NO. : \_\_\_\_\_
5. TENDER FEE : Rs. \_\_\_\_\_  
----- RECEIVED/NOT RECEIVED (CASH/BANK  
DRAFT)
6. RECEIPT NO. : \_\_\_\_\_
7. NUMBER OF COPIES ISSUED : \_\_\_\_\_
8. NUMBER OF CANCELLED COPIES : \_\_\_\_\_  
ISSUED
9. CANCELLED COPIES FEE : Rs. \_\_\_\_\_  
----- RECEIVED/NOT RECEIVED (CASH/BANK  
DRAFT)
10. (a) NAME OF THE OFFICER  
AUTHORIZED TO ISSUE  
TENDER DOCUMENTS : \_\_\_\_\_  
(b) DESIGNATION : \_\_\_\_\_
11. (a) ISSUING OFFICER : \_\_\_\_\_  
(b) DESIGNATION : \_\_\_\_\_  
(c) SIGNATURE : \_\_\_\_\_
12. PLACE OF ISSUE : \_\_\_\_\_
13. DATE : \_\_\_\_\_

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## SCOPE OF WORK

### LOW INCOME SETTLEMENT ENVIRONMENTAL IMPROVEMENT

The scope of work involves the improvement of water supply conditions in approximately 30 low income settlements or tenement gardens in CBI district of Colombo Municipal Council area. All pipes, fittings and jointing materials shall be supplied by NWSDB.

The work shall consist of the following items.

- Expose existing distribution mains (mainly of cast iron) and carry out tapping at .....locations as directed by Engineer.
- Install valves and surface box assemblies at the above locations.
- Excavate pipe trenches from the water main up to the boundary of the low income settlement, lay PVC pipes of diameters 1” to 4” with all associated fittings and backfill trenches.
- Lay the distribution system and the service pipes consisting of PVC pipes within the low income settlement. (Excavation and backfilling of trenches within the settlement shall be done by the inhabitants).

The number of low income settlements (30) shown above is approximate only and it can be increased or decreased depending on the actual requirement. The cost of road reinstatement shall be paid to CMC directly by the occupants requiring connections.

The Contractor shall make sure that no damage is made to the other parts of the road location of and the existing utilities while excavation is in progress. The contractor shall maintain the traffic and pedestrian movement on roads during the work with proper warning signals, lighting and luminous tapes around the excavation area.

The Contractor shall solely be responsible for any damage arising directly or indirectly from the work performed by him to the surroundings or persons whether willful or accidental in nature and such damages shall be duly compensated by him.

**MINISTRY OF URBAN DEVELOPMENT, CONSTRUCTION AND PUBLIC UTILITIES**

**NATIONAL WATER SUPPLY AND DRAINAGE BOARD**

**THE PROJECT FOR REDUCTION OF NON-REVENUE WATER**

**(JBIC LOAN AGREEMENT NO. SL-P66)**

**TENDER NOTICE**

**THE CONTRACT FOR LOW INCOME SETTLEMENT ENVIRONMENTAL IMPROVEMENT**

**(CONTRACT NO. ....)**

1. The Deputy General Manager (Greater Colombo), National Water Supply and Drainage Board, 3<sup>rd</sup> Floor, Welikada Plaza, Rajagiriya, will receive sealed tenders for the Contract for Low Income Settlement Environmental Improvement, Contract No..... up to 14.00 hours on .....
2. Tender document shall be collected from the office of the Deputy General Manager (Greater Colombo ) between 9.30 hours to 12.30 hours and 13.30 hours to 15.30 hours on normal working days up to .....
3. Tenderers or their authorized representatives will be permitted to be present at the time of opening of tenders. Tenders will be opened at Regional Support Centre (Greater Colombo), National Water Supply and Drainage Board, 3<sup>rd</sup> Floor Welikada Plaza, 3<sup>rd</sup> Floor, Rajagiriya, immediately after closing of tenders.
4. A non-refundable tender fee of Rs.250.00 shall be made at Regional Support Centre (GC), NWSDB, 3<sup>rd</sup> Floor, Welikada Plaza, Rajagiriya. All tenders shall accompany an unconditional Tender Security in the form and amount specified in the tender document. Tender documents will be issued only to the tenderers who are registered with ICTAD in the field of water supply and drainage construction work in Grade M9 and above and members of the National Construction Contractors Association of Sri Lanka (NCCASL).
5. Sealed Tenders may be either dispatched by registered post or hand delivered to Deputy General Manager (Greater Colombo), National Water Supply and Drainage Board, 3<sup>rd</sup> Floor, "Welikada Plaza", to receive on or before the closing time.
6. Tender document may be inspected at Regional Support Centre (GC), National Water Supply and Drainage Board, 3<sup>rd</sup> Floor, Welikada Plaza, Rajagiriya, free of charge. For further clarifications please contact Assistant General Manager (NRW), National Water Supply and Drainage Board, 3<sup>rd</sup> Floor, Welikada Plaza, Rajagiriya, on Tel.01-887321 or Fax.01-887152.

**Deputy General Manager (GC)  
National Water Supply and Drainage Board**



## FORM OF TENDER

**Note :** The Appendix forms part of Tender  
Tenderer are required to fill up all the blank spaces in this Form of Tender

**To :** Deputy General manager (GC),  
Regional Support Center,  
National Water Supply and Drainage Board,  
3<sup>rd</sup> Floor, Welikada Plaza,  
Rajagiriya.

1. We .....  
of .....  
the undersigned, having examined the Instruction to Tenderers and Conditions of Tender, Form of Agreement, General Conditions of Contract, Special Conditions of Contract, Specifications and Bill of Quantities, do hereby offer and undertake to execute the said works as directed by the Engineer and all other works in connection therewith and incidentally falls pertinent thereto, to your entire satisfaction and in strict accordance with the conditions of contract at the rates and prices set forth in the said Bill of Quantities.
2. We conform that the rates quoted in the said schedule of rates, do include all cost of mobilization, transportation, profit, overhead, tax etc., and all other expenses in connection therewith and incidental falls thereto together with all general risks, liabilities and obligations as set out or implied in the contract.
3. We undertake, if our Tender is accepted to perform the work referred to in the engagement order in such numbers and at such times subject to the maximum period prescribed therein and in such a manner in conformity with the said conditions of contract.
4. If our Tender is so accepted by you, we will enter into a formal agreement with the NWSDB for the due performance of the contract. Also, will, if the NWSDB so require, we shall furnish a performance Bank Guarantee as security for the due and proper performance of the contract in the amount of Rs.50,000 (Sri Lanka Rupees Fifty Thousand) valid up to 12 months from the date of award of the Contract.
5. We agree, in the event of our failure to furnish the said Bank Guarantee within the period prescribed in the Instructions to Tenderers, then the acceptance of this Tender may be revoked by you and that we shall be held responsible for all and any damages suffered by the Board as a consequence of such delay or failure.
6. We also agree to abide by this Tender for a period of Ninety (90) days from the date fixed for the closing of Tender and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
7. Unless and until a formal Agreement is prepared and executed, this Tender, General Conditions of Contract and Special Conditions of Contract together with both Letter of Award of the Contract and Letter of Acceptance of Award of Contract shall constitute a valid and binding contract between the NWSDB and us.
8. We understand that you are not bound to accept the lowest or the lowest evaluated tender, and that you have the right to accept the tender in whole or in part.

9. IN WITNESS WHEREOF, we do set our respective hands hereto  
at .....  
.....on this ..... day of .....  
.....

Signature : \_\_\_\_\_

Name : \_\_\_\_\_

For and on behalf of Business : \_\_\_\_\_

In the capacity of \_\_\_\_\_

And duly authorized to sign this tender for and on behalf of

*(In Block Letters)*

Signature : \_\_\_\_\_

Name : \_\_\_\_\_

For and on behalf of Business : \_\_\_\_\_

In the capacity of \_\_\_\_\_

And duly authorized to sign this tender for and on behalf of

*(In Block Letters)*

Witnesses :

1. Signature : \_\_\_\_\_

Name : \_\_\_\_\_

Address : \_\_\_\_\_

\_\_\_\_\_

2. Signature : \_\_\_\_\_

Name : \_\_\_\_\_

Address : \_\_\_\_\_

\_\_\_\_\_

## APPENDIX TO FORM OF TENDER

### Instruction to Tenderers

1. Tender Security
  - (a) Amount Rs.10,000
  - (b) Valid for 120 days from the date fixed for closing of Tender.
2. Tender Validity 90 days from the date fixed for closing of Tender.
3. Markings & Address on the common envelope Contract for Low Income Settlement Environmental Improvement.  
Contract No. : .....  
To : Deputy General Manager (Greater Colombo),  
Regional Support Centre,  
National Water Supply & Drainage Board,  
3<sup>rd</sup> Floor, Welikada Plaza,  
Rajagiriya.  
From : Name : \_\_\_\_\_  
Address : \_\_\_\_\_  
\_\_\_\_\_
4. Amount of Performance Guarantee Rs.50,000 valid up to 12 months from the date of award of Contract.

## General Conditions

5. Minimum amount of third party Insurance Rs.100,000 for any one incident.
6. Period for Commencement from Engineer's order to commence. 14 calendar days
7. Contract Period ..... calendar days
8. Amount of Liquidated Damages (per calendar day) Shall be calculated according to the following formula 
$$\frac{(\text{Contract Value}) \times 0.1 \times 3}{(\text{Contract Period in Days})}$$
9. Limit of Liquidated Damages 10% of the total contract value.
10. Amount of Bonus (if any) Not Applicable.
11. Period of Maintenance Not Applicable.
12. Mobilization Advance 20% of the total contract value stated in the engagement order.
13. Percentage of Retention (a) 10% of all payment
14. Limit of Retention Money (b) 5% of the total contract value
15. Minimum amount of Interim Certificates 10% of the total Contract value
16. Time within which payment to be made after certificate. 10 working days.

## INSTRUCTIONS TO TENDERERS AND CONDITIONS OF TENDER

**Note** : *These instructions, in so far as they may affect the execution of the contract, shall be deemed to form part of the Tender.*

1. Only prequalified contractors will be eligible to apply for this contract.
2. Tenders should be in accordance with the conditions stipulated hereinafter and the attached Standard Drawings, Specifications and Bill of Quantities.
3. No tenders will be accepted after the date and time fixed for opening of tenders. Tender received by post after the said date and time will be rejected.
4. The names of the Tenderers and the amounts quoted by them for each Bill, any discount offered and the Grand Total will be read out together with any discounts offered. No further details will be made public at this time.
5. The Tender Board reserves the right without question to reject any or all the tenders and the right to accept the tender in whole or in part. Notice of Acceptance of tender will be sent by registered post to the successful Tenderer to the address given by him in his tender.
6. Tenders shall be submitted on the Forms included in the "Tender Documents" obtained from the National Water Supply & Drainage Board, and all the blanks in such Forms shall be duly filled in and signed. The said Forms shall on no account be detached from the rest of the "Tender Documents". The said Forms and the rest of the "Tender Documents" shall be returned intact, together with all other documents including the duplicate copy of the Bill of Quantities as hereinafter mentioned. The Tender Documents shall then be enclosed in a sealed envelope, which should be clearly marked on the outside as indicated in the Appendix to the form of tender.

The envelope shall contain in addition to the Tender Documents, letters, work programs, description literature, calculations and any other particulars prepared by the Tenderer to accompany his tender, including details as requested in Clause (7) hereof. All Drawings shall be kept in the same envelope.

7. Tenderers shall furnish the following information to their experience and financial standing if required by the Tender Board to evaluate their ability to fulfill the contract.
  - (i) Reference to construction of similar works (completed and on-going) carried out during the last three years indicating the name and address of the employer, value of the contract and period of contract.
  - (ii) Information regarding the names of Directors and the Share Holders in respect of private companies and the names of Directors in respect of public companies.
8. All documents which have been issued for the purpose of tendering shall remain the property of the Board with the exception of the extra copies which the Tenderer may have purchased, all other documents issued to the Tenderer shall be returned by the date fixed for the return of Tenders whether the Tenderer submits a tender or not.
9. Should the scrutiny of a tender reveal that there are arithmetical or other errors in the rates or amounts quote in the priced Bill of Quantities submitted with such Tender.

They should be corrected as follows;

- (a). Where there is a discrepancy between the amounts in figures and in words, the amounts in words will govern;

- (b). Where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity.
- (i) The unit rate as quoted will govern.
  - (ii) Unless in the opinion of the TB/TEC there is an obvious gross misplacement of the decimal point in the unit rate, in which case the line item total as quoted will govern and the unit rate will be corrected.
- (c). The amount stated in the form of tender adjusted in accordance with the above procedure with the concurrence of the tenderer shall be considered as binding upon him. If the tenderer does not accept the corrected amount of the tender, his tender should be rejected.

If the total tender price increases due to corrections of above mistakes, the correction should be readjusted within the tendered price in consultation with the Tenderer.

Where the adjusted price is lower than the tendered price the adjusted figure will be the tender price. If the Tenderer does not agree to such adjustments, his tender should be rejected without forfeiting his tender security.

10. Any alterations by the Tenderer to the documents issued for the purpose of tendering or omission by him to complete fully and return every document as required by these Conditions unless otherwise instructed by the Tender Board, may preclude consideration of the Tender by the Tender Board.
11. The Tenderer is at liberty to submit any additional information or detail that he may consider desirable and the same shall be set out in a covering letter which shall accompany the Tender. Any such additional or alternative details shall not be binding on the Board unless they are approved by the Tender Board and subsequently incorporated in the contract. Where there is a deviation from any part of any of the Tender Documents, special reference shall be made to such departure and the clause referred to shall be quoted in each case.
12. All entries on the Form of Tender and Bill of Quantities or Schedule of Rates shall be in ink. Any alterations and erasures should be authenticated by the Tenderer as otherwise the Tender will be treated as informal and rejected.
13. (i) Price  
The price shall be stated in Sri Lanka Rupees.
- (ii) Currency of Payment  
The Total Contract Price shall be paid in Sri Lanka Rupees.
14. The Board shall not be liable or pay for any expenses or losses, which may be incurred by any Tenderer in the preparation of his Tender.
15. Tenders and all other documents shall be prepared and submitted in the English Language.
16. Tenders should be firm and shall be deemed to remain open for acceptance for a minimum period as indicated in the Appendix to the Form of Tender and accordingly no Tenderer shall be entitled to withdraw, cancel or revoke his tender during the said period.
17. (i) Specific reference in the Specifications to any material by trade name, make or catalogue number shall be construed as establishing standards of quality and performance and not limiting the choice of materials and equipment so referred to, and the tenderers in such cases may offer in their tender materials or equipment of any other trade name, make or catalogue number, provided that it meets the requirements of Technical Specification.

- (ii) All materials shall be new, unused and originally coming from the manufacturer's plant to the final station. Tenders including used, rebuilt or overhauled materials will not be accepted.
  - (iii) Any duties or custom dues and import license fees levied on equipment to be imported by the Contractor shall be paid by the Contractor.
18. The Tenderer shall insert rates for the execution of the whole of the said works in strict accordance with the specifications. Where no rate is entered by the tenderer against items in the Bill of Quantities, it will be assumed that the cost of the plant or works described in these particular items is covered by the rates inserted against the remaining items in the Bill of Quantities.
19. The Tender Board will not accept any responsibility regarding information, interpretations or conclusions obtained or arrived at by the Tenderer from the data furnished by the Board.
20. (i) If a Tenderer shall have any doubt as to the meaning of any portion of the conditions, specifications or drawings, he may, in order that such doubts may be removed, at once set the particulars thereof in writing and submit them to the Engineer, from whom any clarification or information may be obtained on application. Any information or clarification given by the Engineer to any prospective Tenderer, will if such information is deemed necessary for the preparation of Tenders or would be prejudicial to any uninformed tenderer be furnished to all other prospective Tenderers as a written addendum to these documents.
- (ii) No representation, explanation or statement (except written addenda referred to in Clause 20(i) hereof), made to the Tenderer prior to the Board's written acceptance of the tender whether by the Engineer or his authorized representative as to the meaning of any of the contract documents or as to anything done by or not to be done by the Tenderer shall bind the judgement or powers of the Engineer in the exercise by him of his duties under the contract.
21. (a) A Tender Security in a sum stated in the Appendix to the Form of Tender shall be furnished in one of the following instructions.
- (i) A Bank Guarantee issued by a Bank operating in Sri Lanka approved by the Central Bank of Sri Lanka.
  - (ii) A Bank Guarantee issued by a Bank based in another country but the security or guarantee "confirmed" by a Bank operating in Sri Lanka.
  - (iii) A Sri Lanka Rupee cash deposit at the National Water Supply & Drainage Board, Sri Lanka. (The original receipt for such deposit shall be attached to the original tender document)
  - (iv) A Letter of Credit issued by a foreign bank, but "confirmed" by a Bank operating in Sri Lanka.
  - (v) A fixed Deposit or a Pass Book from a Bank operating in Sri Lanka, deposits made in the name of the National Water Supply & Drainage Board.
  - (vi) A guaranteed cheque or a Bank draft issued by a recognized bank operating in Sri Lanka.
  - (vii) An Insurance Bond or a Guarantee from a reputed Insurance Company operating in Sri Lanka accepted by the Treasury for acceptance of Guarantees.

- (b) The validity of the Tender Security shall be up to the date as per Appendix to Form of Tender. Terms and conditions of the guarantee shall be as provided in the bank guarantee form included in the tender document.
  - (c) Any tender not accompanied by a tender security as described above will be disqualified and no further consideration will be given to such tenders. Tenderers are requested to note that no relaxations in this regard will be made.
  - (d) After the award has been finalized, the Tender Security will be returned to the respective tenderers, with the exception of the tender security of the successful tenderer.
  - (e) In the event the successful tenderer fails to sign the Contract with the Board within thirty (30) calendar days after receiving notice of award of contract and submit a performance guarantee as specified in Clause 22 hereof, the tender security submitted shall be forfeited without prejudice to the right of the Board to recover the full amount of damages that may be sustained by the Board in consequence of the said default on his part. The Tender Security of the successful Tenderer shall be returned after he furnishes the Performance Guarantee. No interest will be paid on any Guarantee.
22. The Successful tenderer will be required to pay all stamp duty in receipt of the contract documents including the Performance Guarantee in accordance with the law relating to stamp duty in Sri Lanka. The Board will prepare the contract documents for execution by the successful tenderer.
- (a) The successful tenderer will be required within fourteen (14) days of intimation of acceptance of his tender to execute a guarantee in the prescribed form in a sum equal to Rs.50,000 valid up to 12 months from the date of award of the contract with a bank acceptable to Board and approved by the Engineer as surety in favour of the Board for the due and proper performance of the Contract and for payment of all dues.
  - (b) The performance guarantee shall be issued by an approved bank operating in Sri Lanka and made payable to the Board and its terms and conditions shall be as provided in the Performance Guarantee Form attached.
    - (i) A Bank Guarantee issued by a Bank operating in Sri Lanka approved by the Central Bank of Sri Lanka.
    - (ii) A Bak Guarantee issued by a Bank based in another country but the security or guarantee "confirmed" by a Bank operating in Sri Lanka.
    - (iii) A Sri Lanka Rupee cash deposit at the National Water Supply & Drainage Board, Sri Lanka. (The original receipt for such deposit shall be attached to the original tender document)
    - (iv) A Letter of Credit issued by a foreign Bank, but "confirmed" by a Bank operating in Sri Lanka.
    - (v) A fixed Deposit or a Pass Book from a Bank operating in Sri Lanka, deposits made in the name of the National Water Supply & Drainage Board.
    - (vi) A guaranteed cheque or a Bank draft issued by a recognized bank operating in Sri Lanka.
    - (vii) An Insurance Bond or a Guarantee from a reputed Insurance Company operating in Sri Lanka accepted by the Treasury for acceptance of Guarantees.
  - (c) On due performance and completion of the Contract in all respect, the performance guarantee will be returned to the Contractor without interest.



23. Tenderers must acquaint themselves fully with the Conditions of Tender. No plea of lack of information or of insufficient information from the successful tenderer will be entertained at any time.
24. Evaluation of Tender
  - (i) The Tender Board will evaluate and compare only tenders determined to be substantially responsive to the requirements of the Tender Documents as follows:
    - (a) Making any correction for errors pursuant to Clause 9.
    - (b) Excluding provisional sums and the provision, if any, for Contingencies in the Summary Bill of Quantities.
  - (ii) The tender Board reserves the right to accept or reject any variation, deviation or alternative offered. Variations, deviations, alternative offers or other factors, which are in excess of the requirements of the tender documents or otherwise result in the accrual of unsolicited benefits to the Board shall not be taken into account in tender evaluation.
  - (iii) The Tender Board does not bind itself to accept the lowest or any tender.
25. The successful Tenderer shall insure the goods and services supplied in such a manner that reimbursement for any losses would be paid in Sri Lanka Rupees. All insurance works under the contract shall be executed by an insurance cooperation or an insurance company operating in Sri Lanka.
26. Discount offered or differed payment if any shall be stated in the summary and carried over to the form of tender. Discounts offered or differed payments stated in accompanying covering letter will not be considered.
27. The total amount of the tender should be given both in words and figures. If there is any discrepancy between the words and figures the amount stated in words will be treated as the tendered amount.
28. Tenderer shall note that the price variation claims will be paid only for the contractors where the contract period is more than 12 months, according to the price escalation formula approved by the Cabinet (ICTAD FORMULA). Details are given in Cl.70(I) of the Conditions of the Particular Application Part II. For the contract where the contract period is less than or equal to 12 months, price variation will not be considered.
29. Compliance with Contract Act 3 of 1987.
  - (i) Tenderer shall comply with the requirements of the Public Contracts Act. No. 3 of 1987, the registration of public contracts in the gazette extra ordinary No.508/7 of 2<sup>nd</sup> June 1988 and subsequent Gazette Notifications, for tendered price more than Rs.5 million.
  - (ii) Excepting principal Tenderers all agents, sub agents, representatives or nominees for and on behalf of the Tenderers shall be required to submit their certificates of registration under this Act, and shall register the contract with the Registrar of Public Contract.
30. Parents, spouse or children of NWSDB employees are not permitted to participate in this tender.
31. If the Tenderer have brothers/sisters or in-laws working in the NWSDB, their details shall be given in the document as Annex 1.

## FORM OF AGREEMENT

**MINISTRY OF URBAN DEVELOPMENT, CONSTRUCTION AND PUBLIC UTILITIES**  
**NATIONAL WATER SUPPLY AND DRAINAGE BOARD**  
**ENGAGEMENT ORDER NO. ....**

**THE CONTRACT FOR LOW INCOME SETTLEMENT ENVIRONMENTAL IMPROVEMENT**

**FORM OF AGREEMENT**

This agreement is made and entered into on this ..... day of ..... by National Water Supply and Drainage Board, a corporate body duly established under the provisions of the National Water Supply and Drainage Board Law No. 2 of 1974 and having its Head Office at Ratmalana in Sri Lanka (hereinafter sometimes referred to as “the Employer”) of the one part and ..... of ..... (hereinafter called “the Contractor”) of the other part.

WHEREAS, the Employer is desirous that certain works are to be executed by the Contractor, under the supervision of the Engineer’s Representative as and when necessity for the execution of such works arises and has accepted a Tender dated ..... by the Contractor for Low Income Settlement Environmental Improvement, at the rates quoted by the Contractor in the Bill of Quantities annexed hereto.

AND WHEREAS, the General Conditions of Contract, Special Conditions of Contract and schedule of rates describing the work to be done have been prepared by the National Water Supply and Drainage Board and the same have been signed by the parties hereto.

NOW THIS AGREEMENT WITNESSES AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meaning 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 in the following priority order.
  - (a). Form of Tender including Appendices thereto
  - (b). Letter of Acceptance
  - (c). Conditions of Contract
  - (d). Special Conditions of Contract
  - (e). Specifications
  - (f). Priced Bill of Quantities
  - (g). Standard Drawings
  - (h). Letter of Engagement Order dated .....

Now it is hereby agreed as follows:

1. For the consideration hereinafter mentioned the Contractor shall upon and subject to the conditions hereto annexed, carryout low income settlements environmental improvement works stated hereof in the work sites of the Board under the supervision of the Engineer’s Representative to entire satisfaction of the Engineer.

Number of Low Income Settlements & the Period of Engagement.

Work Sites CB1 District	No. of Low Income Settlements (30 Approx.)	Period of Engagement
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

The General Conditions of Contract, Special Conditions of Contract, Instructions to Tenderers and Conditions of Tender, and Form of Tender, all duly signed by the Board and the Contractor shall for all purposes whatsoever be read, regarded and construed as part and parcel of this Agreement.

- The Contractor will be paid for the said provision of Low Income Settlements Environmental Improvements the sum of .....  
 (Rs. ....) hereinafter sometimes referred to as the "Contract Price" or such other sum as shall become payable hereunder according to the terms of the Contract.
- The amount payable as aforesaid shall be subject to a retention of five percent (5%) (Hereinafter referred to as the retention money) by the Board. This retention money shall be released to the contractor on expiration of the period of engagement order.

IN WITNESS WHEREOF, the parties hereto have their hands and seal to these presents at the places and dates hereinafter mentioned.

Prepared by : \_\_\_\_\_

Checked by : \_\_\_\_\_

Signed by the said ..... in the capacity of.....at .....  
 .... on the ..... day of ..... in the presence of the following witnesses.

-----  
**Signature of Contractor**

Witnesses

- Signature : \_\_\_\_\_  
 Name : \_\_\_\_\_  
 Address : \_\_\_\_\_

2. Signature : \_\_\_\_\_  
Name : \_\_\_\_\_  
Address : \_\_\_\_\_

Signed by ..... , the Deputy General Manager, NWSDB (Greater Colombo)  
and ..... , the Assistant General Manager (.....), NWSDB on  
the ..... day of ..... in the presence of the  
following witnesses.

Deputy General Manager (GC) \_\_\_\_\_  
NWSDB

Asst. General Manager ( ) \_\_\_\_\_  
NWSDB

Witnesses

1. Signature : \_\_\_\_\_  
Name : \_\_\_\_\_  
Address : \_\_\_\_\_

2. Signature : \_\_\_\_\_  
Name : \_\_\_\_\_  
Address : \_\_\_\_\_

## FORM OF TENDER SECURITY

**FORM OF TENDER SECURITY**

By this Bond, We ..... (hereinafter called "the Tenderer") and We (name of Bank/Insurance company) whose registered office is at ..... (hereinafter called "the Surety") are held and firmly bound unto ..... (hereinafter called "the Authority") in the sum of ..... for the payment of which sum the Tenderer and the Surety bind themselves their successors and assigns jointly and severally by these presents.

Whereas the Authority has invited the Tenderer and other persons to complete tenders in similar terms for Low Income Settlements Environmental Improvements and works associated therewith (hereinafter called "the Works") and to submit the same for the consideration of the Authority, and the Tenderer proposes to submit to the Authority a Tender (hereinafter called "the Tender") in accordance with such invitation, the Bond shall provide security to the Authority that the Tenderer will honour certain obligations to be undertaken by him in the Tender in accordance with the following conditions.

Now the Conditions of this Bond are:

- (a) That it shall remain in full force and effect until the earliest of
  - (i) .....(date), being ..... days from .....(date), the date stipulated by the Authority for the submission of tenders, or any prolongation of such date above notified to the Authority by the Tenderer and the Surety in writing;
  - (ii) in the event of acceptance of the Tender by the Authority, the date upon which the Tenderer provides a performance security to the Authority in accordance with terms of the contract thereby made between them, or
  - (iii) in the event of acceptance by the Authority of a tender for the Works from a third party, the date upon which such third party provides the relevant performance security.
- (b) Subject to this Bond being in full force and effect, the Surety shall pay the full amount specified in this Bond upon receipt of first written demand from the Authority stating that
  - (i) the Tenderer has withdrawn his Tender during the validity of this Bond ; or
  - (ii) the Tenderer has failed to provide a performance security to the Authority in accordance with the terms of the contract between them upon acceptance of the Tender.

No alteration in the terms of the Tender, nor any forbearance or forgiveness in or in respect of any matter or thing concerning the Tender on the part of the Authority nor any objection from the Tenderer shall in any way release the Surety from any liability under this Bond.

The benefit of this Bond shall not be assignable by the Authority and upon its ceasing to be in full force and effect the Authority shall return the same to the Tenderer.

This Bond shall be governed by the laws of ..... (country)

I executed as a Deed this ..... (date) day of ..... (month), ..... (year)

For and on behalf of the Tenderer .....

For and on behalf of the Surety .....

\_\_\_\_\_  
Signed by \_\_\_\_\_

\_\_\_\_\_  
Signed by \_\_\_\_\_

In the capacity of \_\_\_\_\_

In the capacity of \_\_\_\_\_

and by \_\_\_\_\_

and by \_\_\_\_\_

in the capacity of \_\_\_\_\_

in the capacity of \_\_\_\_\_

Seal (*where applicable*)

Seal (*where applicable*)





**FORM OF PERFORMANCE BANK GUARANTEE**

**FORM OF PERFORMANCE BANK GUARANTEE**

BOND NUMBER : \_\_\_\_\_ DATE : \_\_\_\_\_

SUM GUARANTEED : \_\_\_\_\_

To : \_\_\_\_\_ (Name of Employer)

\_\_\_\_\_ (Address of Employer)

Whereas ..... (name and address of contractor) [hereafter called "the Contractor"] has undertaken, in persuance of contract No. .... dated ..... to execute ..... (name of contract) [hereafter called "the Contract"] ;

And whereas it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized Bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract ;

And whereas we have agreed to give the Contractor such a Bank Guarantee ;

Now therefore we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of ..... (amount of Guarantee) ..... (amount in words), such sum being payable in the type and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of ..... (amount of Guarantee) as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

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

This guarantee shall be valid until after one (1) month from the date of issue of the taking Over Certificate.

Signature and the Seal of the Guarantor : \_\_\_\_\_

Name of the Bank : \_\_\_\_\_

Address : \_\_\_\_\_

Date : \_\_\_\_\_

Witness : \_\_\_\_\_

**FORM OF BANK GUARANTEE FOR THE  
MOBILIZATION ADVANCE PAYMENT**

**FORM OF BANK GUARANTEE FOR MOBILIZATION ADVANCE PAYMENT**

BOND NUMBER : \_\_\_\_\_ DATE : \_\_\_\_\_

SUM GUARANTEED : \_\_\_\_\_

To : \_\_\_\_\_ (*Name of Employer*)  
\_\_\_\_\_ (*Address of Employer*)

Name of the Contract : \_\_\_\_\_

In accordance with the provision of the Conditions of Contract, of the above mentioned contract ..... (*name and address of contractor*) [hereafter called "the Contractor"] shall deposit with ..... (*name of Employer*) a bank guarantee to guarantee his proper and faithful performance under the said Contract in and amount of ..... (*amount of guarantee*) ..... (*amount in words*)

We, the ..... (*Bank*), 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*), 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 the Works to be performed thereunder or of any of the Contract document which may be made between you and the Contractor shall in any way release from any liability under this guarantee, and we hereby waive notice or 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*) received full repayment of the same amount from the Contractor.

Signature and the Seal of the Guarantor : \_\_\_\_\_

Name of the Bank : \_\_\_\_\_

Address : \_\_\_\_\_

Date : \_\_\_\_\_

Witness : \_\_\_\_\_

## **SPECIAL CONDITIONS OF CONTRACT**

### Areas of Employment

The works to be executed by the Contractor shall be within CB1 District of Colombo Municipal area.

The Board will provide all pipes and specials required to execute the job.

### Method of Execution of Contract

The contractor will be required for the execution of works at the sites through a duly authorized engagement order given under the hand of Engineer and delivered to the contractor at least 14 days before the date of commencement of works, as stated in the engagement order.

The contractor will be required to submit a weekly programme to the officer in charge of the work and to ensure the work according to that. If any changes to be done, the officer in charge should be informed in advance and the progress of each day should be informed him on the following day.

### Termination of Engagement by the Board

The Board is entitled to terminate the engagement under this contract by giving short notice to the contractor. In the event of such termination, the contractor shall be paid by the board, the amount payable for all occasions of engagement prior to the date of termination at the rates and prices provided in the contract and the full amount payable in respect of the retention money within 21 days from the date of such termination.

In the event of termination as above, the contractor shall be relieved of all his obligations from the date of termination and if any performance bond has been provided by the contractor in respect of the contract, it shall made null and void through a letter written by the board and delivered to the Bank which issued the said bond. The contractor shall be given a copy of the said letter by the Board.

### Method of Payment

1. Advance Payment

Maximum of 20% of engagement order value shall be paid as an advance payment on submission of a bank guarantee from a recognized bank.

2. Progressive Payments

The contractor shall submit monthly bills for the work done. A retention of 10% shall be made against each bill.



## PART II



## NOTES ON PRICING

Attention is invited to the Form of Tender, the Conditions of Contract, the Specifications and Drawings, which are to be read in conjunction with the Bill of Quantities.

The Bill of Quantities are not to be taken as sufficiently precise for ordering materials and the Contractor, in placing orders, shall be guided by the actual requirements of the work.

The quantities are the net quantities taken from the Drawings, and in pricing them the Contractor must allow for any increases in quantity and for any additional materials, and for use of materials and plant which may be required in the actual construction of the Specifications and Drawings. Where payments are based on weight, theoretical weights will be taken. All rates shall represent the total cost of the finished work complete as specified.

Where special risks, liabilities and obligations set forth or implied in the documents on which the tender is to be based cannot be dealt with as above, then the price thereof is to be separately stated in an item or items.

A rate is to be entered against each item in the Schedules and the Bill of Quantities. Items within a bill against which no rates are inserted shall be considered as covered by other rates.

The rates for dismantling, removing, cutting away, demolishing etc., shall include the removal of the material so obtained, stacking or depositing it on the site, or carting tip as is applicable.

The rates for excavation shall include excavation in whatever material may be found, and shall include breaking through surfaces for refilling, excavation and ramming, removing and final disposal of surplus soil except that arising from the importation of selected materials, loading, carting and disposing selected surplus excavated materials when ordered by the Engineer, handling different classes of material separately, re-handling as often as necessary, temporary reinstatement and maintenance of surfaces in highways, paved areas and footpaths and permanent reinstatement of all surfaces other than in highways, paved areas and footpaths, and every other expenses in strict conformity with the Specifications.

Except for trenches, the quantities of excavation shall be measured as the product of the net plan area of the foundation and the depth between agreed ground level and formation level of the structure. Allowance shall be made in the excavation rates for the excavation and handling of any of the material beyond the net plan area of the foundations of the Permanent Works either to provide working space during construction, for timbering, or where the sides of the excavation are battered as an alternative to timbering and all contingencies and expenses necessary to complete the construction.

Where items of excavation are measured in stages, the volume measured shall be that between the depths or limits stated in the item and not from ground level in each case.

Where the ground surface is to be covered with embankment or fill of any description, the depth to excavation shall be measured from ground surface before being so covered, and after removal of topsoil.

The rates for excavation in trench shall include all those matters described in the excavation paragraph including standard pipe bedding and shall be based on the average depths stated in the Bill of Quantities. The rates shall include crossings under existing utility service connections to individual premises or properties.

The Contractor should note that the depth of trench excavation is measured as the depth to invert.



The rates for unreinforced, pre-cast and reinforced concrete shall include the supply of all necessary materials and gauging, mixing, conveying, placing and consolidating, forming to correct slopes and falls as shown on Drawings, forming construction joints all as specified, protection and curing and every other expense in strict conformity with the Specifications. All concrete shall be assumed to be of 25 Mpa grade mix unless otherwise specified.

The Contractor's rates for reinforcement shall include supply, delivery, sorting, handling, bending, cutting, placing and fixing in position and preparing as specified.

The rates for laying and jointing pipes, specials and fittings shall include taking delivery, handling, storage, an additional excavation required for socket holes etc., fixing in position or laying to line and level including the provision and setting of concrete blocks and hardwood wedges where specified and of any temporary support that may be necessary including preparing ends of pipes for jointing, providing, in the case of iron and steel pipes, touching up surface coating where damaged. The lengths of straight pipes shall be of the net overall length of straight section of the pipelines measured from the face of the sockets, and the specials and fittings shall be measured separately by number. The rates shall also include all cutting and waste of pipes consequent on structure, bends, junctions and other pipes being constructed in the designed positions.

## GENERAL SPECIFICATIONS

1. Pipes shall be at the minimum depth shown in the Standard Drawings irrespective of the depth of the distribution main and the class or the category of the road. All pipes shall be laid on the bed of approved bedding materials.
2. Width of the trench excavated for shall be minimum of 300mm required for efficient work after allowing for shoring. Material excavated from trenches shall be laid such a way that it would not obstruct the road as to prevent the passage of traffic. The soil filled around and for 300mm over the top of the pipe shall be free from stones and filled with care. When backfilling, the soil shall be placed in layers not more than 150mm.
3. In regulating traffic flow sufficient barricades, signboards, warning tapes and lighting should be provided.
4. Deviation to the Specifications/BOQ should be obtained in writing from the Engineer.
5. The Contractor shall not use additional material (pipes, specials, valves etc.,) other than specified by the Engineer and should obtain prior approval in all cases of violation of this rule.
6. The Contractor should submit a demand note which should be approved by the Engineer, for the materials required for the works assigned by the Board, according to his work program and should submit the materials reconciliation statement at the end of the each month before collecting the requirements for the next month.
7. The Contractor is responsible for obtaining work orders daily from the Engineer and should hand over daily on the completion of the jobs. No work will be entrusted until the completion of the previous work. No night work will be allowed. If such requirement arises prior permission should be obtained in writing from the Engineer at no additional cost to the client.
8. The Contractor should employ qualified plumbers and ensure no leaks will be reported for a period of 14 days from the date of completion. If leaks occur the contractor should repair the leaks at no extra cost by using his own pipe and specials.
9. No pipelines shall be passed through by breaking drains canal sides, culverts or permanent structures. Engineer's prior approval should be obtained in special circumstances, where such breakages are necessary.
10. PVC main tapping shall be carried out by using Talbot or similar type of tapping machines. No ad-hoc tapping shall be allowed under any circumstances.
11. All excavated road surfaces shall be temporarily reinstated with ABC (Aggregate Base Course) mixture of 150mm thick and fully compacted.

## BILLS OF QUANTITIES

Item	Description	Unit	Rate Rs.	Qty	Amount Rs.
	<p><u>Note:</u></p> <p>1.All pipe materials, fittings, specials, jointing materials etc., will be provided by NWSDB.</p> <p>2.Service connections will be installed by NWSDB.</p> <p>3.Tapping of mains, Excavation and backfilling of trenches and pipe laying up to the Tenement Gardens boundary will be done by the Contractor.</p> <p>4.Laying of pipes and service connections within the Tenement Garden (excavation &amp; backfilling of trenches within the Tenement Garden will be done by the Community.</p> <p>5.The reinstatement cost of road surfaces, walkways, fences etc., will be paid by the community. (by the occupants requiring connections) to the respective authorities.</p> <p>6.Disconnection of stand posts, bath taps &amp; public toilet taps will be done by NWSDB.</p> <p>7.Contractors rate shall include the cost of providing temporary barricades, warning signs and warning lights, controlling of traffic, posting of watchers as directed by the Engineer. The rate shall also include the cost of acquiring the necessary excavation and security permits.</p> <p>8.Trade names of pipe materials are given only to indicate the type of materials that NWSDB wish to have in the work. Contractor's rate shall include the installation of similar materials of other makes.</p>				
1.0	<p>Cutting and removal of asphalt/premix/tar layer from the road surface manually or using equipment as specified.</p> <p>The thickness of the layer</p>				
1.1	Not exceeding 150mm	m <sup>3</sup>		600	
1.2	Exceeding 150mm but not exceeding 300mm	m <sup>3</sup>		300	
1.3	Exceeding 300mm	m <sup>3</sup>		150	

Item	Description	Unit	Rate Rs.	Qty	Amount Rs.
2.0	<u>Excavation and backfilling at Distribution main tapping</u>  Excavation at the distribution main to expose the pipe, continue excavation below the invert level of the pipe for making the tapping and backfilling of the same in layers of 150mm thick to achieve 95% compaction. Rate to include for shoring, dewatering, disposal of unsuitable or excessively wet soil from the site as directed, import of soil or sand (to be paid separately) as directed, preparation of the excavated surface suitable for vehicular traffic and cleaning the working area of all debris, excavated material etc., to the satisfaction of the Engineer.				
2.1	For depths up to 1m	m <sup>3</sup>		100	
2.2	For depths exceeding 1m but not exceeding 2m.	m <sup>3</sup>		50	
2.3	Temporary reinstatement of road surface with a layer of ABC mixture 150mm thick.	m <sup>3</sup>		180	
3.0	<u>Excavation and backfilling of pipe trench up to the Tenement Garden boundary</u>  Excavation of pipe trench for widths as specified in standard drawings and backfilling of the same in layers of 150mm thick to achieve 90% compaction. Rate to include for shoring, dewatering, preparation of trench bed for pipe laying as specified, disposal of unsuitable soil from the site as directed, import of soil or sand (to be paid separately) as directed, preparation of the excavated surface suitable for vehicular traffic and cleaning the working area of all debris excavated materials etc., to the satisfaction of the Engineer.				
3.1	For depth up to 1m	m <sup>3</sup>		1,200	
3.2	For depth exceeding 1m but not exceeding 2m.	m <sup>3</sup>		600	
4.0	<u>Import of backfill material</u>				
4.1	Backfill soil as approved by Engineer	m <sup>3</sup>		200	
4.2	Backfill sand as approved by Engineer	m <sup>3</sup>		200	

Item	Description	Unit	Rate Rs.	Qty	Amount Rs.
5.0	<u>Tapping at the Distribution Main</u> Fixing of EasiTap or equivalent (for 2" outlet only) or EasiTee or equivalent (for outlet sizes of 3" and 4") on the main and making the tapping under pressure as per manufacturer's recommendation.				
5.1	3" x 3" VJ EasiTee or similar	No		2	
5.2	3" x 2" VJ EasiTap or similar	No		2	
5.3	4" x 4" VJ EasiTee or similar	No		5	
5.4	4" x 3" VJ EasiTee or similar	No		5	
5.5	4" x 2" VJ EasiTap or similar	No		12	
5.6	6" x 4" VJ EasiTee or similar	No		2	
5.7	6" x 3" VJ EasiTee or similar	No		1	
5.8	6" x 2" VJ EasiTap or similar	No		1	
5.9	2" Gunmetal Standard Type ferrule, Talbot or similar	No		15	
5.10	2" PVC valve socket	No		15	
6.0	<u>Fixing of Gate Valve, Protection Tube &amp; Surface Box</u> Fixing of DF gate valve, protection tube surface box assembly as per drawings.				
6.1	2" D/F Gate Valve with protection tube & surface box	No		15	
6.2	3" D/F Gate Valve with protection tube & surface box	No		8	
6.3	4" D/F Gate Valve with protection tube & surface box	No		7	
7.0	<u>Fixing of Flange Adapter</u> (VJ MaxiDaptor or similar)				
7.1	2" Flange Adapter	No		30	
7.2	3" Flange Adapter	No		8	
7.3	4" Flange Adapter	No		7	

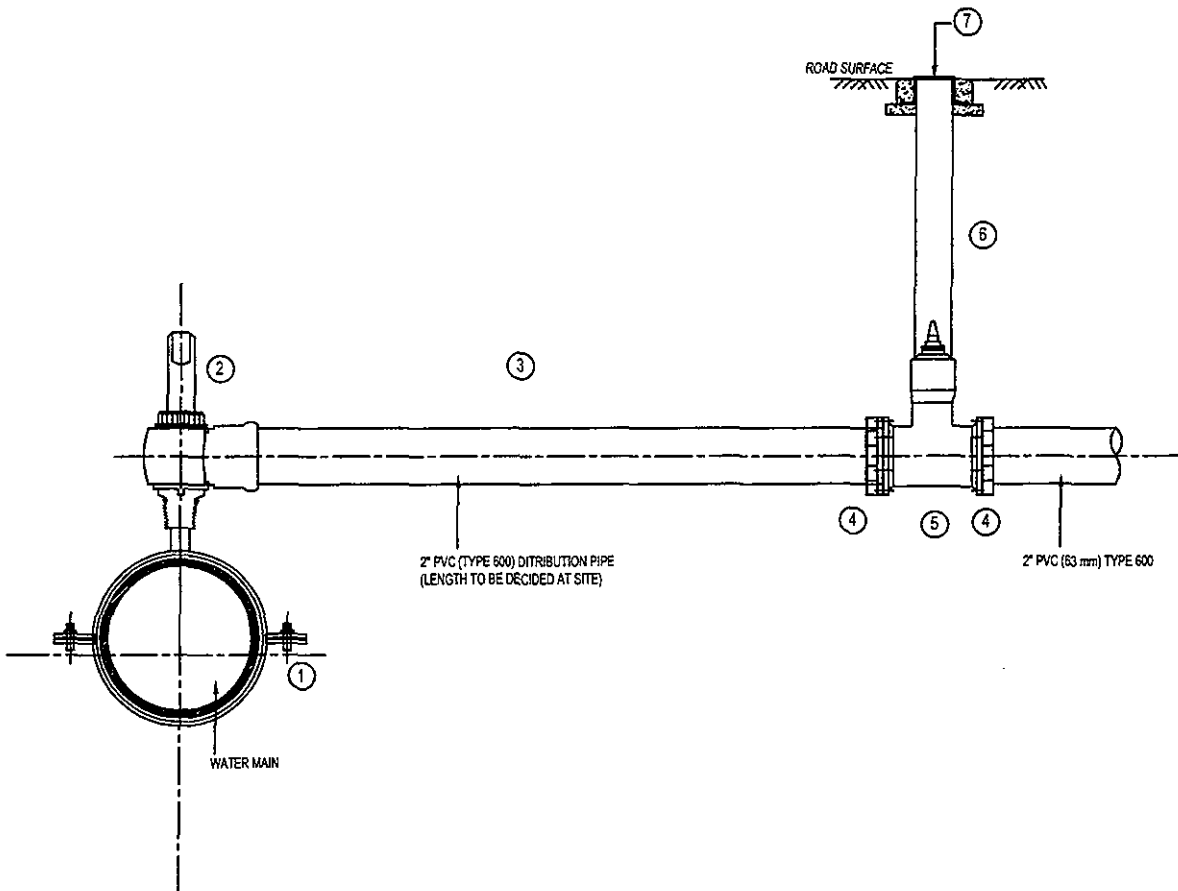
Item	Description	Unit	Rate Rs.	Qty	Amount Rs.
8.0	<u>Jointing of PVC Pipes</u>  Jointing of PVC pipes in trenches. Rate to include for jointing of bends, tees etc., as per manufacturer's recommendation.				
8.1	4" PVC pipe	m		711	
8.2	3" PVC pipe	m		1,068	
8.3	2" PVC pipe	m		3,883	
8.4	1½" PVC pipe	m		251	
8.5	1¼" PVC pipe	m		376	
8.6	1" PVC pipe	m		1,128	
8.7	½" PVC pipes for service connections	m		6,000	
9.0	Excavation of Trial Pits to locate water mains and other utilities.				
9.1	Depth not exceeding 1m	m <sup>3</sup>		180	
9.2	Depth exceeding 1m but not exceeding 2m.	m <sup>3</sup>		90	



**CONTRACT FOR LOW INCOME SETTLEMENT ENVIRONMENTAL  
IMPROVEMENT**

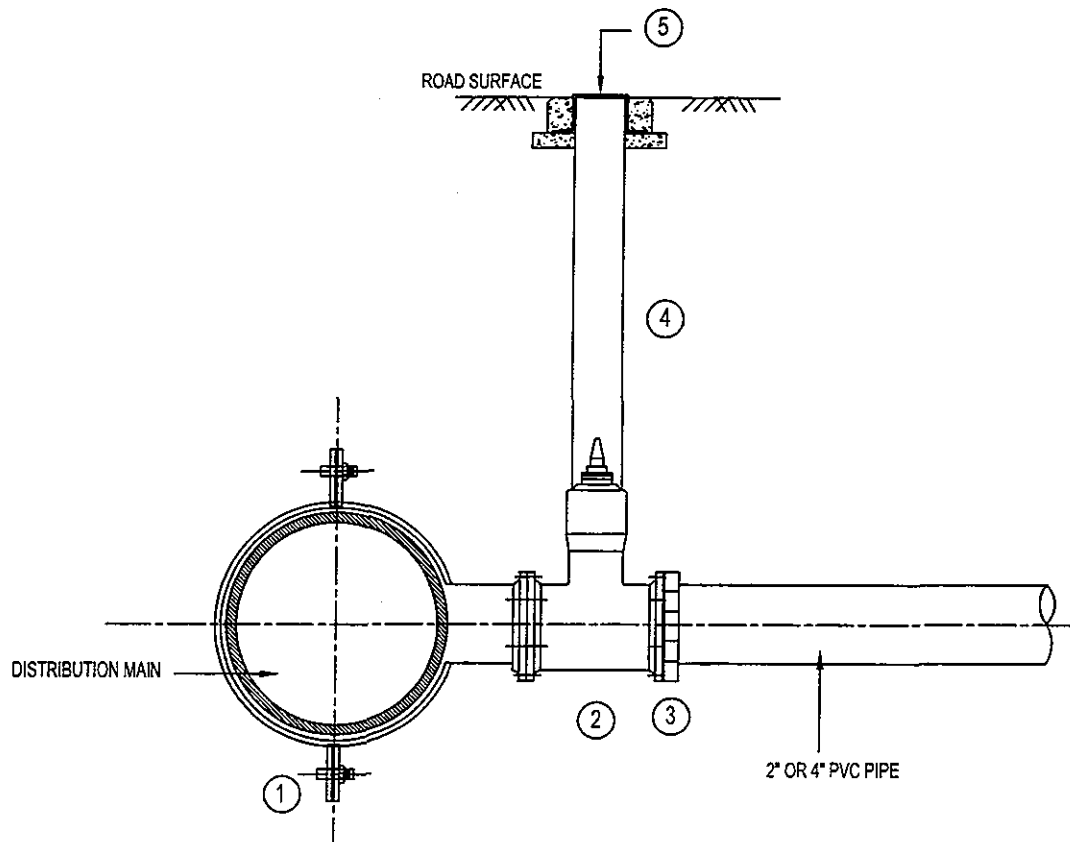
**LIST OF STANDARD DRAWINGS**

<b>Drg.No.</b>	<b>Description</b>
LI/SD/01	2" Tapping Arrangement with Gate Valve
LI/SD/02	3" or 4" Tapping Arrangement with Gate Valve
LI/SD/03	Details of Standard Trench & Bedding



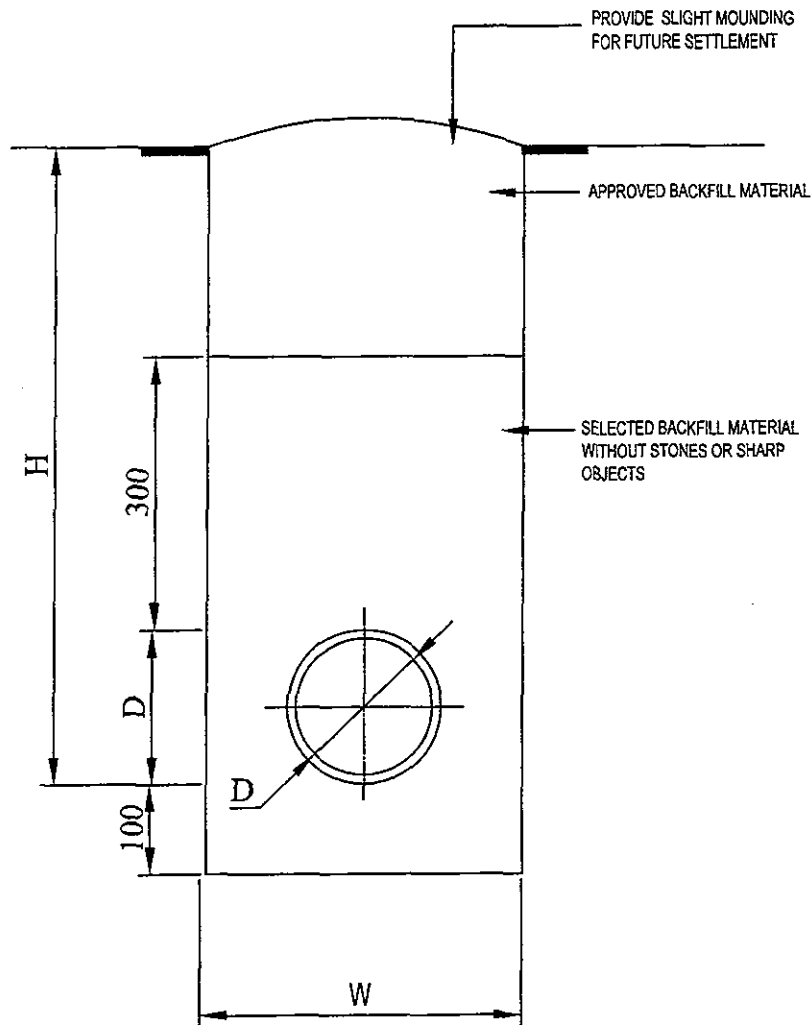
Nr.	DESCRIPTION	QTY.
1.	VJ EASITAP OR SIMILAR WITH 2" FEMALE THREADED OUTLET	1 Nr.
2.	2" TALBOT OR SIMILAR SCREW DOWN TYPE GUNMETAL FERRULE WITH 2" FEMALE THREADED OUTLET	1 Nr.
3.	2" PVC VALE SOCKET	1 Nr.
4.	2" VJ FLANGE ADAPTER OR SIMILAR SUITABLE FOR 63 mm DIA. CLASS 600 PVC PIPE	2Nr.
5.	2" (DN 50) DOUBLE FLANGED GATE VALVE	1 Nr.
6.	3" PVC, TYPE 600 PROTECTION TUBE	1 Nr.
7.	SURFACE BOX, 150X150 mm CLEAR OPENING	1 Nr.

LI/SD/01	2" Tapping Arrangement with Gate Valve
SCALE	Not to Scale
<b>JICA STUDY TEAM</b> THE DETAILED DESIGN STUDY ON THE PROJECT FOR REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA	



Nr.	DESCRIPTION	QTY.
1.	VJ EASITAP OR SIMILAR WITH 3" OR 4" FLANGED OUTLET	1 Nr.
2.	DOUBLE FLANGED GATE VALVE 3" OR 4"	1 Nr.
3.	VJ FLANGE ADAPTER OR SIMILAR SUITABLE FOR 3" OR 4" PVC PIPE	1 Nr.
4.	3" PVC, TYPE 600 PROTECTION TUBE	1 Nr.
5.	SURFACE BOX, 150X150 mm CLEAR OPENING	1 Nr.

LI/SD/02	3" Or 4" Tapping Arrangement with Gate Valve
SCALE	Not to Scale
<b>JICA STUDY TEAM</b> THE DETAILED DESIGN STUDY ON THE PROJECT FOR REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA	



PIPE DIA. (D) (mm)	NOMINAL TRENCH WIDTH (mm)	NOMINAL TRENCH HEIGHT (mm)
4" PVC	400	900
3" PVC	400	900
2" PVC	300	800
1 1/2" PVC	300	800
1 1/4" PVC	300	600
1" PVC	300	600

LI/SD/03	Details of Standard Trench & Bedding
SCALE	Not to Scale
<b>JICA STUDY TEAM</b> THE DETAILED DESIGN STUDY ON THE PROJECT FOR REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA	

## ANNEX 1

Details of Brothers/Sisters and In-laws working in the NWSDB.

1. Name
2. Designation
3. Section of the NWSDB where he/she works at present
4. Relationship to the Tenderer.

## **ANNEX II**

### **DEVIATION FROM SPECIFICATIONS**

#### **Preamble**

All details differ from those recommended in this documents shall be listed.  
(Additional sheets must be attached if necessary)

**ANNEX III**  
**QUESTIONNAIRE**

(This must be compulsory filled in by the Tenderer).

1. Meters of pipe laying which could be provided by a gang per day during engagement period \_\_\_\_\_
2. No. of gangs which could be provided per day \_\_\_\_\_
3. Composition of the gang \_\_\_\_\_
4. Total number of years experience in the field of plumbing & similar work. \_\_\_\_\_
5. Mode of transporting materials, staff (gang) in the field. \_\_\_\_\_
6. Can the contractor provide steel plates to place over the trenches for smooth passage of traffic. \_\_\_\_\_
7. Supervisory staff with names and organization chart (You may attach a separate sheet of paper) \_\_\_\_\_
9. Schedule of Plant & Equipment per gang

ITEM	DESCRIPTION	MINIMUM REQUIREMENT	NO. PROPOSED BY TENDERER	REMARKS (Hired/Owned)
01	Compactors	01		
02	Breakers	01		
03	Tapping Machine	To be provided by NWSDB		
04	Lorry	01		





JICA