

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 LEAK REPAIR WORKS

MARCH 2001

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1163368【2】

マイクロ
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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

THE CONTRACT FOR LEAK REPAIR WORKS

Under this contract project, it is intended to repair 2,340 distribution main leaks and 9,000 service pipe leaks within CMC area. As the work involved is beyond the capacity of a single local contractor, a number of contractors will be prequalified and the work will be distributed among them in order to minimized the delay in implementation.

The total work involved is divided into the following two categories.

Distribution main leaks:

Main Leaks (3" – 8")	1260 Nos
Joint Leaks (3" – 8")	660 Nos
Hydrant Leaks	120 Nos
Gate Valve Leaks	270 Nos
Air Valve Leaks	30 Nos
<hr/> Total	<hr/> 2,340 Nos

Service pipe leaks:

PVC service pipe leaks	6,000 Nos
GI service pipe leaks which need replacement with PVC	1,000 Nos
Repair and encasement of exposed PVC pipes at drain crossings	1,000 Nos
Replacement of multiple, small Diameter service pipes with 63mm PVC common mains	1,000 Nos
<hr/> Total	<hr/> 9,000 Nos

All pipe materials, fittings, special repair and tapping products, couplings and jointing materials etc., will be provided by NWSDB. Contractor is expected to perform all the fieldwork under the instruction and supervision of NWSDB and the Consultant.

The numbers of leaks shown above are approximate and they can be increased or decreased depending on the actual requirement.

The Contractor shall make sure that no damage is made to the other parts of the road 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 surrounding 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 LEAK REPAIR WORKS
(CONTRACT NO.)

1. Deputy General Manager (Greater Colombo), National Water Supply and Drainage Board, Welikada Plaza, Rajagiriya, will receive sealed tenders for the Contract for Leak Repair Works, Contract No..... up to 14.00 hours on
2. Tender document shall be collected from the office of the Deputy General Manager (Greater Colombo), National Water Supply & Drainage Board, Welikada Plaza, Rajagiriya, 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 Deputy General Manager (Greater Colombo), National Water Supply & Drainage Board, Welikada Plaza, Rajagiriya, immediately after closing of tenders.
4. A non-refundable Tender Fee of Rs.250.00 shall be made at Deputy General Manager (Greater Colombo), National Water Supply & Drainage Board, 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 & Drainage Board, Welikada Plaza, Rajagiriya to receive on or before the closing time.
6. Tender document may be inspected at Deputy General Manager (Greater Colombo), National Water Supply & Drainage Board, Welikada Plaza, Rajagiriya, free of charge. For further clarifications please contact Assistant General Manager (Distribution), National Water Supply and Drainage Board, Welikada Plaza, Rajagiriya on Tel 01-887321 or Fax 01-887152 between 9:30 hrs to 12:30 hrs and from 13:30 hrs to 15:30 hrs on normal working days up to

Deputy General Manager (Greater Colombo)
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 (Greater Colombo),
National Water Supply and Drainage Board,
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 Bills 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 accepted by you, we will enter into a formal agreement with the NWSDB for the due performance of the contract. Also, 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
year

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)

Witness:

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 Leak Repair.

Contract No. :

To : Deputy General Manager (Greater Colombo),
National Water Supply & Drainage Board,
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:
(Contract Value) x 0.1 x 3 / (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 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 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) 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 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 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) 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 2nd 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 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 LEAK REPAIR WORKS

This agreement is made and entered into on this day of Two Thousand 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 Leak Repair Works, 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 leak repair works under the supervision of the Engineer’s Representative to the entire satisfaction of the Engineer.

Number and Type of Leak Repair Works & the Period of Engagement.

Work Sites CMC Area	No.and Type of Leak Repair Work	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.

2. The Contractor will be paid for the said provision of the Contract for Leak Repair Works the sum of
 (Rs.) hereinafter sometimes referred to as the "Contract Price" or such other sums as shall become payable hereunder according to the terms of the Contract.
3. 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.....(day) of(month), (year) in the presence of the following witnesses.

Signature of Contractor

Witnesses:

1. Signature : _____
 Name : _____
 Address : _____

2. Signature : _____
Name : _____
Address : _____

Signed by _____, Deputy General Manager, NWSDB (Greater Colombo)
and _____, Assistant General Manager, NWSDB (.....) on
the (day) of(month),(year) 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 the Contract for Leak Repair Work in CMC Area 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 (day) of (month),(year).

For and on behalf of the Tenderer

Signed by _____

In the capacity of _____

and by _____

in the capacity of _____

Seal (*where applicable*)

For and on behalf of the Surety

Signed by _____

In the capacity of _____

and by _____

in the capacity of _____

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 pursuance 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 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 Bills 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 excavations 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 expense in strict conformity with the Specification.

Except for trenches, the quantities of excavation shall be measured as the product of the net plan area of the foundations 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 for all those matters described in the excavation paragraph including standard pipe bedding and surround and shall be based on the average depths stated in the Bill of Quantities. The rates shall include for 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, 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 and 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 sections 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, if any, and always be sent below same. 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.

BILL OF QUANTITIES

(a) Bill of Quantities for Main Leak Repairs

Item	Description	Unit	Rate Rs.	Qty	Amount Rs.
	<p>Repair of Main Leaks. Contractor shall take note on the following matters:</p> <p>(a). All pipe materials, fittings, jointing materials, specials etc., shall be provided by NWSDB.</p> <p>(b). Removal of surface, excavation and backfilling shall be paid separately based on unit rates.</p> <p>(c). The reinstatement cost for asphalt/premix/tar surfaces, walkways, kerb stores, fences and the and the like will be paid to the respective authorities directly by NWSDB.</p> <p>(d). All necessary excavation permits shall be obtained by the Contractors prior to start any work, NWSDB shall issue letters to the different authorities, but it shall be the responsibility of the Contractor to acquire such permits.</p> <p>(e). Whenever ordered by the Engineer, the Contractor shall import sand or soil for backfilling. Such imported materials shall be paid separately based on the unit rates.</p> <p>(f). Contractor shall study all specifications and standard drawings thoroughly in order to get fully acquainted with the work.</p>				
1.0	Cuttings and removal of asphalt/premix/tar layer from the road surface.				
	The thickness of the layer				
1.1	Not exceeding 150mm	m ³		1,050	
1.2	Exceeding 150mm but not exceeding 300mm	m ³		600	
1.3	Exceeding 300mm	m ³		300	
2.0	Excavation of earth material. Rate to include for dewatering and shoring as required.				
2.1	Depth not exceeding 1m.	m ³		6,740	
2.2	Depth exceeding 1m but not exceeding 2m.	m ³		1,680	

Item	Description	Unit	Rate Rs.	Qty	Amount Rs.
3.0	Carryout <u>Type A</u> repair as specified. Rate to include for cleaning the pipe surface, fastening of the clamp saddle according to manufacturers specification and testing repair work by re-pressurizing the main.				
3.1	3" main	No.		54	
3.2	4" main	No.		152	
3.3	5" main	No.		10	
3.4	6" main	No.		28	
3.5	7" main	No.		4	
3.6	8" main	No.		4	
4.0	Carryout <u>Type B</u> repairs as specified. Rate to include for cleaning the pipe surface fastening of the repair saddle according to manufacturers specifications and testing the repair work by re-pressurizing the main.				
4.1	3" main	No.		54	
4.2	4" main	No.		152	
4.3	5" main	No.		10	
4.4	6" main	No.		28	
4.5	7" main	No.		4	
4.6	8" main	No.		4	
5.0	Carryout <u>Type B1</u> repairs as specified. Rate to include for cleaning the pipe surface, fastening of the repair saddle according to manufacturers specifications, re-tapping the main using standard tapping equipment, restoration of the service connection and testing the repair work by re-pressurizing the main				
5.1	3" main	No.		27	
5.2	4" main	No.		76	
5.3	5" main	No.		5	
5.4	6" main	No.		14	

Item	Description	Unit	Rate Rs.	Qty	Amount Rs.
5.5	7" main	No.		2	
5.6	8" main	No.		2	
6.0	Carryout <u>Type C</u> repairs as specified. Rate to include for cleaning the pipe surface, fastening of the repair saddle according to manufacturers specifications and testing the repair work by re-pressurizing the main.				
6.1	3" main	No.		27	
6.2	4" main	No.		76	
6.3	5" main	No.		5	
6.4	6" main	No.		14	
6.5	7" main	No.		2	
6.6	8" main	No.		2	
7.0	Carryout <u>Type C1</u> repairs as specified. Rate to include for cleaning the pipe surface, fastening of the repair saddle according to manufacturers specifications, re-tapping the main using standard tapping equipment, restoration of the service connection and testing the repair work by re-pressurizing the main				
7.1	3" main	No.		27	
7.2	4" main	No.		76	
7.3	5" main	No.		5	
7.4	6" main	No.		14	
7.5	7" main	No.		2	
7.6	8" main	No.		2	
8.0	Carryout <u>Type D</u> repairs as specified. Rate to include for exposing the leaking PVC pipe, cutting and removal of the affected length of the pipe, insertion of the PVC bell socket repair socket and testing the repair work by re-pressurizing the main.				
8.1	3" (80mm) main	No.		27	

Item	Description	Unit	Rate Rs.	Qty	Amount Rs.
8.2	4" (110mm) main	No.		76	
8.3	6" (160mm) main	No.		19	
8.4	8" (225mm) main	No.		4	
9.0	Carryout Type E repairs as specified. Rate to include for exposing the leaking pipe, cutting and removal of the affected length of the pipe, preparation of the new pipe piece to suit the gap, fastening of two slip couplings on both sides and testing the repair work by re-pressurizing the main.				
9.1	3" main	No.		27	
9.2	4" main	No.		76	
9.3	5" main	No.		5	
9.4	6" main	No.		14	
9.5	7" main	No.		2	
9.6	8" main	No.		2	
10.0	Carryout <u>Type E1</u> repairs on PVC mains as specified. Rate to include for exposing the leaking pipe, cutting and removal of the affected length of the pipe, preparation of new pipe piece to suit the gap, fixing of PVC Bell Ended Sleeve Joints on both sides and testing the repair work by re-pressurizing the main.				
10.1	3" (80mm) main	No.		27	
10.2	4" (110mm) main	No.		76	
10.3	6" (160mm) main	No.		19	
10.4	8" (225mm) main	No.		4	
11.0	Carryout <u>Type F</u> repairs as specified. Rate to include for re-aligning the joint if necessary, re-caulking with or without additional lead with hand or pneumatic hand caulking tools to achieve a leak tight joint and testing the repair work by re-pressurizing the main.				
11.1	3" main	No.		125	
11.2	4" main	No.		350	

Item	Description	Unit	Rate Rs.	Qty	Amount Rs.
11.3	5" main	No.		27	
11.4	6" main	No.		63	
11.5	7" main	No.		9	
11.6	8" main	No.		18	
12.0	Carryout <u>Type F1</u> repairs as specified. Rate to include for re-aligning the joint if necessary, removing the lead protruding from the face of the bell in CI pipes, fastening of the Bell Joint leak clamp according to manufacturers specifications and testing the repair work by re-pressurizing the main.				
12.1	3" CI or 80mm PVC main	No.		15	
12.2	4" CI or 110mm PVC main	No.		40	
12.3	5" CI main	No.		3	
12.4	6" CI or 160mm PVC main	No.		7	
12.5	7" CI main	No.		1	
12.6	8" CI or 225mm PVC main	No.		2	
13.0	Carryout <u>Type G1</u> repairs to wedge gate type fire hydrants. Rate to include for cleaning and dewatering the manhole, temporary dismantling of the manhole (if necessary), effecting the repair, repairs to the manhole (if necessary), placing a new manhole cover (if necessary) and testing the repair work by re-pressurizing the main.	No.		81	
14.0	Carryout <u>Type G2</u> works to replace the existing wedge gate type fire hydrant. Rate to include for cleaning and dewatering the manhole, temporary dismantling of the manhole (if necessary), remove old and unserviceable fire hydrants, fixing of a new fire hydrant, re-assemble the manhole, placing a new manhole cover (if necessary) and testing the new fire hydrant by re-pressurizing the main.	No.		9	
15.0	Carryout <u>Type G3</u> repairs to Duck-Foot bend type fire hydrants. Rate to include for cleaning and dewatering the manhole,	No.		27	

Item	Description	Unit	Rate Rs.	Qty	Amount Rs.
	temporary dismantling of the manhole (if necessary), effecting the repair, repairs to the manhole (if necessary), placing a new manhole cover (if necessary) and testing the repair work by re-pressurizing the main.				
16.0	Carryout <u>Type G4</u> works to replace the existing Duck-Foot bend type fire hydrant. Rate to include for excavating, cleaning and dewatering the manhole, temporary dismantling of the manhole (if necessary), remove old and unserviceable fire hydrant, fixing of a new fire hydrant, re-assemble the manhole, placing a new manhole cover (if necessary) and testing the new fire hydrant by re-pressurizing the main.	No.		3	
17.0	Carryout <u>Type H</u> repairs to Air valves. Rate to include for cleaning and dewatering the manhole, temporary dismantling of the manhole (if necessary), effecting the repair, repairs to the manhole (if necessary) and testing the repair, work by pressurizing the main.	No.		20	
18.0	Carryout <u>Type H1</u> works to replace the existing Air Valve. Rate to include for cleaning and dewatering the manhole, temporary dismantling of the manhole (if necessary), remove old and unserviceable Air Valve, fixing of a new Air Valve, re-assemble the manhole and testing the new Air Valve by re-pressurizing the main.	No.		10	
19.0	Carryout <u>Type J</u> repair work to existing Gate Valves. Rate to include for excavation, dismantling of protection tube/surface box assembly, dewatering, carrying out the necessary repair as specified, re-assemble of protection tube/surface box assembly (provide new assembly if necessary), testing the repair work by re-pressurizing the main.				
19.1	3" Gate Valve	No.		61	
19.2	4" Gate Valve	No.		146	
19.3	5" Gate Valve	No.		9	
19.4	6" Gate Valve	No.		18	
19.5	7" Gate Valve	No.		4	

Item	Description	Unit	Rate Rs.	Qty	Amount Rs.
19.6	8" Gate Valve	No.		4	
20.0	Carryout <u>Type JI</u> repair work to replace the existing unserviceable gate valve. Rate to include for dewatering, dismantling of the protection tube/surface box assembly removal of the valve, installation of new double flange gate valve with flanged spigot, flanged adapter and slip coupling as specified, re-assemble of protection tube/surface box assembly (provide new assembly if necessary), testing the repair work by re-pressurizing the main.				
20.1	3" Gate Valve	No.		7	
20.2	4" Gate Valve	No.		16	
20.3	5" Gate Valve	No.		1	
20.4	6" Gate Valve	No.		2	
20.5	7" Gate Valve	No.		1	
20.6	8" Gate Valve	No.		1	
21.0	Backfilling of the excavated area as specified. Rate to include for removal of excessively wet soil from site as directed by the Engineer, import of suitable backfill material from outside, carryout compaction in layers as specified, prepare the excavated surface suitable for vehicular traffic and cleaning the working area to the satisfaction by the Engineer.	m ³		8,420	
22.0	Import of sand as backfill material.	m ³		840	
23.0	Import of suitable soil as backfill material.	m ³		840	
24.0	Temporary road surface reinstatement at road crossings and other places as instructed by Engineer.	m ²		3,000	

(b) Bill of Quantities for Service Leak Repairs

Bills of Quantities for Repairing Service Pipe Leaks, Replacing Galvanized Iron Service Pipes with MDPE pipes, laying of PVC common mains and provision of GI pipe encasements to exposed PVC service pipes.

Item	Description	Unit	Rate Rs.	Qty	Amount Rs.
	<p>Repair of service pipe leaks and replacing of GI service pipes with PVC pipes.</p> <p>Contractor shall take note on the following matters:</p> <p>(a). All pipe materials, fittings, jointing materials, specials etc., shall be provided by NWSDB.</p> <p>(b). Removal of surface, excavation and backfilling shall be paid separately based on unit rates.</p> <p>(c). The reinstatement cost for asphalt/premix/tar surfaces, walkways, kerb stones, fences and the and the like will be paid to the respective authorities directly by NWSDB.</p> <p>(d). All necessary excavation permits shall be obtained by the Contractors prior to start any work, NWSDB shall issue letters to the different authorities, but it shall be the responsibility of the Contractor to acquire such permits.</p> <p>(e). Whenever ordered by the Engineer, the Contractor shall import sand or soil for backfilling. Such imported materials shall be paid separately based on the unit rates.</p> <p>(f). Contractor shall study all specifications and standard drawings thoroughly in order to get fully acquainted with the work.</p>				
1.0	Cutting and removal of asphalt/premix/tar layer from the road surface as directed by the Engineer.				
	The thickness of the layer				
1.1	Not exceeding 150mm	m ³		3,400	
1.2	Exceeding 150mm but not exceeding 300mm	m ³		2,300	

Item	Description	Unit	Rate Rs.	Qty	Amount Rs.
1.3	Exceeding 300mm	m ³		1,100	
2.0	Excavations of earth material up to the required depth below the pipe invert. Rate to include for dewatering and shoring as required.	m ³		29,360	
3.0	Carryout repair to the clamp saddle ferrules or valve socket at the water main. Rate to include for continuous dewatering, replacement or re-adjustment of the clamp saddle (if necessary), replacement of the ferrule and valve socket (if necessary) and testing the repair work by re-pressurizing the main.	No.		600	
4.0	Identify the leaking part of the PVC service pipe, remove the affected length and fix a new piece of service pipe of the same diameter using PVC Solvent Cement type repair sockets on both sides. Rate shall be quoted for the following diameters.				
4.1	20mm (½") PVC	No.		2,940	
4.2	25mm (¾") PVC	No.		840	
4.3	32mm (1") PVC	No.		210	
4.4	50mm (1½") PVC	No.		42	
4.5	63mm (2") PVC	No.		84	
4.6	90mm (3") PVC	No.		42	
4.7	110mm (4") PVC	No.		42	
5.0	Repair leaks at the water meter. Rate shall be quoted for the following meter sizes				
5.1	½" and ¾" water meters	No.		540	
5.2	1" to 2" water meters	No.		48	
5.3	3" to 4" water meters	No.		12	
6.0	Repair leaks at the stop-taps. Rate to include for replacement of the stop-taps (if necessary). Rate shall be quoted for the following stop-tap sizes.				
6.1	½" and ¾" stop-taps	No.		540	

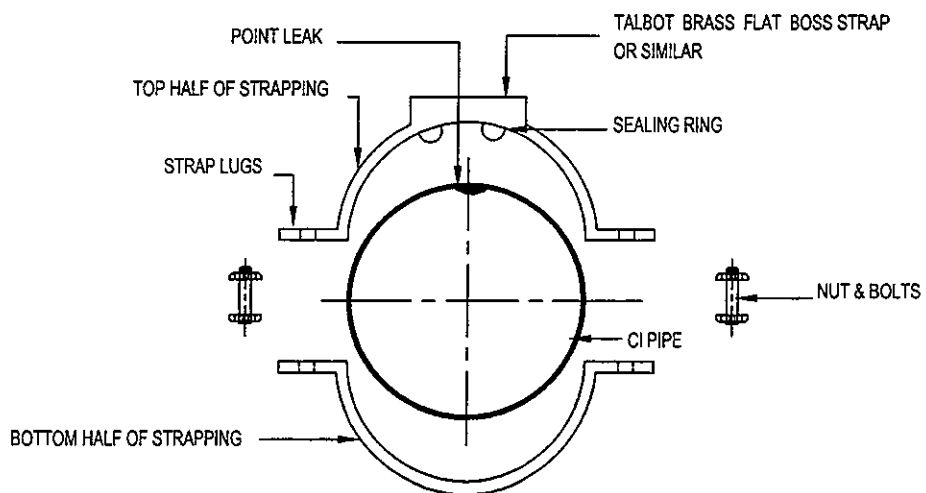
Item	Description	Unit	Rate Rs.	Qty	Amount Rs.
6.2	1" to 2" stop-taps	No.		48	
6.3	3" to 4" stop-taps	No.		12	
7.0	Replacement of existing GI service pipes with MDPE pipes. Rate to include for cutting and removal of the GI pipe and fixing a new MDPE pipe from the distribution main up to the water meter. Rate shall be quoted for the following diameters. When the property and the water main are on the same side of the road.				
7.1	Replace ½" GI pipe with 20mm MDPE pipe	m		2,000	
7.2	Replace ¾" GI pipe with 25mm MDPE pipe	m		600	
7.3	Replace 1" GI pipe with 32mm MDPE pipe	m		300	
8.0	Same as in 7.0 but the property and the water main are on the opposite sides of the road.				
8.1	Replace ½" GI pipe with 20mm MDPE pipe	m		1,600	
8.2	Replace ¾" GI pipe with 25mm MDPE pipe	m		400	
8.3	Replace 1" GI pipe with 32mm MDPE pipe	m		200	
9.0	Replacement of multiple service pipes on approach roads with a larger diameter common main. Rate to include for re-connection of existing service pipes to the new common main and the plugging of multiple tapping points at the distribution main.				
9.1	63mm PVC common main	m		5,000	
10.0	Backfilling of the excavation as specified. Rate to include for removal of excessively wet soil from site as directed by the Engineer, import of sand or suitable backfill material from outside (to be paid separately), carryout compaction in layers as specified, prepare the excavated surface suitable for vehicular traffic and cleaning the working area of all debris and cleaning the site as directed by the Engineer.	m ³		29,360	
11.0	Import of sand as backfill material	m ³		3,000	
12.0	Import of suitable soil as backfill material	m ³		3,000	

Item	Description	Unit	Rate Rs.	Qty	Amount Rs.
13.0	Provision of GI pipe casings to exposed PVC pipes at drains, culverts and other vulnerable points.				
13.1	1" GI pipe for 1/2" PVC pipe	m		700	
13.2	1 1/4" GI pipe for 3/4" PVC pipe	m		200	
13.3	1 1/2" GI pipe for 1" PVC pipe	m		100	
14.0	Temporary road surface reinstatement at road crossings and other places as instructed by Engineer.	m ²		5,760	

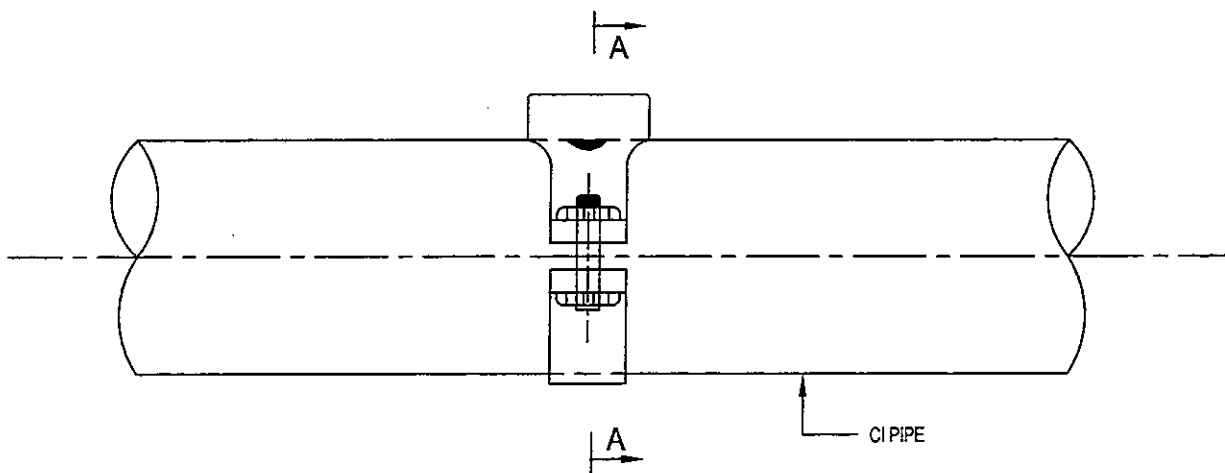
THE CONTRACT FOR LEAK REPAIR WORKS

LIST OF STANDARD DRAWINGS

No.	Drg. No.	Title
1	LR/SD/1	Leak Type A
2	LR/SD/2	Leak Type B
3	LR/SD/3	Leak Type B1
4	LR/SD/4	Leak Type C
5	LR/SD/5	Leak Type C1
6	LR/SD/6	Leak Type D
7	LR/SD/7	Leak Type E
8	LR/SD/8	Leak Type E1
9	LR/SD/9	Leak Type F
10	LR/SD/10	Leak Type F1
11	LR/SD/11	Leak Types G1, G2, G3 & G4
12	LR/SD/12	Leak Type J
13	LR/SD/13	Leak Type J1
14	LR/SD/14	Standard Service Connection – 1
15	LR/SD/15	Standard Service Connection – 2
16	LR/SD/16	Classification of Service Pipe Leaks
17	LR/SD/17	Laying of Common Mains in By-roads
18	LR/SD/18	GI Pipe Encasement



SECTION A - A

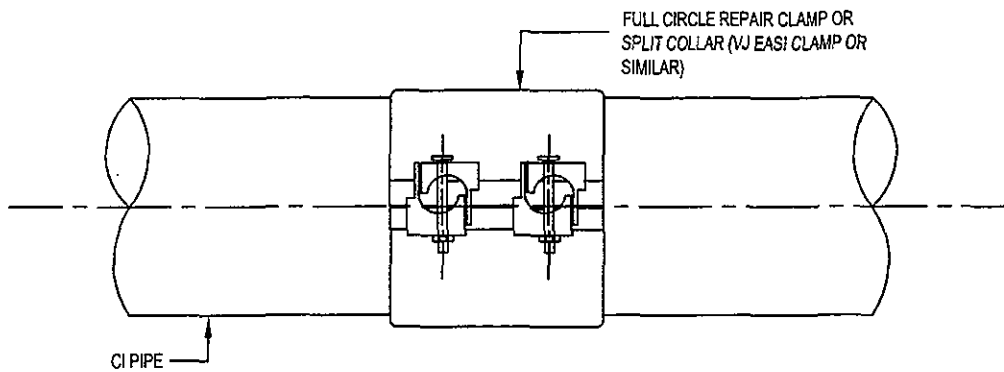


ELEVATION

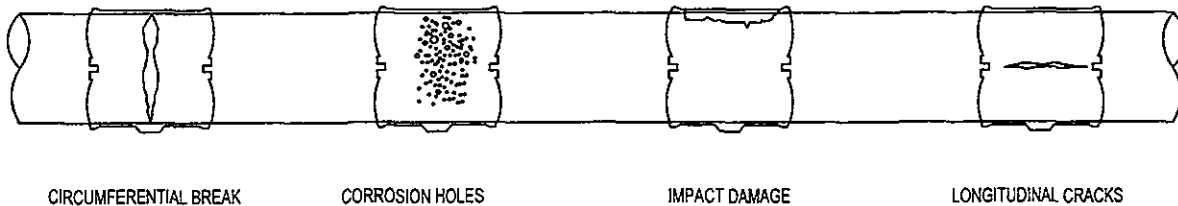
LEAK TYPE A

SMALL POINT LEAK THAT CAN BE REPAIRED WITH BRASS SADDLE STRAP

LR/SD/01	Leak Type - A
SCALE	Not to Scale
JICA STUDY TEAM 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	



ELEVATION



CIRCUMFERENTIAL BREAK

CORROSION HOLES

IMPACT DAMAGE

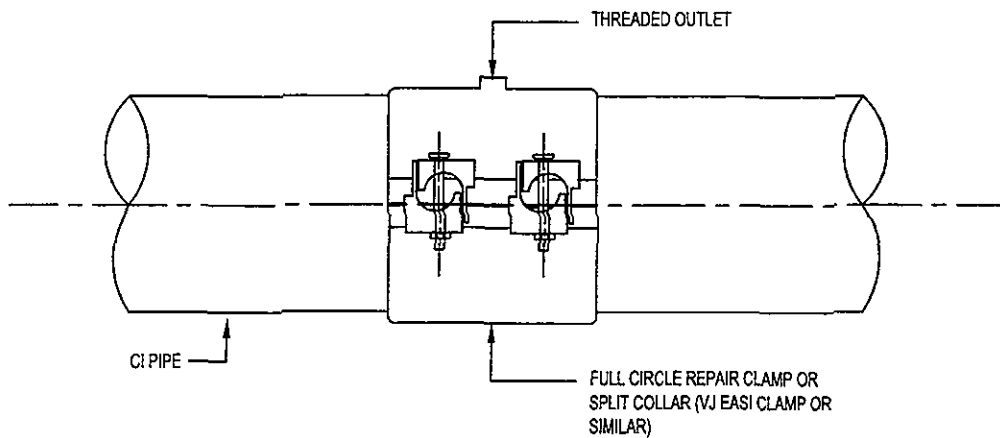
LONGITUDINAL CRACKS

TYPE OF
LEAKS

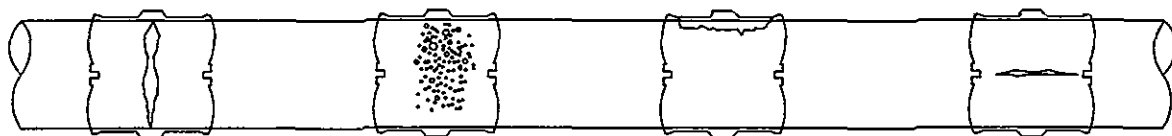
LEAK TYPE B

CORROSION HOLES, LONGITUDINAL CRACKS, IMPACT DAMAGES AND CIRCUMFERENTIAL BREAKS WITH THE AFFECTED WIDTH OF THE PIPE NOT GREATER THAN 200 mm (FOR THE DIAMETER RANGE OF 3" - 8") THAT CAN BE REPAIRED WITH A MALLEABLE IRON / DUCTILE IRON FULL CIRCLE REPAIR CLAMP SIMILAR TO VJ EASICLAMP. (SPLIT COLLARS)

LR/SD/02	Leak Type - B
SCALE	Not to Scale
JICA STUDY TEAM 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	



ELEVATION



CIRCUMFERENTIAL BREAK

CORROSION HOLES

IMPACT DAMAGE

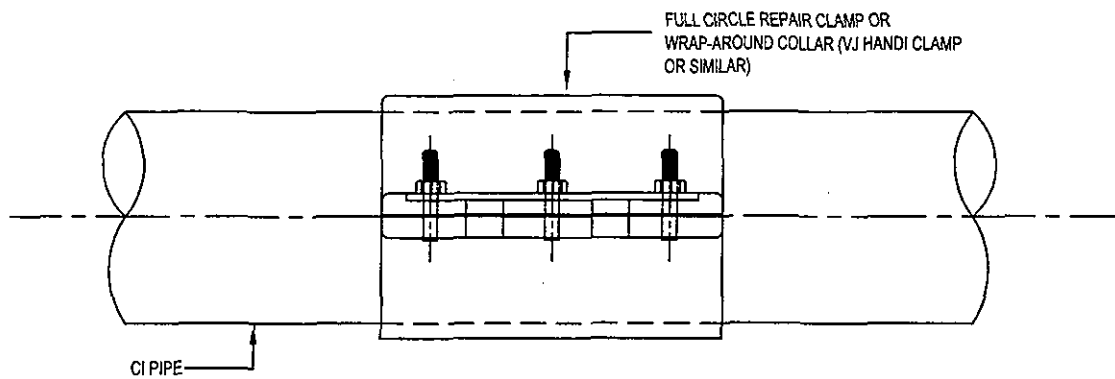
LONGITUDINAL CRACKS

TYPE OF
LEAKS

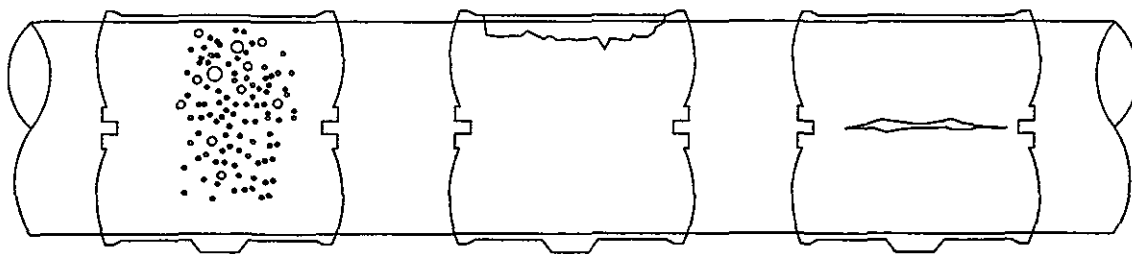
LEAK TYPE B1

LEAK TYPE AS IN TYPE B BUT ASSOCIATED WITH A SERVICE CONNECTION THAT CAN BE REPAIRED WITH A MALLEABLE IRON / DUCTILE IRON, FULL CIRCLE REPAIR SADDLE SIMILAR TO VJ EASITAP. (SPLIT COLLAR WITH THREADED OUTLET FOR SERVICE PIPE)

LR/SD/03	Leak Type - B1
SCALE	Not to Scale
JICA STUDY TEAM 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	



ELEVATION



CIRCUMFERENTIAL BREAK

IMPACT DAMAGE

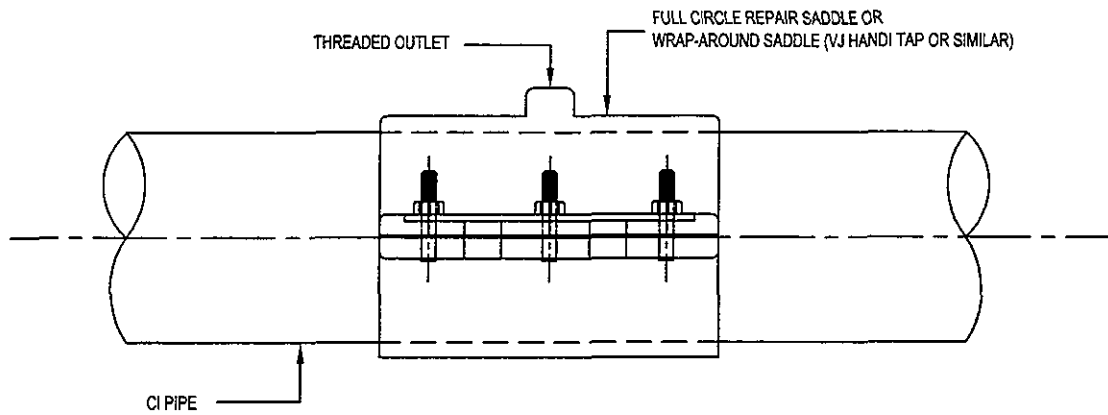
LONGITUDINAL CRACKS

TYPE OF
LEAKS

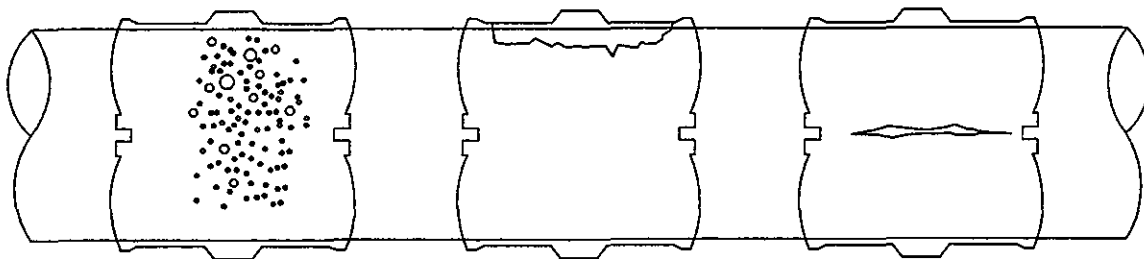
LEAK TYPE C

CORROSION HOLES, LONGITUDINAL CRACKS AND IMPACT DAMAGES WITH THE AFFECTED WITH OF THE PIPE BETWEEN 300 - 400 mm (DIAMETER OF 3" - 8") THAT CAN BE REPAIRED WITH A STAINLESS STEEL FULL CIRCLE REPAIR CLAMP SIMILAR TO VJ HANDI CLAMP. (WRAP - AROUND COLLAR)

LR/SD/04	Leak Type - C
SCALE	Not to Scale
JICA STUDY TEAM 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	



ELEVATION



CIRCUMFERENTIAL BREAK

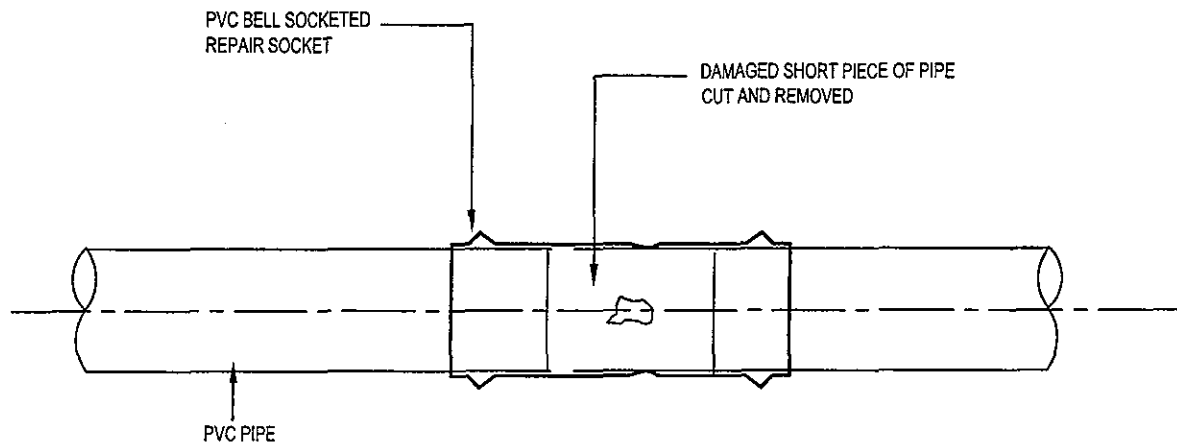
IMPACT DAMAGE

LOGITUDINAL CRACKS

LEAK TYPE C1

LEAK TYPE AS IN TYPE C BUT ASSOCIATED WITH A SERVICE CONNECTION THAT CAN BE REPAIRED WITH A STAINLESS STEEL FULL CIRCLE REPAIR SADDLE SIMILAR TO VJ HANDI TAP. (WRAP - AROUND COLLAR WITH THREADED OUTLET FOR SERVICE PIPE)

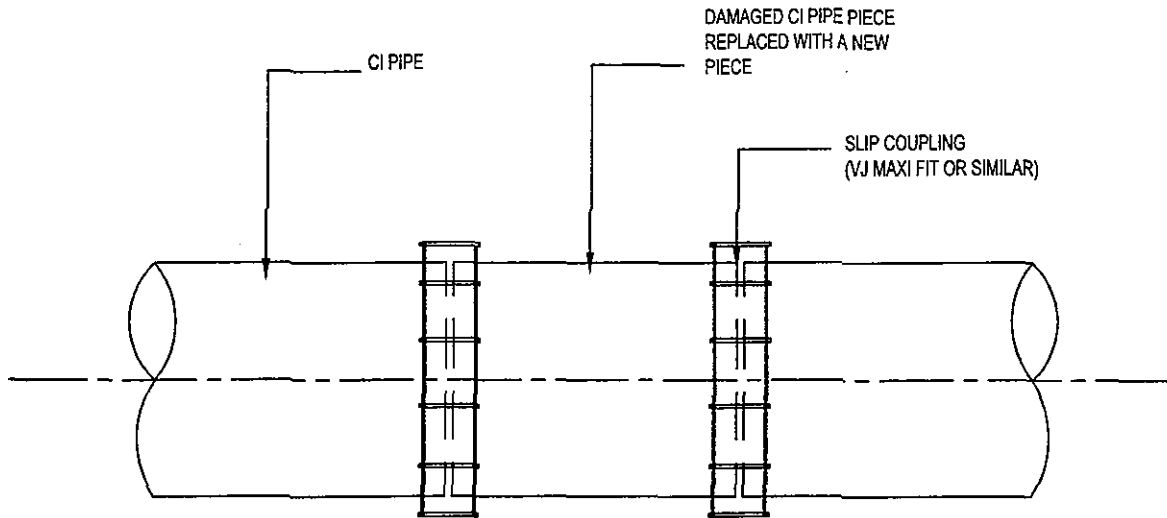
LR/SD/05	Leak Type - C1
SCALE	Not to Scale
JICA STUDY TEAM THE DETAILED DESIGN STUDY ON THE PROJECT FOR REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA	



LEAK TYPE D

POINT DAMAGE OR LOCALIZED DAMAGE IN PVC PIPE THAT CAN BE REPAIRED WITH A PVC BELL SOCKETED REPAIR SOCKET

LR/SD/06	Leak Type - D
SCALE	Not to Scale
JICA STUDY TEAM 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	

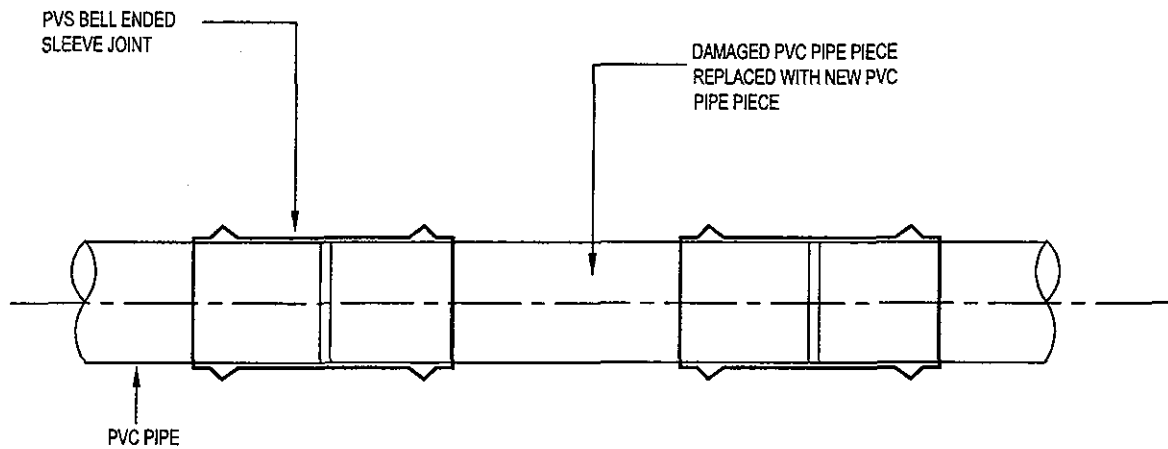


PLAN

LEAK TYPE E

EXTENSIVE DAMAGE WHICH REQUIRES THE REPLACEMENT OF THE AFFECTED LENGTH OF THE CI PIPE WITH TWO SLIP COUPLINGS SIMILAR TO VJ MAXI FIT ON BOTH SIDES.

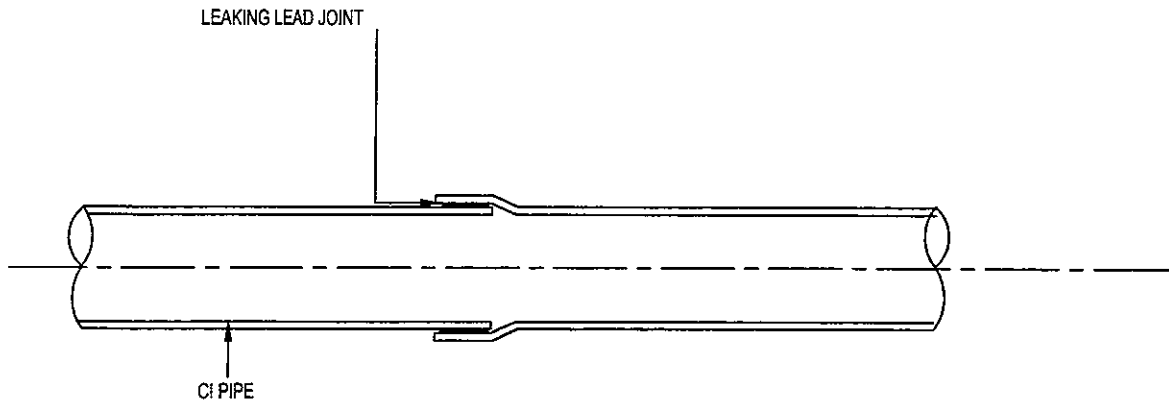
LR/SD/07	Leak Type - E
SCALE	Not to Scale
JICA STUDY TEAM THE DETAILED DESIGN STUDY ON THE PROJECT FOR REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA	



LEAK TYPE E1

EXTENSIVE DAMAGE WHICH REQUIRES THE REPLACEMENT OF THE AFFECTED LENGTH OF THE PVC PIPE WITH TWO PVC BELL ENDED SLEEVE JOINTS ON BOTH SIDES.

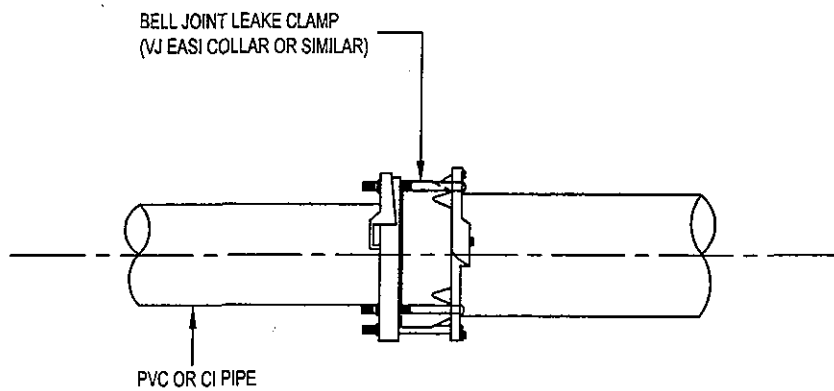
LR/SD/08	Leak Type - E1
SCALE	Not to Scale
JICA STUDY TEAM THE DETAILED DESIGN STUDY ON THE PROJECT FOR REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA	



LEAK TYPE F

JOINT LEAKS IN CAST IRON PIPES WHICH CAN BE REPAIRED BY RE-CAULKING WITH OR WITHOUT ADDITIONAL LEAD WITH A VARIETY OF SMALL TO LARGE PNEUMATIC OR HAND CAULKING IRONS, FORCING THE LEAD BACK INTO THE BELLS.

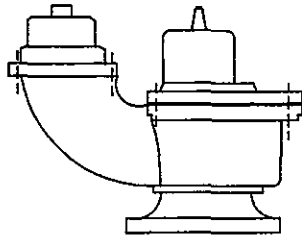
LR/SD/09	Leak Type - F
SCALE	Not to Scale
JICA STUDY TEAM THE DETAILED DESIGN STUDY ON THE PROJECT FOR REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA	



LEAK TYPE F1

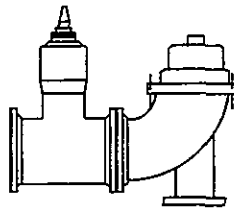
JOINT LEAKS IN CAST IRON OR PVC PIPES WHICH REQUIRE BELL JOINT LEAK CLAMP SIMILAR TO VJ EASI COLLAR.

LR/SD/10	Leak Type - F1
SCALE	Not to Scale
JICA STUDY TEAM 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	



LEAK TYPES G1, G2

DN 80 WEDGE GATE TYPE FIRE HYDRANT



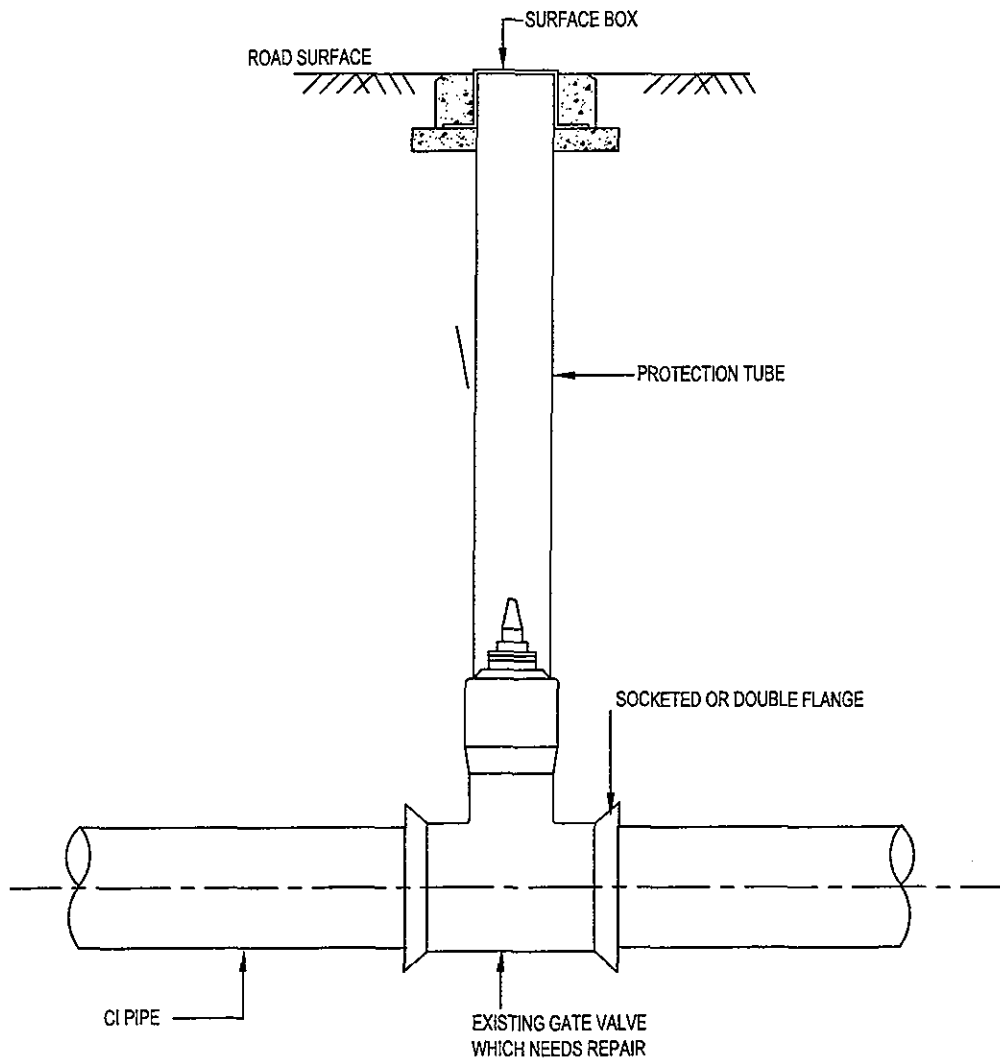
LEAK TYPES G3, G4

DN 80 DUCK FOOT TYPE FIRE HYDRANT

LEAK TYPES G1, G2, G3, & G4

-FIRE HYDRANT TYPES AVAILABLE IN CMC AREA.

LR/SD/11	Leak Types - G1, G2, G3, & G4
SCALE	Not to Scale
JICA STUDY TEAM 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	

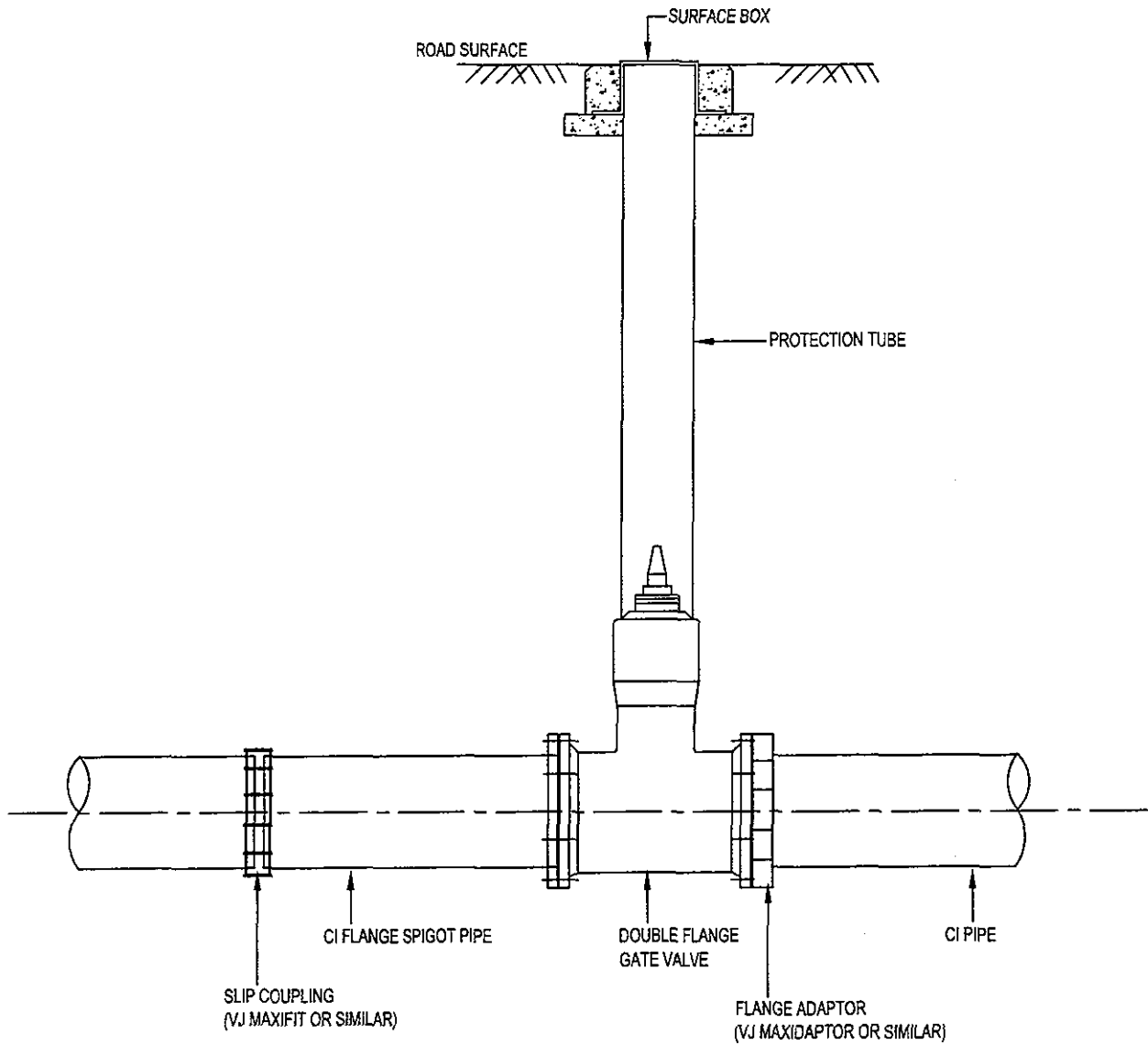


EXISTING LEAKING GATE VALVE

LEAK TYPE J

GATE VALVE LEAK WHICH CAN BE REPAIRED BY REPLACING THE GASKETS/ O-RINGS OR SIMILAR REPLACEABLE ITEMS

LR/SD/12	Leak Types - J
SCALE	Not to Scale
JICA STUDY TEAM 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	

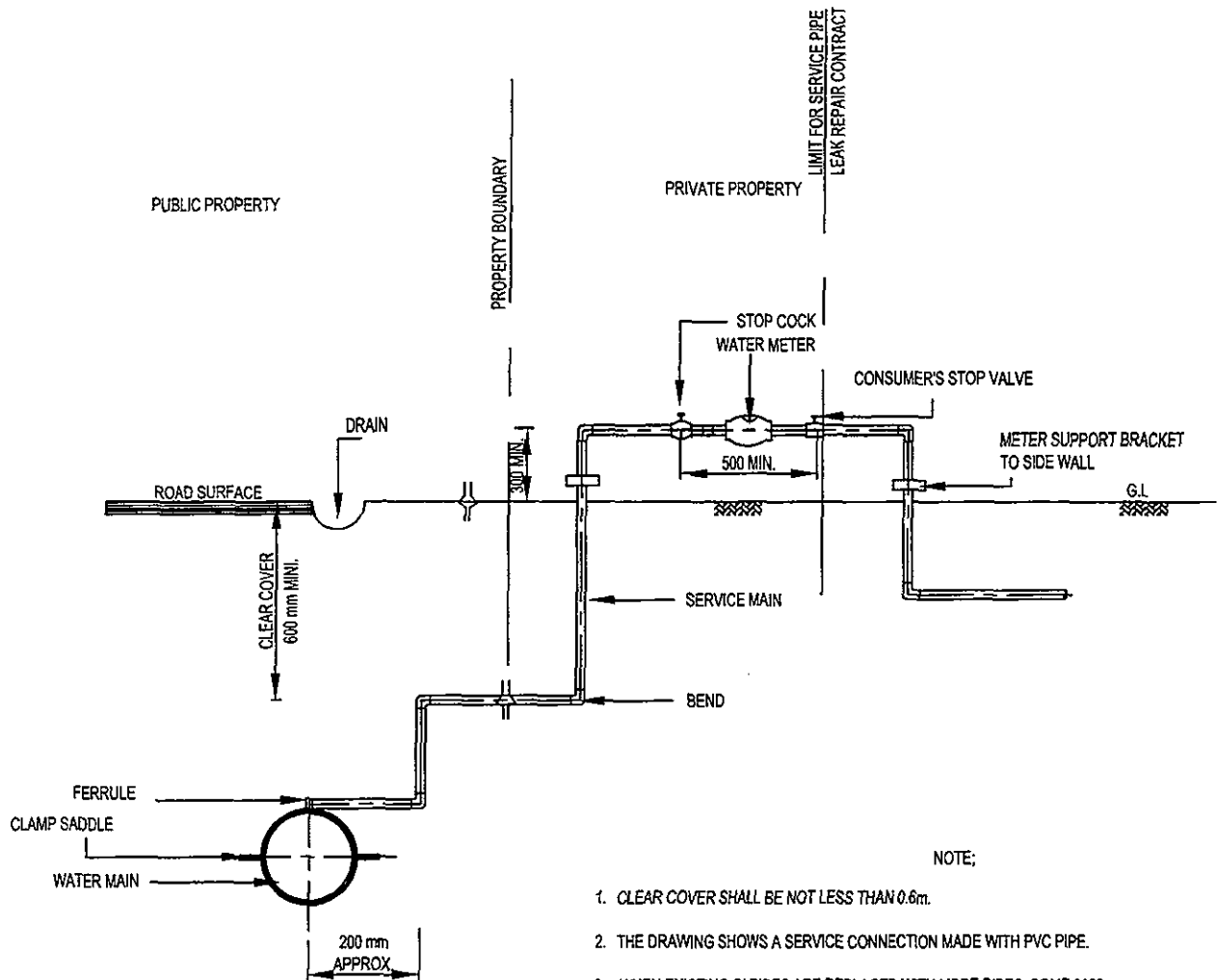


LEAKING GATE VALVE REPLACED WITH A DOUBLE FLANGED GATE VALVE

LEAK TYPE J1

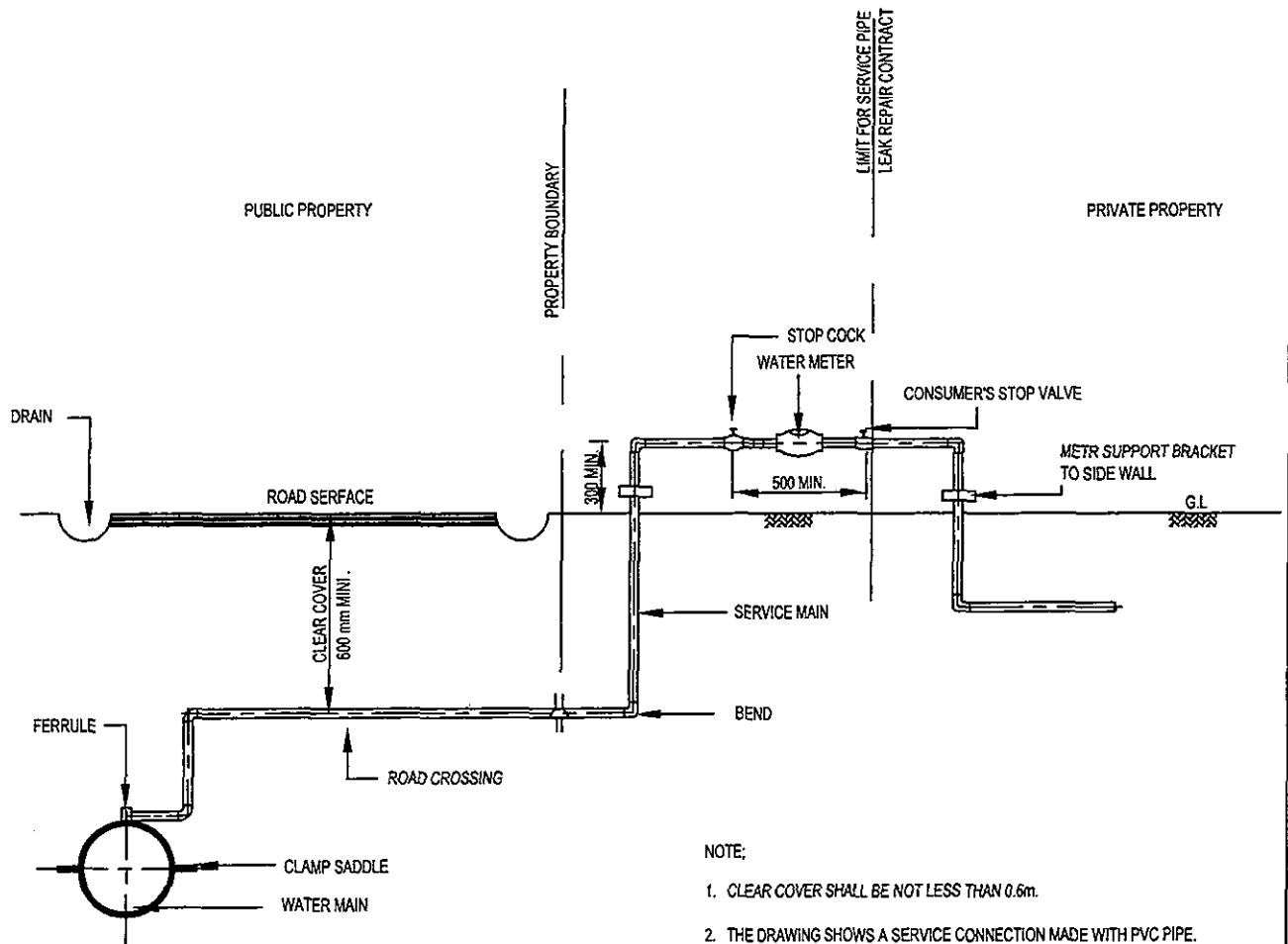
GATE VALVE LEAKS WHICH NEEDS REPLACEMENT OF THE LEAKING VALVE WITH A NEW DOUBLE FLANGE VALVE

LR/SD/13	Leak Types - J1
SCALE	Not to Scale
JICA STUDY TEAM 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	



DETAILS OF SERVICE CONNECTION WHEN THE WATER MAIN AND THE PROPERTY ARE ON THE SAME SIDE OF THE ROAD.

LR/SD/14	Standard Service Connection - 1
SCALE	Not to Scale
JICA STUDY TEAM 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	

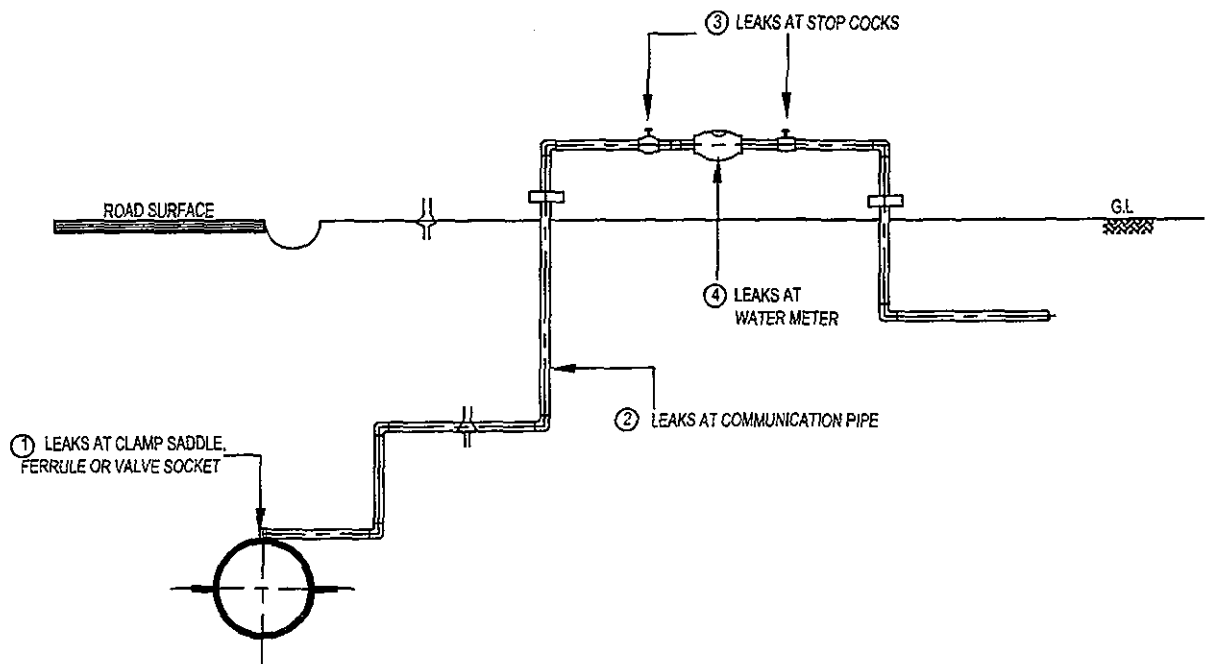


NOTE:

1. CLEAR COVER SHALL BE NOT LESS THAN 0.6m.
2. THE DRAWING SHOWS A SERVICE CONNECTION MADE WITH PVC PIPE.
3. WHEN EXISTING GI PIPES ARE REPLACED WITH MDPE PIPES, SOME 90° ELBOWS BELOW THE GROUND SURFACE CAN BE AVOIDED BY BENDING THE MDPE PIPE TO A RADIUS NOT LESS THAN 20D, D BEING THE OUTER DIAMETER OF THE MDPE PIPE.

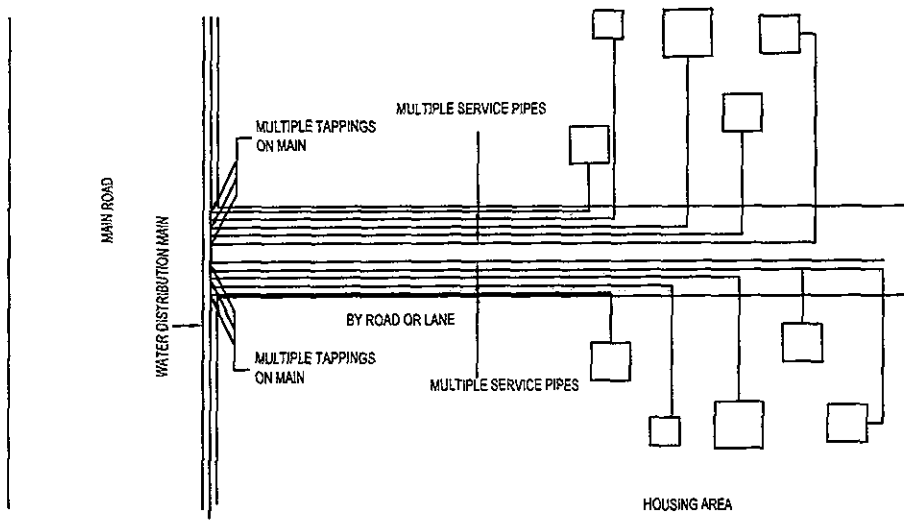
DETAILS OF SERVICE CONNECTION WHEN THE WATER MAIN AND THE PROPERTY ARE ON OPPOSITE SIDES OF THE ROAD.

LR/SD/15	Standard Service Connection - 2
SCALE	Not to Scale
JICA STUDY TEAM 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	

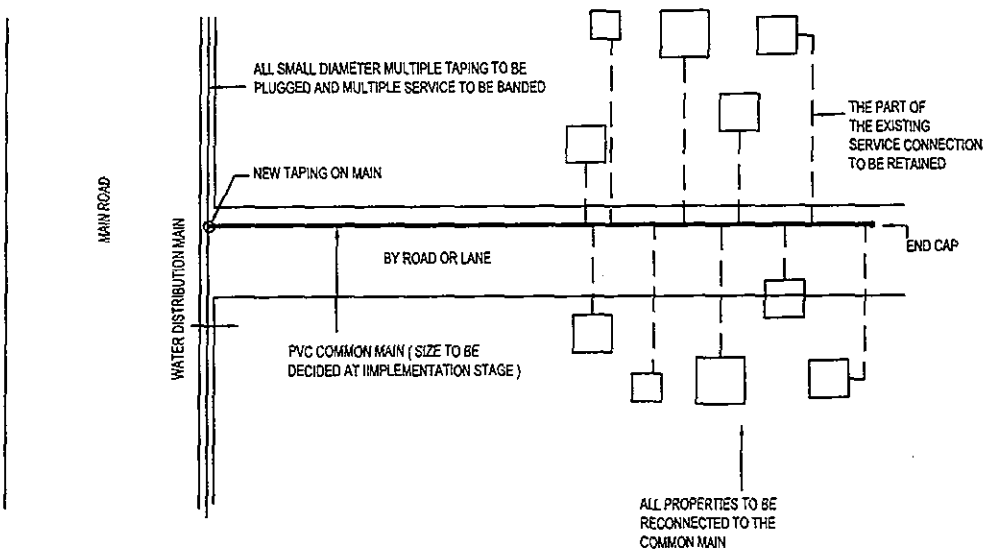


CLASSIFICATION OF LEAKS ON SERVICE PIPES
FOR LEAK REPAIR CONTRACT

LR/SD/16	Classification of Service Pipe Leaks
SCALE	Not to Scale
JICA STUDY TEAM 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	



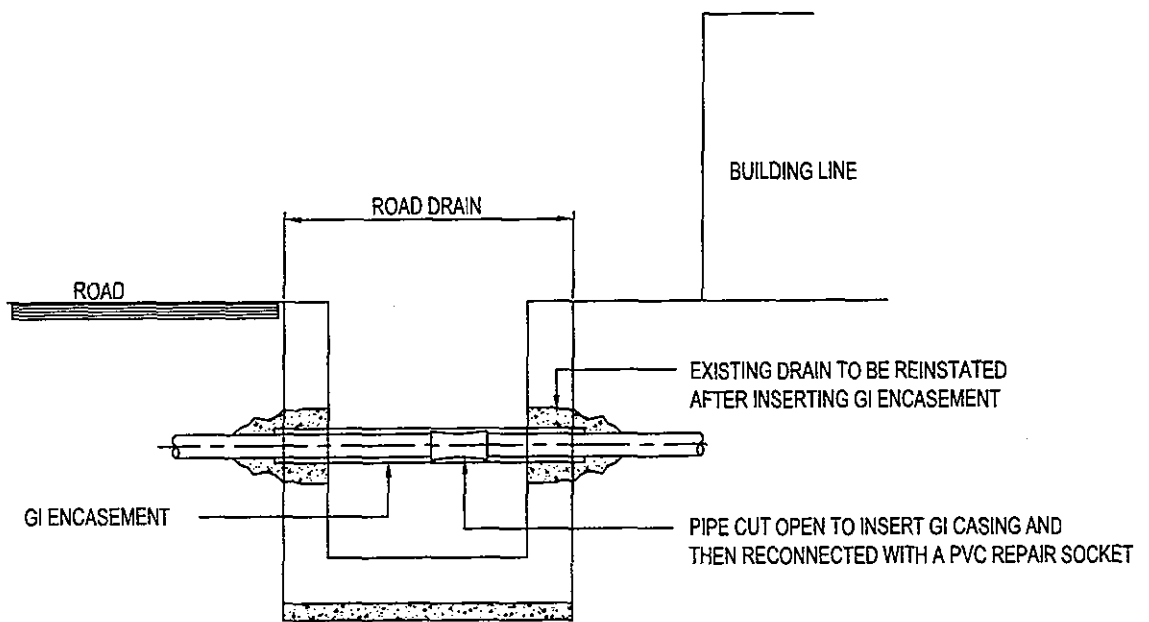
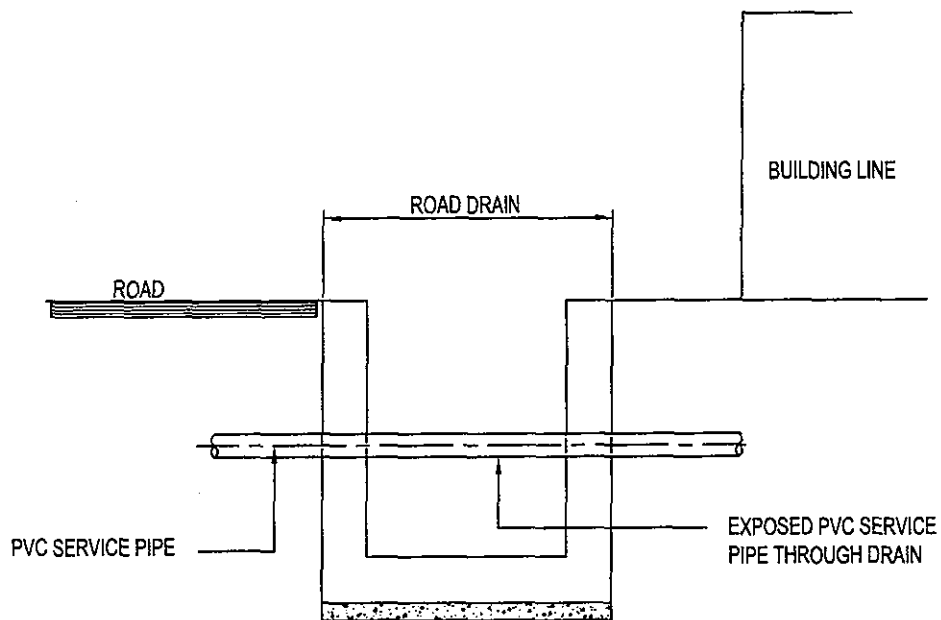
EXISTING MULTIPLE SERVICE CONNECTIONS ON BY ROADS



PROPOSED COMMON MAIN AND TRANSFERRING OF SERVICE CONNECTIONS ON TO THE COMMON MAIN

LAYING OF COMMON WATER MAINS ON BYROADS

LR/SD/17	Laying of Common Water Mains of Byroads
SCALE	Not to Scale
JICA STUDY TEAM 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	



PROVISION OF GI PIPE ENCASEMENTS TO EXISTING PVC SERVICE PIPES EXPOSED AT ROAD DRAINS

LR/SD/18	GI Pipe Encasement
SCALE	Not to Scale
JICA STUDY TEAM 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) _____

1. 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		

١١٩٢