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BID DOCUMENT

PROCUREMENT OF CIVIL WORKS UNDER NATIONAL SHOPPING PROCEDURES

(For Works valued less than equivalent of \$ 100,000 each)

NAME OF WORK : Working Estimate for **On-Farm Development Works** including Flow Measuring Devices to **Kuruchipatti Cluster (CLUSTER No - 23)** Covered in **Vellalore Water Users Association (MDU - 19)** of Uppar Sub Basin (Package No.1) in Melur Taluk of Madurai District.

**MADURAI REGION, MADURAI
PERIYAR VAIGAI BASIN CIRCLE, MADURAI
PERIYAR MAIN CANAL DIVISION, MELUR
TAMIL NADU – SOUTH INDIA**

TNIAM PROJECT
INVITATIONS FOR QUOTATIONS.
NATIONAL SHOPPING PROCEDURE FOR SMALL WORKS

Name of Work: Working Estimate for **On-Farm Development Works** including Flow Measuring Devices to **Kuruchipatti Cluster (CLUSTER No - 23)** Covered in **Vellalore Water Users Association (MDU - 19)** of Uppar Sub Basin (Package No.1) in Melur Taluk of Madurai District.

RFQ No. 01 / TN IAMP / WRD / UPR / OFD Kuruchipatti Cluster (CLUSTER No - 23)-
9 / Works / Phase II / 2021-2022

Date :- 28.03.2022

Applicable Procurement Guidelines / Regulations Date: July 2016

To

Dear Sirs,

Sub : **Invitation for quotations for *Name of Work:*** Working Estimate for **On-Farm Development Works** including Flow Measuring Devices to **Kuruchipatti Cluster (CLUSTER No - 23)** Covered in **Vellalore Water Users Association (MDU - 19)** of Uppar Sub Basin (Package No.1) in Melur Taluk of Madurai District.
Package No. 01 / TN IAMP / WRD / UPR / OFD Kuruchipatti Cluster (CLUSTER No - 23)- 9 / Works / Phase II / 2021-2022

1. You are invited to submit your most competitive quotation for the following works

Brief Description of the Works	Approximate value of Works (Rs.)	Period of Completion
Working Estimate for On-Farm Development Works including Flow Measuring Devices to Kuruchipatti Cluster (CLUSTER No - 23) Covered in Vellalore Water Users Association (MDU - 19) of Uppar Sub Basin (Package No.1) in Melur Taluk of Madurai District	13,96,901 /- Inclusive of 12% GST	6 Months

1. The Government of India has received a loan from the International Bank for Reconstruction & Development towards the cost of **Tamil Nadu Irrigated Agriculture Modernization (TNIAM) Project** and intends to apply a part of the funds to cover eligible payments under the contracts for construction of works as detailed below. Bidding is open to all bidders from eligible source countries as defined in the *IBRD Guidelines for Procurement*. Bidders from India should, however, be registered with the Government of Tamil Nadu or other State Governments/Government of India, or State/Central Government Undertakings. **Bidders are advised to note the minimum qualification criteria specified in Clause 2 of the Instructions to Bidders to qualify for the award of the contract.** In addition, please refer to paragraphs 3.14 and 3.21-3.23 of the World Bank's procurement regulation July 2016 setting forth the World Bank's policy on conflict of interest and eligibility.
2. The Executive Engineer PWD, WRD., Periyar Main Canal Division, Melur invites sealed quotations for the construction of works detailed in the above table. The bidders may submit quotation for all of the works.
3. Quotation can be download from the website "**www.tenders.tn.gov.in**" at free of cost. In such cases the bidder would be responsible for ensuring that any addenda available in website is also downloaded and incorporated. Following documents are included the Quotation:

- i. Layout Drawings of the works;
 - ii. Structural Details;
 - iii. Detailed Bill of Quantities, with estimated rates and prices;
 - iv. Technical Specifications;
 - v. Instructions to Bidders;
 - vi. Qualification Information;
 - vii. Format for Submission of Quotation;
 - viii. Criteria for Evaluation and Award of Contract;
 - ix. Relevant Forms; and
 - x. Draft Contract Agreement format which will be used for finalizing the agreement for this Contract.
4. Quotation must be delivered to the The Executive Engineer PWD,WRD.,Periyar Main Canal Division, Melur on or before 15.00 hours on **13th April 2022**.
 5. Quotations will be opened in the presence of Bidders or their representatives who choose to attend at **15.30 hours (IST) on 13.04.2022** in the office of The Executive Engineer PWD, WRD., Periyar Main Canal Division, Melur.
 6. If the office happens to be closed on the date of receipt of the quotations as specified, the bids will be received and opened on the next working day at the same time and venue.
 7. We look forward in receiving your quotations and thank you for your interest in this project.

Name: **Er. M. Pavazhakkannan,M.Tech.,**
Address: Executive Engineer, WRD.,
Periyar Main Canal Division ,
Melur.
Tel. No: 0452 - 2415902
Email.Id: eepmcmelur2002@yahoo.co.in

Instructions to Bidders

SECTION - A

1. Scope of Works

The Executive Engineer PWD, WRD., Periyar Main Canal Division, Melur invites quotations for the construction of works as detailed in the table given below.

Brief Description of the Works	Approximate value of Works (Rs.)	Period of Completion
Working Estimate for On-Farm Development Works including Flow Measuring Devices to Kuruchipatti Cluster (CLUSTER No - 23) Covered in Vellalore Water Users Association (MDU - 19) of Uppar Sub Basin (Package No.1) in Melur Taluk of Madurai District.	13,96,901 /- Inclusive of 12% GST	6 Months

The successful bidder will be expected to complete the works by the intended completion date specified above.

2. Qualification of the Bidder

2.1. Qualification Information to be provided by the Bidder: the bidder shall provide information on his qualification which shall include:-

- (a) Total monetary value of works executed by him for each year of the last 3 years;
- (b) List of works (similar to the works described in Para 1) completed satisfactorily as a prime contractor during the last 3 years, enclosing certificates from the respective Employers in support of experience claimed along with the Employers' contact numbers;
- (c) Report on his financial standing, along with last 3 years' financial statements/Profit and Loss Statements; and
- (d) Details of any litigation, during the last 3 years in which the bidder is involved, the parties concerned, and disputed amount or award in each case (Give details of both completed and pending cases).

- 2.2 Qualification Criteria: To qualify for award of the contract the bidder:-
- (a) should have satisfactorily completed as a prime contractor at least one similar work of value not less than *Rs.11,17,521/-(@2021-22 Price level)* in the last three years.
 - (b) should have achieved in at least one year an annual financial turnover (in civil engineering construction works of similar nature only) of value not less than *Rs.55,87,604/- (@2021-22 Price level)* in the last three years.
 - (c) Availability (either owned or leased or by procurement against mobilization advances) of the following Key and critical equipment for this work.

Sl. No.	Equipment	Qty.
<u>1</u>	Hydraulic Excavator (Pocklain/ JCB/ Hitachi)	1 No
<u>2</u>	Water Tank 10000 ltr. capacity	1 No
<u>3</u>	Lorry / Tipper 8 to 10 ton Capacity	1 No.
<u>4</u>	Mixer Machine 10/7 Cft.	1 No
5	Concrete Vibrators	5 Nos.

Based on the studies, carried out by the Engineer the minimum suggested major equipment to attain the completion of works in accordance with the prescribed construction schedule are shown in the above list. The bidders should, however, undertake their own studies and furnish with their bid, a detailed construction planning and methodology supported with layout and necessary drawings and calculations to allow the employer to review their proposals. The numbers, types and capacities of each plant/equipment shall be shown in the proposals along with the cycle time for each operation for the given production capacity to match the requirements.

- (d) availability for this work of a Project Manager with not less than Five years experience in construction of similar civil engineering works and other key personnel with adequate experience as required; and
 1. **Project Manager B.E., (Civil) – 5 years experience - 1 no.**
 2. **Site Engineer DCE., (Civil) – 3 years experience - 2 nos.**
- (e) should not have been temporarily suspended or debarred by the World Bank Group in compliance with the Bank's Anti-Corruption Guidelines and its Sanctions Framework under Procurement Regulations.

3. Eligibility - Conflict of Interest

Any Bidder found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this bidding process, if the Bidder:

- i. directly or indirectly controls, is controlled by or is under common control with another Bidder; or
- ii. receives or has received any direct or indirect subsidy from another Bidder; or
- iii. has the same legal representative as another Bidder; or
- iv. has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or
- v. any of its affiliates has been hired (or is proposed to be hired) by the Employer or Borrower as Engineer for the Contract implementation;
- vi. has a close business or family relationship with the concerned professional staff of the project implementing agency

4. Quotation Price

- a) The contract shall be for the whole works as described in the Bill of quantities, drawings and technical specifications. Corrections, if any, shall be made by crossing out, initialing, dating and rewriting.
- b) All duties, taxes and other levies payable by the contractor under the contract shall be included in the total price.(GST should be shown separately)
- c) The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
- d) The Bidder shall fill in rates and prices and line item total for all items of the Works described in the Bill of Quantities along with total bid price (both in figures and words). Items for which no rate or price is entered by the Bidder shall be deemed covered by the other rates and prices in the Bill of Quantities.
- e) The rates should be quoted in Indian Rupees only.

5. Submission of Quotations

5.1 The bidder is advised to visit the site of works at his own expense and obtain all information that may be necessary for preparing the quotation.

5.2 Each bidder shall submit only one quotation. Bidders should not contact other competing bidders in matters relating to this bid.

5.3 The quotation submitted by the bidder shall comprise the following :-

- (a) Quotation in the format given in Section B.
- (b) Signed Bill of Quantities; and
- (c) Qualification information form given in Section B duly completed.

5.4 The bidder shall seal the quotation in an envelope addressed to the The Executive Engineer PWD,WRD,Periyar Main Canal Division, Melur.The envelope will also bear the following identification :-

Working Estimate for **On-Farm Development works** including flow measuring devices to **Kottakudi Cluster (CLUSTER NO - XVIII)** covered in Karuthapuliyampatti Water Users Association (MDU - 14) of **Uppar Sub basin (Package No.1)Kottakudi village** in Melur Taluk of Madurai District. (Package No. 01 / TN IAMP / WRD / UPR / OFD Kuruchipatti Cluster (CLUSTER No - 23)- 9 / Works / Phase II / 2021-2022). Do not open before 15.30 hours on **13th April 2022**.

5.5 Quotations must be received in the office of the Executive Engineer PWD, WRD.,Periyar Main Canal Division, Melur not later than the deadline for submission of quotations viz. time 15.00 hours and date **13th April 2022**. If the specified date is declared a holiday, quotations shall be received upto the appointed time on the next working day.

5.6 **Signing of Quotations:** The name and position held by each person signing the quotation and related documents must be typed or printed below the signature.

5.7 **Deadline for submission of Quotations:**

Any quotation received by the Executive Engineer PWD, WRD.,Periyar Main Canal Division, Melur after the deadline for submission of quotations will be rejected and returned unopened to the bidder.

6. Validity of Quotation

Quotation shall remain valid for a period not less than 45 days after the deadline date specified for submission.

7. Opening of Quotations

Quotations will be opened in the presence of bidders or their representatives who choose to attend on the date and time and at the place specified in the letter of invitation.

8. Information relating to evaluation of quotations and recommendations for the award of contract shall not be disclosed to bidders or any other persons not officially concerned with the process until the award to the successful bidder is announced.

9. Evaluation of Quotations

9.1 Correction of Arithmetical Errors

Bids determined to be substantially responsive shall be checked for any arithmetic errors. Errors shall be corrected as follows:

- (a) where there is a discrepancy between the amounts in figures and in words, the amount in words shall 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, unit rate as quoted shall govern; and
- (c) the amount stated in the Bid shall be adjusted in accordance with the above procedure for the correction of errors

If the Bidder does not accept the corrected amount, the Bid shall be rejected.

- 9.2 The Employer will evaluate and compare the quotations determined to be substantially responsive i.e. which

- (a) meet the qualification criteria specified in clause 2 above;
- (b) are properly signed ; and
- (c) confirm to the terms and conditions, specifications and drawings without material deviations.

10. Award of contract

The Employer will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price and who meets the specified qualification criteria.

- 10.1 Notwithstanding the above, the Employer reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.

- 10.2 The bidder whose quotation is accepted will be notified of the award of contract by the Employer prior to expiration of the quotation validity period.

11. Performance Security

Within 15 days of receiving letter of acceptance, the successful bidder shall deliver to the **Executive Engineer PWD,WRD, Periyar Main Canal Division, Melur** the performance security (either a bank guarantee or a bank draft in favour of the Employer) for an amount equivalent of 3 % of the contract price. The Performance Security shall be valid till the expiry of the period of maintenance of the work, specified in clause 12. Failure of the successful Bidder to furnish performance security and to sign the agreement within the period stipulated shall constitute sufficient grounds for annulment of award and debarring the bidder from participation in bidding for works by the Employer for a period of one year, in which case the Employer may make the award to the next lowest evaluated bidder or seek quotations afresh.

12. Period of Maintenance:

The "Period of Maintenance" for the work is **Twelve months** from the date of taking over possession or one full monsoon season whichever occurs later. During the period of maintenance, the contractor will be responsible for rectifying any defects in construction free of cost to the Employer.

- 13.** Purchase of all construction materials including cement and steel as per the specifications (ISI certification marked goods wherever available) shall be the responsibility of the contractor.

14. Fraud and Corruption

The World Bank requires compliance with the Bank's Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework, as set forth in Section C. In further pursuance of this policy, bidders shall permit and shall cause their agents (whether declared or not), sub-contractors, sub-consultants, service providers, suppliers and their personnel, to permit the Bank to inspect all accounts, records and other documents relating to any prequalification process, bid submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.

SECTION - B

- 1. Format for Qualification Information.**
- 2. Format for Submission of Quotation.**
- 3. Format for Letter of Acceptance.**

1.4 Proposed subcontracts and firms involved.

Sections of the works	Value of Sub-contract	Sub-contractor (name & address)	Experience in similar work

1.5 Evidence of access to financial resources to meet the requirements of working capital: cash in hand, lines of credit, etc. List them below and attach copies of support documents.

1.6 Name, address, and telephone, telex, and fax numbers of the Bidders' bankers who may provide references if contacted by the Employer.

1.7 Information on litigation history in which the Bidder is involved.

Other party (ies)	Employer	Cause of dispute	Amount involved	Remarks showing present status

QUOTATION

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Description of the Works: Working Estimate for **On-Farm Development Works** including Flow Measuring Devices to **Kuruchipatti Cluster (CLUSTER No - 23)** Covered in **Vellore Water Users Association (MDU - 19)** of Uppar Sub Basin (Package No.1) in Melur Taluk of Madurai District. (Package No. 01 / TN IAMP / WRD / UPR / OFD Kuruchipatti Cluster (CLUSTER No - 23)- 9 / Works / Phase II / 2021-2022)

To:
The Executive Engineer PWD,WRD.,
Periyar Main Canal Division,
Melur.

Subject: Working Estimate for **On-Farm Development Works** including Flow Measuring Devices to **Kuruchipatti Cluster (CLUSTER No - 23)** Covered in **Vellore Water Users Association (MDU - 19)** of Uppar Sub Basin (Package No.1) in Melur Taluk of Madurai District. (Package No. 01 / TN IAMP / WRD / UPR / OFD Kuruchipatti Cluster (CLUSTER No - 23)- 9 / Works / Phase II / 2021-2022)

Reference : Letter No..... dated..... from

Sir,

We offer to execute the Works described in your letter referred to above in accordance with the Conditions of Contract enclosed therewith at **percentage above / below** the estimated rates, i.e., for a total Contract Price of -

Rs.** _____ [in figures]

Rs. _____ [in words].

In submitting our Quotation, we make the following declarations:

- (a) **No reservations:** We have examined and have no reservations to the RFQ document;
- (b) **Conformity:** We offer to execute the subject work in conformity with the RFQ document and in accordance with the Period of Completion specified in Section A.;
- (c) **Quotation Validity Period:** Our Quotation shall be valid for the period of 45 days, from the deadline fixed for the Quotation submission;
- (d) **Eligibility:** We meet the eligibility requirements and have no conflict of interest, we are not participating in more than one quotation in this bidding process, and we have not been temporarily suspended or debarred by the World Bank.

(e) **Fraud and Corruption:** We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any type of corrupt, fraudulent, collusive, coercive, or obstructive practices.

(f) **ESHS/GBV Compliance:** We hereby undertake to comply with (i) the applicable Laws/ Rules/ Regulations for protection of environment, public health and safety; (ii) the regulatory authority conditions (if any) attached to any permits or approvals for the project; and (iii) the Management Strategies and Implementation Plan (MSIP) to manage the Environmental, Social (including sexual exploitation and abuse (SEA) and gender based violence (GBV)), Health and Safety (ESHS) risks, and ESHS Code of Conduct, (if any prescribed by the Employer), that will apply to us, our employees and all subcontractors.

This quotation and your written acceptance of it shall constitute a binding contract between us. We understand that you are not bound to accept the lowest or any quotation you receive.

Yours faithfully,

Authorized Signature

:

Date:

Name & Title of Signatory : _____

Name of Bidder : _____

Address : _____

* To be filled in by the Employer before issue of the Letter of Invitation.

** To be filled in by the Bidder, together with his particulars and date of submission at the bottom of this Form.

**LETTER OF ACCEPTANCE
CUM NOTICE TO PROCEED WITH THE WORK**

From
The Executive Engineer PWD, WRD.,
Periyar Main Canal Division,
Melur.

To,

Lr.No.

Dear Sirs,

This is to notify you that your Quotation dated _____ for
execution _____ of _____ the
_____ for the
contract price of Rupees _____ [amount
in words and figures], is hereby accepted by us.

You are hereby requested to furnish performance security for an amount of
Rs. _____ (**equivalent to 3% of the contract price**) within 15 days
of the receipt of the letter. The Performance Security in the form of Bank guarantee or a
Bank draft in favour of Executive Engineer, PWD, WRD, Periyar Main Canal Division,
Melur shall be valid till the expiry of the period of maintenance i.e. upto
_____. Failure to furnish the Performance Security will entail
cancellation of the award of contract.

You are also requested to sign the agreement form and proceed with the work
not later than _____ under the instructions of the Engineer,
_____ and ensure its completion within the contract period.

With the issuance of this acceptance letter and your furnishing the Performance
Security, contract for the above said work stands concluded.

Yours faithfully,

**Executive Engineer PWD, WRD.,
Periyar Main Canal Division, Melur.**

**DRAFT AGREEMENT FORM FOR
PROCUREMENT THROUGH NATIONAL
SHOPPING**

**Draft Agreement form for
Procurement through National Shopping**

ARTICLES OF AGREEMENT

This deed of agreement is made in the form of agreement on _____ day _____ month _____ 2022 ____, between the Executive Engineer PWD,WRD, Periyar Main Canal Division, Melur or his authorized representative (hereinafter referred to as the first party) and _____ (Name of the Contractor), S/O _____ resident of _____ (hereinafter referred to as the second party), to execute the work of Working Estimate for **On-Farm Development Works** including Flow Measuring Devices to **Kuruchipatti Cluster (CLUSTER No - 23)** Covered in **Vellalore Water Users Association (MDU - 19)** of Uppar Sub Basin (Package No.1) in Melur Taluk of Madurai District. (Package No.01 / TN IAMP / WRD / UPR / OFD Kuruchipatti Cluster (CLUSTER No - 23)- 9 / Works / Phase II / 2021-2022) (hereinafter referred to as works) on the following terms and conditions.

2. Cost of the Contract

The total cost of the works (hereinafter referred to as the “total cost”) is Rs. _____ as reflected in Annexure - 1.

3.1 Payments under its contract:

1. Payment Certificates

1.1 The Contractor shall submit to the Engineer monthly statements of the estimated value of the work completed less the cumulative amount certified previously along with details of measurement of the quantity of works executed in a tabulated form as approved by the Engineer.

1.2 The Engineer shall check the details given in the Contractor's monthly statement and within 14 days certify the amounts to be paid to the Contractor after taking into account any credit or debit for the month in question in respect of materials for the works in the relevant amounts and under conditions set forth in sub-clause 51(3) of the Contract Data (Secured Advance).

1.3 The value of work executed shall be determined by the Engineer after due check measurement of the quantities claimed as executed by the contractor.

1.4 The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed..

1.5 The value of work executed shall include the valuation of Variations and Compensation Events.

1.6 The Engineer may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

2. Payments

2.1 Payments shall be adjusted for deductions for advance payments, retention, other recoveries in terms of the contract and taxes, at source, as applicable under the law. The Employer shall pay the Contractor the amounts certified by the Engineer within 28 days of the date of each certificate. If the Employer makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at 8% per annum.

2.2 If an amount certified is increased in a later certificate or as a result of an award by the Adjudicator or an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.

3.2 Payments at each stage will be made by the first party:

- (a) On the second party submitting an invoice for an equivalent amount ;
- (b) On certification of the invoice (except for the first installment) by the engineer nominated by the first party with respect to quality of works in the format in Annexure – 2

4. Notice by Contractor to Engineer

The second party, on the works reaching each stage of construction, issue a notice to the first party or the Engineer nominated by the first party (who is responsible for supervising the contractor, administering the contract, certifying the payments due to the contractor, issuing and valuing variations to the contract, awarding extensions of time etc.), to visit the site for certification of stage completion. Within 15 days of the receipt of such notice, the first party or the engineer nominated by it, will ensure issue of stage completion certificate after due verification.

5. Completion time

The works should be completed in **6 months** from the date of this Agreement. In exceptional circumstances, the time period stated in this clause may be extended in writing by mutual consent of both the parties.

6. If any of the compensation events mentioned below would prevent the work being completed by the intended completion date, the first party will decide on the intended completion date being extended by a suitable period:
- a) The first party does not give access to the site or a part thereof by the agreed period.
 - b) The first party orders a delay or does not issue completed drawings, specifications or instructions for execution of the work on time.
 - c) Ground conditions are substantially more adverse than could reasonably have been assumed before issue of letter of acceptance and from information provided to second party or from visual inspection of the site.
 - d) Payments due to the second party are delayed without reason.
 - e) Certification for stage completion of the work is delayed unreasonably.
7. Any willful delay on the part of the second party in completing the construction within the stipulated period as specified in Mile stone enclosed in Schedule A will render him liable to pay liquidated damages @ **Rs. 0.05% of contract value** per day which will be deducted from payments due to him. The first party may cancel the contract and take recourse to such other action as deemed appropriate once the total amount of liquidated damages exceeds 10 % of the contract amount.

Liquidated Damages

Liquidated damages will be imposed on the Contractor for the lapses/ short fall in achieving the rate of progress as per Milestone.

The liquidated damages for the whole of the works Rs.698/- per day (Rupees Six hundred and Ninety eight only)

For mile stone I - Rs.698/- per day (Rupees Six hundred and Ninety eight only)

8. Duties and responsibilities of the first party

- 8.1 The first party shall be responsible for providing regular and frequent supervision and guidance to the second party for carrying out the works as per specifications. This will include written guidelines and regular site visit of the authorized personnel of the first party, for checking quality of material and construction to ensure that it is as per the norms.

- 8.2** The first party shall supply 3 sets of drawings, specifications and guidelines to the second party for the proposed works.
- 8.3** Possession of the site will be handed over to the second party within 10 days of signing of the agreement.
- 8.4** The Engineer or such other person as may be authorized by the first party shall hold meeting once in a month where the second party or his representative at site will submit the latest information including progress report and difficulties if any, in the execution of the work. The whole team may jointly inspect the site on a particular day to take stock of activities.
- 8.5** The Engineer shall record his observations/instructions at the time of his site visit in a site register maintained by the second party. The second party will carry out the instructions and promptly rectify any deviations pointed out by the engineer. If the deviations are not rectified, within the time specified in the Engineer's notice, the first party as well as the engineer nominated by it, may instruct stoppage or suspension of the construction. It shall thereupon be open to the first party or the engineer to have the deviations rectified at the cost of the second party.

9. Duties and responsibilities of the second party

- 9.1** The second party shall:
- a) take up the works and arrange for its completion within the time period stipulated in clause 5;
 - b) employ suitable skilled persons to carry out the works ;
 - c) regularly supervise and monitor the progress of work ;
 - d) abide by the technical suggestions / direction of supervisory personnel including engineers etc. regarding building construction ;
 - e) be responsible for bringing any discrepancy to the notice of the representative of the first party and seek necessary clarification ;
 - f) ensure that the work is carried out in accordance with specifications, drawings and within the total of the contract amount without any cost escalation ;
 - g) keep the first party informed about the progress of work ;
 - h) correct the notified defects within the length of time specified by the Field Engineer;
 - i) be responsible for all security and watch and ward arrangements at site till handing over of the building to the first party ;

- j) maintain necessary insurance against loss of materials/cash, etc. or workman disability compensation claims of the personnel deployed on the works as well as third party claims.
- k) Pay all duties, taxes and other levies payable by construction agencies as per law under the contract (First party will effect deduction from running bills in respect of such taxes as may be imposed under the law).
- l) abide by all labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority;
- m) abide by all enactments on environmental protection and rules made there under, regulations, notifications and by-laws of the Sate or Central Government, or local authorities;
- n) be responsible for the safety of all activities on the Site.

10. Variations / Extra Items

The works shall be carried out by the second party in accordance with the approved drawings and specifications. However, if, on account of site conditions or any other factors, variations are considered necessary, the following procedure shall be followed:-

- a) The second party shall provide the Engineer with a quotation for carrying out the Variation when requested to do so by the Engineer. The Engineer shall assess the quotation, which shall be given within seven days of the request before the Variation is ordered.
- b) If the quotation given by the second party is unreasonable, the Engineer may order the Variation and make a change to the Contract Price which shall be based on Engineer's own forecast of the effects of the Variation on the Contractor's costs.
- c) The second party shall not be entitled to additional payment for costs which could have been avoided by giving early warning.

11. Securities

The Performance Security (Bank Guarantee from a Nationalized or Scheduled Bank in India in the format attached) shall be provided to the Executive Engineer, PWD, WRD, Periyar Main Canal Division, Melur no later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a bank or surety acceptable to the Executive Engineer, PWD, WRD, Periyar Main Canal Division, Melur. The Performance Security shall be valid until a date 28 days from the date of issue of the Certificate of Completion in the case of a Bank Guarantee.

12. Termination

- 12.1 The Executive Engineer / Employer may terminate the Contract if the other party causes a fundamental breach of the Contract.
- 12.2 Fundamental breaches of Contract include, but shall not be limited to the following:
- (a) the contractor stops work for 28 days and the stoppage has not been authorized by the Engineer;
 - (b) the Contractor has become bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
 - (c) the Engineer gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Engineer;
 - (d) the Contractor does not maintain a security which is required;
- 12.3 Notwithstanding the above, the Executive Engineer / Employer may terminate the Contract for convenience.
- 12.4 If the Contract is terminated the Contractor shall stop work immediately, make the Site safe and secure and leave the Site as soon as reasonably possible.

13. Payment upon Termination

- 13.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Engineer shall issue a certificate for the value of the work done less advance payments received up to the date of the issue of the certificate, less other recoveries due in terms of the contract, less taxes due to be deducted at source as per applicable law.
- 13.2 If the Contract is terminated at the Executive Engineer / Employer's convenience, the Engineer shall issue a certificate for the value of the work done, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works and less advance payments received up to the date of the certificate, less other recoveries due in terms of the contract and less taxes due to be deducted at source as per applicable law.

14. Dispute settlement

If over the works, any dispute arises between the two parties, relating to any aspects of this Agreement, the parties shall first attempt to settle the dispute through mutual and amicable consultation.

In the event of agreement not being reached, the matter will be referred for arbitration by a Sole Arbitrator not below the level of retired Chief Engineer / Superintending Engineer, (not connected in part or whole with this Project in his service) to be appointed by the first party. The Arbitration will be conducted in accordance with the Arbitration and Conciliation Act, 1996. The decision of the Arbitrator shall be final and binding on both the parties. The Arbitrator shall give his award/decision within 60 days of start of proceedings.

15. Fraud and Corruption

The World Bank requires compliance with the Bank's Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework, as set forth in Section C. In further pursuance of this policy, the Contractor shall permit and shall cause its sub-contractors and sub-consultants to permit the Bank and/or persons appointed by the Bank to inspect the Site and/or the accounts and records relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by the Bank, if requested by the Bank. The Priced Bill of Quantities (Annexure 1), Format of Certificate (Annexure 2) and Specification and Drawings (Annexure 3) are attached.

Signed and delivered by Sri. _____ for and on behalf of the Contractor

In the presence of the Witness:

i)

ii)

SIGNATURE

Signed and delivered by Executive Engineer, PWD, WRD, Periyar Main Canal Division, Melur for and on behalf of the Government.

In the presence of the Witness:

SIGNATURE

Schedule - A

Milestone

Sl. No	Description of item	Agreement Qty	unit	Mile stone I (From commencement to Sixth Month)
				Qty
1.	Earth work for Foundation	216.00	M ³	216.00
2.	Plain Cement Concrete M15 , 40mm	61.20	M ³	61.20
3.	Plain Cement Concrete M15 Grade 20mm	74.80	M ³	74.80
4.	Plain Cement Concrete M20 Grade 20mm	15.70	M ³	15.70
5.	Supplying and Fabrication of Steel	14.49	Qtl	14.49
6.	Fabrication, Supplying of Steel level gauge of size 100mm x 450mm.	14.00	Nos	14.00

GENERAL CONDITIONS

1) The work shall be carried out in strict accordance with Tamilnadu Building practicing and its volumes.

2) The Contractor shall make his own arrangements for the procurement of cement, steel, binding wire and all other construction materials to the required specifications required for the work. The rates for several items of work involving the cement and steel will be inclusive of the cost of cement steel, storage, centage, conveyance charges. Cement shall confirm to clause No 4 of I.S.456 – 1978 for the purpose of Specification. For specification of Ordinary rapid hardening and low heat Portland cement I.S.269-1989 and for Portland Pozzolana cement I.S.1489 – 1991 shall apply.

3) In case where the Contractor is required to procure Portland cement for the work, shall always purchase Portland cement as fresh as possible after manufacture, and he shall on demand by the Executive Engineer , furnish a laboratory certificate of the character material with the approval of the Executive Engineer . This should be demanded in every case where there is reason to believe that the cement has been long stored and may have hereby deteriorated in quality.

The quality of cement and steel procured shall be in confirmation with B.S.I standards. The quality test shall be conducted by the Contractors at their own cost, in the technical education centre laboratories(or) in the Government approved testing laboratories (or) in the Laboratories of Public Works Department if available at various stages Public Works Department has liberty to confirm the quality of the materials supplied by the Contractor at various levels and stages at their own laboratory, at the cost of Contractors, Random check by the officer incharge will be made for the each consignment and samples sent to Government authorised institution for testing at the cost of Contractor.

4) The Executive Engineer shall reject any cement which is proved to be not according to standards.

5) For storage of cement paragraph 5 of I.S.269-1967 shall apply. In case where the Contractor required to procure Portland cement for the work, he shall notify the Executive Engineer on the arrival of each consignment of Portland cement on the work, informing him at the same time of the brand, agent from whom obtained and age of the cement. Transportation from the place of supplying to the batching plant shall be whether Flight, Rail, Cars, Trucks, conveyance and other means which will protect the cement completely from exposure and moisture. Immediately upon receipt at the job site, bulk cement shall be stored in dry-Weather Light, properly ventilated places until the cement is used on works. Cement which has become hard or perished by moisture or other causes on no account be used on the work.

6) All storage facilities shall be subject to approval of Engineer in charge and shall be constructed to permit easy access for inspection and identification by the departmental officers.

- a) Avoid storage for long periods, do not store at all, if possible, during the rainy season
- b) Prevent circulation of air through the cement by close packing and cover with a tarpaul
- c) For other precautions in this regard, I.S.4082-1987 shall apply
- d) Cement should be stored in a building or shed which is a leak proof and as moisture proof as possible.
- e) Cement which has fully (or) partially set, shall not be used.

f. Temporary Store at Site

Very often bags of cement have to be stored in the work site out in the open, for use on work for one or more days. In such cases the bags shall be laid on a dry platform made of wooden planks resting on brick masonry, concrete or dry sand or aggregate platform above 150 mm above the ground.

The number of bags shall be kept to a minimum, preferable just sufficient for the day's consumption

Care shall be taken to see that every point in the pile is well covered by tarpaulin or polythene sheet and protected against the moisture in air. The Tarpaulin over lap each other properly.

g. Non Payment to wasted Concrete

No payment will be made for wasted concrete in replacement of damaged or defective concrete or extra concrete required as a result of over excavation and excess concrete placed by the Contractor intentionally, performed to facilitate the Contractor's operations, shall be borne by the Contractor himself, No extra payment will be made to Contractor for such additional quantity of cement.

h. Use of Pozzalona cement on works

Ordinary Portland cement confirming to I.S.269 – 1989 shall be used for masonry work. Portland Pozzalona cement confirming to I.S.1489 – 1991 may also be used for masonry work in the event of non – availability of ordinary Portland cement with the prior approval of Engineer – in Charge.

7. Departmental machinery to the extent available will be supplied to the Contractor and the hire charges will be recovered for the machinery from the Contractor's bill at the rates that will be specified by the department, if hired

8.The Contractors who are themselves not professionally qualified shall undertake to employ qualified Technical personnel at their cost to look after the work. The Contractors would state in clear terms to employ Technical personnel required by Department specified in the schedule below for the work. In case the selected tenderer is professionally qualified or has undertaken to employ Technical personnel under him, he should see that Technical qualified personnel is always at the site of work during working hours professionally checking all the items of works and paying extra attention to such works as may demand special attention (e.g.) reinforced cement concrete works, etc.,

8 (A) The Details of Technical Assistants to be Employed

The applicant shall have a Project Manager, Site Engineers with degree in civil Engineering, Diploma in civil Engineering with minimum field experience noted against each, available as given below, exclusively for this work.

- 1. Project Manager B.E., (Civil) – 5 years experience - 1 no.**
- 2. Site Engineer DCE., (Civil) – 3 years experience - 2 nos.**

8 (B) If the tenderer who is not professionally qualified fails to employ technical personnel as indicated above, fine shall be levied as follows during the period of Non-employment of technical personnel.

- a. **Rs.2000/-** Per month for Diploma holder
- b. **Rs.5000/-** Per month for Degree holder

Note:

In case the Contractor who is professionally qualified is not in a position to remain always at the site work during working hours personally checking all items of work and paying extra attention to such works as may demand special attention (e.g. Reinforced cement concrete works etc) he should employ technically qualified personnel as prescribed for the works above.

The employment of Technical Assistant should be based on the value of contract. Engineers with Mechanical Engineering Qualification and reputed from Civil Engineering Department are also suitable to supervise the Civil Engineering Works because of their experience in Civil Engineering field.

A movement register should be opened and maintained for technical assistants employed by the Contractor (or) for the technically qualified Contractor. The Technical Assistant or Technically qualified Contractor should note the arrival and their departure timings every day along with their initials. Such register should be produced during the inspection of the inspecting officer.

- 1) One I.T.I trained mason for every ten masons or part thereof should be employed.
 - 2) The Contractor shall not employ the labour below the age of 18 years.
- 11) He should offer employment to Ex-Serviceman, Ex-toddy tappers and unemployed agricultural labours as far as possible.
- 12) Sufficient labourers as may be required by the Executive Engineer shall be employed on the work so as to gear up the progress of the work and the Contractor is bound to employ such extra labourers without claiming extra.
- 13) The Contractor shall not claim for any loss due to unforeseen circumstances including suspension of work due to nature cause.
- 14) Accident to people employed by the Contractor resulting compensation to be paid as per the workmen Compensation Act shall be on the Contractor's account.
- 15) The Contractor should make his own arrangements for the conveyance of materials to the work site from sources specified.
- 16) The quarry specified is the nearest one to the work spot, where one use material as per specification required are now available, but if the quarry containing similar specification, happened to be at the nearer distance of the work spot than to the quarry in the schedule, the Executive Engineer shall have right to ask the Contractor to quarry the

required materials only from nearest quarry and to allow rates for the same based on the lesser lead during the time of execution of the work.

17) Payment will be made on detailed measurement. Any of the items in the schedule may be omitted or altered technically and no variation in the rate shall become payable to the Contractor on account of the omission (or) variation in quantities.

18) Before payment of final bills the Contractor shall produce certificate from the Income Tax authority that all income – tax payable by him up to date has been paid and certificate from the sale tax authority that all the Sales Tax payable by him up to date has been paid.

19) The Executive Engineer will be at liberty to with draw any portion of work or to carryout any portion of the work at any time either Departmentally or through other agency in the interest of Government without assigning any reasons to the Contractor who is actually doing the work and the Executive Engineer's decision will be final and binding on the contract and Contractor is not entitled for any compensation on account of the same.

20) In the event of work being transferred to any other Circle/ Division/ Sub- Division, the Superintending Engineer / Executive Engineer / Assistant Executive Engineer who is incharge of the Circle/ Division/ Sub- Division having jurisdiction over the work shall be competent to exercise all the powers and privileges reserved in favour of the Government.

21) The rates should be inclusive of all taxes payable to the Government by the Contractor.

22) The rates will be for the finished items of work and no extra will be paid for seignorage charges.

23) An amount of 2% of the value of the work including cost of all materials such as cement, steel, etc, will be deducted from the Contractor's bill at the time of payment towards income tax.

24) The site should be cleared by the Contractor after completing the work, as required by the departmental Engineers, at his cost without claiming extra.

25) The work shall be carried out without any hindrance or damage to the existing cross masonry works such as bridges, super passages etc.

26) A deduction of 20% and 10% will be made in the quantity of earthwork measured for thandoos and muttoos respectively and refund of amount on account of this deduction will be made only when the satisfactory removal of the thandoos and muttoos. If the thandoos and muttoos are not removed within 30 days from the date of check measurement or within the period as fixed at the discretion of the Executive Engineer, the 20% and 10% deduction will not be revoked.

27) The recovery towards hire charges of machineries will be made at the rates specified and for the time actually utilised by the Contractor or for the time required as per the date considering the out turn whichever is higher.

28) The sectioning of the bank should be done immediately after the work in the reach is completed. The final sectioning must be completed within 15 days after the completion of the work in the entire reach.

29) The earth required for the work shall be normally selected by the Department Engineers and the Contractor is to use the earth so selected for forming bank, etc. as directed by the Departmental officers.

30) Payment for sand will be made for quantity of sand stacked after making necessary deduction for bulkage from the stacked quantity.

$$\text{NET QUANTITY} = \frac{\text{Gross stacked quantity} \times 100}{100 + \text{percentage of bulkage}}$$

The percentage of bulkage will be determined from the test conducted according to the procedure indicated in the Chief Engineer's circular Memo No.535-G/63 FP Dt.9.9.93 on the undisturbed sample taken from the stacks. The rates to be quoted shall therefore be for one cubic meter of final quantity of sand to be stacked after necessary deduction of bulkage.

31) Measurement for rock blasting and removal will be made on level basis and stack measurement also will be taken into comparison allowing 40% voids and the lesser one will be considered for payment. No over bulkage will be allowed in blasting.

32) The Contractor should prepare a bar chart for this work and produce the same before starting the work to the Executive Engineer for his approval.

33) For the purpose of payment for the earth work for the formation of the bund where special consolidations done by mechanical roller or hand or power roller, the quantity as per the borrow pit measurement or the quantity of Earth work as per levels after consolidation with 15 % allowances over the finished earth work, whichever is less will be taken as final quantity for making payment.

34) In case of any dispute or difference between the parties to the contract either during the progress (or) after the completion of the works or after determination, abandonment or breach of the contract as to any other matter or thing arising there under, except as to matters left to the self discretion of the Executive Engineer of the clause 18,20, 25-3, 27(1), 34, 35 and 37 of the General conditions of contract as to the Contractor may claim to be entailed them party shall forthwith give to the other notice or such dispute or difference shall be and is hereby referred to the arbitration of the Superintending Engineer of the nominated circle, mentioned in the article of agreement herein after called "the arbitrator". In cases where the value of claim is more than Rs.50,000/- the parties will seek as specified in tender notice.

35) The Contractor has to maintain the progress of work as per the percentage of work specified in tender. If the Contractor fails to keep the rate of progress as stipulated in the tender, penalty will be imposed on the Contractor for his slow progress with reference to clause 57 of Tamil Nadu Building Practice under preliminary specification.

36) Similarly for lighting arrangements to do any work, to keep up the accepted progress of work, the Contractor has to take his own arrangements at his cost. Possible help to get power connections from the Tamil Nadu Electricity Board, etc so as to complete the work within the accepted contract period will be made by this department. But concreting has to be done in day time. No extra payment will be paid for such works.

37) The leads and lifts involved for the various materials as well as finished works are clearly furnished in the schedule. However the Contractors are requested to inspect the places of work, the quarries for sand and metal and satisfy themselves about the adequacy of the provision made for lift and lead before tendering. The Contractor will not be eligible for extra lead and lift even if it is actually involved during the course of the work.

38) An amount of 2% in the respect of civil works contract and 4% in respect of other works of the value of work including cost of all materials such as cement, steel etc, will be deducted from the Contractors bill at the time of payment towards sales tax.

39) In the event of the death or insanity or insolvency or imprisonment of the Contractor or where the Contractor being a partnership or firm becomes dissolved or being a corporation goes into liquidation, voluntarily or otherwise, the contract may at the option of the Executive Engineer, be terminated by notice in writing pasted at the site of the works and advertised in one issue of the local District Gazette and all acceptable works shall forth with be measured up and paid for at the rates provided in the contract schedule where such apply, or otherwise, by the most recent schedule of rate of the Division approved by competent authority to the person or persons entitled to receive and give a discharge for the payment.

GENERAL CONDITIONS

1. Period of Completion is **6 Months** (Including Monsoon & Irrigation Period)
2. Execution and completion of the work should be within the period specified in the tender notice from the date commencement of work or handing over of site whichever is earlier.
3. It must be distinctly and specifically understood that work will be executed complying with the specification in metric system found by Tamil Nadu Building Practice Vol. I and II. Payment will be made as per measurement recorded units only.
4. During the contract period inclusive of water flowing period for irrigation if the Canal is damaged due to rain or floods, rock slips etc., it is the responsibility of the successful tenderer to rectify the damages on giving top priority at his own cost without claiming any extra.
5. It is the responsibility of the successful tenderer to keep the Canal in a complete shape in the portion where he is taking up the rehabilitation works as per specifications and as directed by the departmental officers at the times of releasing water in the canal so that it can carry the specified Quantum of water conveyed for irrigation without any hindrance.
6. The work shall be proceeded with expeditiously from the date on which the site is handed over and completed as early as possible as required by the departmental officers.
7. The Contractor must make his own arrangement to form approach roads and ramps, if any, required at his own cost and maintain the same throughout the period of contract. On permission for using existing roads, if any, by the Contractor must bear all charges to maintain for using the road. No extra cost on this account will be entertained by the Department.
8. If night work is required to fulfill the agreed rate of progress all arrangements shall be made by the Contractor including lighting the area without any additional claims.
9. The rates specified in the schedule for the different items of work are for the finished works and no extra will be paid for baling and pumping charges indented on the work.
10. The shed for storing the materials should be put up by the Contractor at his own cost. The Contractor's special attention is invited to relevant clauses of the general conditions of contract of Tamil Nadu Building Practice and also required to provide at his own expenses sheds, latrine, water, lights, urinals, etc.,
11. Earth work and masonry work should be constructed simultaneously as required by the departmental officers.

12. The Contractor will be held responsible for the proper and safe custody of all the Departmental Materials which are handed over to the Contractor until they are finally used on the work (or) taken over by the Department.

12 (A) For slow progress action will taken by the Executive Engineer as per the clause 57.1, 57.2 and 57.3 of General Conditions of Contract of T.N.B.P. The Contractor rates are inclusive of Sales Tax payable by the Contractor to the Government as per the Tamilnadu General Sales Tax Act 1989 as amended from time to time. No enhanced rate will be payable to the Contractor for any upward revision of Sales Tax during the currency of the contract.

13. The GST amount will be calculated at 12% from the sum of total tendered value quoted by the tenderer for construction cost (excluding GST) specified in the BOQ, Subject to GST rate applicable from time to time as recommended by the GST Council.

TOTAL TENDER PRICE: The total tender price will be the cumulative of value quoted for construction (Total Basic Rate + GST).i.e., Total basic rate plus GST @ 12%.

14. Contractors should obtain from the authorities concerned an Income Tax Clearance Certificate and GST Clearance certificate for the current year and submit it along with the tenders.

15. The work executed by the Contractor under the contract shall be maintained at the Contractor's risk until the work is taken over by the Executive Engineer. The Government shall not be liable to pay for any loss or damages occurred by or arising out of fire, flood, Volcanic eruption, earth quake, other convulsions of nature and all other calamities, risks arising out of acts of God during such period and that the option whether to take insurance coverage or not to cover such risks, is left to the Contractors.

16. If there are any dues from the Contractor to the Government for this work, if it is not recoverable from the Contractor under this contract or other contract, the dues will be recovered from the Contractor by evoking the provision of the Tamilnadu Revenue Recovery Act 1964 (Tamilnadu Act V of 1964).

17. Recovery under Revenue Recovery Act

Whenever any amount has to be paid by the Contractor by virtue and clause 57.4 General condition to the contract or any amount that may be due or may become due from the Contractor made those presents and the Contractor is not responding to the demands for payments against a said amount, then, the Government shall be entitled to recover the said amount under the provisions of the Tamil Nadu Revenue Recovery Act 1964 (Tamilnadu Act V of 1964) G.O.Ms.No.1318 PW Dt.22.5.1986 amended in Government letter No. 135130/Y2/88-3/dt.30.3.1990

BUILDING AND OTHER CONSTRUCTION WORKERS ACT:

The following acts are applicable to this contract.

1. Building and other Construction workers (Regulation of the employment and conditions of service) Act 1996 and TamilNadu Rules 2006- Employing 10 or more workers either Directly or through a contractor.

2. Contract labour (Regulation & Abolition) Act 1970 and the TamilNadu Rules 1975- Employing 20 or more workers through a contractor.

3. Interstate Migrant Workermen (Regulation of Employment and conditions of Service) Act 1979 and the TamilNadu Rules 1983-Employing 5 or more other state workers through a contractor.

Both the Executive Engineer and Contractor of the concerned work should follow the required legal formalities as per the above acts and as directed by the Joint Director (BOCW), Industrial safety and Health, Madurai -625020 without any lapse.

CHAPTER II

SITE OF WORK

SECTION 2.1 DISCHARGE RECORDS

2.1.1 DISCHARGE RECORDS

The Hydrological data, pertaining to the Canal and the streams crossing the canal furnished in the relevant report and drawings, are for information of bidders and contractors. It should be noted that the data used in preparing these particulars were recorded at locations different from the work site. The Government (that is Government of Tamil Nadu) does not guarantee the reliability or accuracy of any of the Data and shall assume no responsibilities for any conclusions or interpretations that may be made from them. The Contractor shall undertake at his expense such studies as are necessary to assess the reliabilities and accuracy of the information presented in the Data.

SECTION 2.2 CLEARING AND GRUBBING

2.2.1 Clearing and Leveling Site

The portion of the right-of-way where required for constructing the work under these specifications shall be cleared of all trees, bushes, rubbish and other objectionable matter. Trees designated by the Engineer-in-Charge shall not be cut and shall be protected from injury. Such cleared material shall be disposed off, as provided in sub-paragraph said below or removed from the site of work before the date of completion of the contract as approved by the Engineer-in-Charge. The clearing operation shall be in accordance with clauses 4.1, 4.1.1, 4.2 and 4.3 of I.S. 4701-1982 Indian Code of Practice for earth work in canals. Surface boulders either loose or partly embedded in the ground will have to be removed and stacked as directed.

2.2.2 Grubbing

The area described or shown on the relevant site plan shall be cleared of all obstructions, loose stones, non-required materials and rubbish of all kinds. All brushwood shall be cleared and the roots grubbed up. No trees shall be cut down and removed without the instructions of the Engineer-in-Charge. Those which are cut down shall be grubbed up. The same remarks apply to jungle clearance. Trees to be preserved will be designated by the Engineer-in-Charge.

The products of the clearing shall be stacked in such place and manner as may be ordered by the Engineer-in-Charge and the ground shall be left in a perfectly clean conditions. All products of the clearing shall be the property of Government and shall be disposed of as the Engineer-in-Charge may direct.

All holes or hollows, whether originally existing or produced by digging up roots shall be carefully filled up with earth, well rammed to the design density and leveled off, as may be directed.

Preparation of pit

Ant hills shall be completely dug out before earth work is started. In the absence of any separate contract schedule provision for removal of shrubs, loose stone and digging of any hills involved in the preparation of bed, the contract rate for earth work shall be deemed to include all the work to be done in accordance with this clause. In cases where the work preparation of bed is rather extensive the Engineer-in-Charge will usually provide a separate schedule provision, the contractor shall understand that his tender rate is inclusive of all such work without extra charge. The contract shall therefore examine the site before tendering and provide for all items to be done under his earth work tender rate. Old bunds will be benched or sloped as directed by Engineer-in-Charge before addition of earth, the benches being 500mm x 500mm unless other sizes are specified. The benches or slope shall be inspected by the Engineer-in-Charge designated for the purpose and approved before new earthwork is keyed into them.

2.2.3 Disposal of Cleared and Grubbed Material

The disposal of cleared and grubbed material shall be in accordance with clause 4.1.1 of I.S 4701-1982 code of Practice for earth work on canals. All waste materials to be burnt shall be piled neatly and when in suitable condition shall be burnt completely to ashes. Piling of waste material for burning shall be done at such a location and in such a manner as would not cause any fire risk. Necessary precautions shall be taken to prevent spreading of fires to areas beyond the limits of cleared areas. Suitable materials and equipment for prevention and suppression of fire shall be kept available at all times.

The material to be disposed off may be buried for which Para 1. 2 and 2 of specification 16 of TNBP shall apply.

2.2.4 Payment

For the clearance of light jungle, heavy jungle with or without uprooting etc., payment will be made as provided for in the tender documents. Separate payment will not be made for clearing of site and grubbing including disposal of the cleared and grubbed material required under the above paras unless and otherwise specified in the contract document. The contractor shall include the cost thereof in the prices bid in the bill of quantities of the contract for the relevant finished item of work for which clearing and grubbing as mentioned in the above Para are required. No payment towards removal of small stones and boulders of size less than 0.01 cubic metres will be made, and the rate quoted for excavation will be considered to include this item. However, payment will be made for the removal of surface boulders of sizes greater than 0.01 cubic metre but less than 3 cubic metres, either loose or partly embeddable in the ground, at the rate quoted in bill of quantities for the actual quantity so removed, based on stack measurement applicable for the relevant strata classification after deducting 40% towards voids.

Benching will be paid as separate item, per 1 (one) running metre of bench at the provided for in the tender documents.

2.3.1 Setting out of the Work

There are permanent Bench Marks fixed by Survey of India and Tamil Nadu Water Resources Organization, Temporary Bench Marks shall be set up by the Department at every 0.5km interval of convenient locations along the canal to serve as reference levels. The Contractor shall establish additional reference Bench Marks as may be needed at his own cost for facilitating the setting out and taking levels for measurement of work, with the approval of the Engineer-in-Charge. The Bench Mark shall be marked on a concrete pillar 30cm (1) x 30 cm (b) x 75 cm (d) which shall be embedded 55 cm into firm ground and projecting 20 cm above the ground. The Bench Mark pillar shall be constructed in plain cement concrete of 1:4:8. The pillar shall be well protected from being disturbed. The RL of bench mark shall be conspicuously carved and painted on the pillar.

2.3.2 Before starting any work and during execution (if required), the Contractor shall erect reference Bench Marks, reference lines and profiles of convenient location as per the direction of the Engineer-in-Charge. The centre line of the canal and the reference line for all alignments for demarcation purpose shall be laid by dig-belling on the ground. The reference line shall comprise the base line properly dig belled on the ground with the numbered concrete/masonry R.D. pillars suitably spaced.

2.3.3 All important levels and all reference points with respect to bench marks and reference lines shall be fixed and co-related by the contractor as per the directions of the Engineer-in-Charge.

2.3.4 All materials and labour for setting out works included construction of reference bench mark, reference line, check profiles and surveys, as may be required at the various stages of the construction shall be supplied by the Contractor at his own cost. The cost of such works shall be deemed to have been included in the cost of the items in schedule.

2.4 Monsoon Damages

Damages due to rain or flood either in cutting or in banks shall have to be made by the contractor till the work is handed over to the department. The responsibility for desilting and making good the damages due to rain or flood rests with the contractor. No extra cost is payable for such operations and the contractor shall therefore have to take all necessary precautions to protect the work done during the construction period.

2.5 Removal of silt and water

Accumulated silt and water in the canal and structures for the works partly done by the Contractor in this of previous seasons should be removed and no extra payment will be made, for such removal of silt and water. The unit rate of exact of excavation is deemed to include cost for removal of such silt and water.

2.6 Use of Water

2.6.1 Water for Dust Abatement

a. General

The Contractor shall procure and apply water for dust abatement have been included in the concerned unit price bid to the bill of quantities of the contract for the relevant finished item of work for which water for dust abatement is required.

So also the cost of procuring and applying water required for the work shall be included in the price bid in the bill of quantities for the items of such for which the water is used.

2.7 Site Drainage

2.7.1 Cross Drainage

The contractor shall handle all flows from natural drainage channel intercepted by the work under these specifications performed any additional excavation and grading for drainage as directed and provide and maintain any temporary construction required to bypass or otherwise cause the flows to be harmless to the work and properly. When the temporary construction is no longer needed and prior to acceptance of the work the contractor shall remove the temporary construction and restore the site to its original condition as approved by the Engineer-in-Charge. The cost of all work and materials required by this paragraph shall be included by the contractor in the unit prices quoted in the bill of quantities and no separate payment will be made for the same.

2.7.2 In addition to cross drains, longitudinal drains may be considered necessary for proper drainage. The drainage system will be consisting of network of cross and longitudinal drains led into out fall drains to prevent stagnation of water at the place of construction. The drains shall be constructed to the sections design, and shall be either open or filled up with material to ensure free flow of water without clogging of the filled materials.

Water applied for dust abatement will not be eligible for payment. The cost of procuring and applying water included all expenses for all means of conveying water, to the point of use, their collection, usage, and all other incidental expenses will not be paid separately included creation of source of water and the cost shall be deemed to have been included in the concerned unit price bid in the bill of quantities of the contract for the relevant finished item of work for which water for dust abatement is required.

So also the cost of procuring and applying water required for the work shall be included in the price bid in the bill of quantities for the items of work for which the water is used.

SPECIAL CONDITIONS

1. The Contractor shall be responsible for the sole custody and storage of the material under dry conditions at the places approved by the Executive Engineer.
2. No royalty shall be charged where due for materials quarried from the Public Works Department (or) Government quarries. Assistance as necessary will be given to the Contractor by the department to obtain access to quarries approved by the Executive Engineer. Plot rent shall be charged for the materials stacked in the department land during the course of construction provided such materials are removed in a month after the works are completed.
3. Royalty charges for use of private quarries and private land shall be paid by the Contractor himself.
4. The Contractor should make his own arrangements for providing approach road to the work site for which no extra will be paid to him . On completion of the work the Contractor shall be permitted to remove the materials laid for formation of road. If the Contractor is allowed to use the existing roads, he shall maintain it in good condition at his own cost throughout the period of the execution of work.
5. Reference shall be made to Tamil Nadu Building Practice No. in the schedule of quantities referred to Vol. I and II of 1988.
6. The Contractor shall abide by the contract labour regulation of the Public Works Department framed by the Tamil Nadu Government
7. The Contractor should bear his own expenses for providing footwear for any labour during cement mixing work and all the types of works and on his failure to do so, Government shall be entitled to provide the same and cost will be recovered from the Contractor.
8. When there are complaints of nonpayment of wages, the labour bill of the Contractor may be withheld pending clearance certificate obtained from the Labour Department
9. The Executive Engineer or any officer of the Public Works Department Government of Tamil Nadu duly authorised in this behalf or such Executive Engineer may put an end to the agreement at his option at any time.
 - a) Provided in respect of work costing above Rs.2500/- a notice of 10 days shall be given before such termination of work or for subletting for the portion of the work for any other reason.
 - b) And provided that in the case of said work (or) materials, action will be taken as provided in the clause 27.1 of General conditions of contract.
10. When an agreement is terminated under the clause (9) above, the officer terminating the agreement shall have the option to take over any or all the materials and other equipments at a value assessed by him and if the Contractor does not agree to this he shall clear the site by removing at his own cost all such materials, equipment etc. within 10 days from the termination of the agreement, failing which, the Government may remove and sell the same, holding the proceeds less the cost of removal and sale, to the credit of the Contractor.

11. Claims of Contractors on account of Losses due to unprecedented floods and other acts of God.

The works executed by the Contractor under the contract shall be maintained at the contractor's risk until the work is taken over by the Executive Engineer. The Government shall not be liable to pay for any losses or damages accessioned by or arising out of fire, flood, volcanic eruption, earthquake, other convulsions of nature and all other natural calamities, risk arising out of acts of God during such period and that the option whether to **take an insurance** cover or not to cover such risks, is left to the Contractors.

SCHEDULE - D

(Applicable to all cases of works other than those relating to roads, channels and canals when a minimum of fifty workers are employed)

RULES FOR THE PROVISION OF HEALTH AND SANITARY

ARRANGEMENTS FOR WORKERS.

The Contractor's special attention is invited to relevant clauses of the General conditions of contract in the Tamil Nadu Building Practice and he is requested to provide at his own expense the following amenities to the satisfaction of the Executive Engineer .

1. FIRST AID

- a) At the work site there shall be maintained in a readily accessible place, first aid appliances and medicines including an adequate supply of sterilised dressings and sterilised cotton wool. The appliances shall be kept in good order. They shall be readily available during working hours.
- b) At large work places, where hospital facilities are not available within easy distance of the works. First aid posts shall be established and be run by a trained compounder.
- c) Where large work places are remote from regular hospitals an indoor ward shall be provided with one bed for every 250 employees.
- d) Where large work places are situated in cities, towns or in their suburbs and no beds are considered necessary owing to the proximity of city or town hospitals, suitable transport shall be provided to facility removal of urgent cases to these hospitals. At other work places, some conveyance facilities, such as a car shall be kept readily available to take injured person or persons suddenly taken seriously ill, to the nearest hospital.

2. DRINKING WATER

- a) Water of good quality fit for drinking purposes shall be provided for the work people on a scale of not less than fifteen litres per head per day.
- b) Where drinking water is obtained from an intermittent public water supply each work place shall be provided with storage tank where such drinking water shall be stored.
- c) Every water supply storage shall be at a distance of not less than fifteen meters from any latrine, drain or other source of pollutions. Where water has to be drawn from an existing well, which is within such proximity of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap door which shall be dust and water proof.

- d) A reliable pump shall be fitted to each covered well, the trap door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.

3. WASHING AND BATHING PLACES

Adequate washing and bathing places should be provided, separately for men and women. Such places shall be kept in clean and drained condition. Bathing or washing should not be allowed in or near any drinking water well.

4. LATRINES AND URINALS:

There shall be provided within the presents of every work place, latrines and urinals in an accessible place and the accommodation, separately for each of them, shall be on the following scale or so directed by the Executive Engineer in any particular cases.

- i) Where the number of persons employed does not exceed 50
- 2 seats
- ii) Where the number of persons employed exceed
50 but not exceed 100 - 3 seats
- iii) For every additional 100 - 3 seats

If women are employed, separate latrines and urinals, screened from those for men shall be provided on the same scale.

Except in work places provided with water, flushed latrines connected with a water borne sewage, all latrines shall be provided with receptacle on dry earth system which shall be cleaned at least four items daily and at least twice during the working hours, and kept in strictly sanitary conditions. The receptacles shall be tarred inside and outside at least once a year.

The excretia from the latrines shall be disposed off at the Contractor's expense, in out way pits approved by the local Public Health Authority. The Contractor shall also employ adequate number of scavengers and conservancy staff to keep the latrines and urinals in a clean condition.

5. SHELTERS DURING REST

At every work site there shall be provided, free of cost, two suitable sheds one for meals and the other for rest separately for men and women for the use of labourers.

6. CRECHES :

- a) At every work place at which 50 or more women workers are ordinarily employed there shall be provided two huts of suitable size for the use of children under the age of 6 years belonging to such women, one hut shall be used for infants, games and play and the other as their bed room. The huts shall not be constructed on a lower standard than the following.
- i) Thatched roofs
 - ii) mud floors and walls
 - iii) Planks spread over the mud floor and covered with matting.

The huts shall be provided with suitable and sufficient opening for light and ventilation. There shall be adequate provision of sweepers to keep the places clean. There shall be two days in attendance. Sanitary utensils shall be provided to the satisfaction of the Health Officer of the area concerned. The use of the huts shall be restricted to children, their attendants and mothers of the children.

- b) Where the number of women workers is more than 25 but less than 50, the Contractor shall provide at least one hut and one day to look after the children of women workers.
- c) The size of Creche or Creches shall vary according to the number of women workers.
- d) The Creche or Creches shall be properly maintained and necessary equipment like toys, etc., shall be provided.

7. CANTEENS

A cooked food canteen on a moderate scale shall be provided for the benefits of workers if it is considered expedient.

8. SHEDS FOR WORKMAN

The Contractor should provide at his own expense sheds, for housing his workmen. The sheds shall be on a standard not less than the cheap shelter type, to live in which the work people in the locality are accustomed to.

A floor area of about 1.8m x 1.5m two persons shall be provided. The sheds to be in rows with 3 meters clear space between sheds and 9 meters clear space between rows if conditions permit. The work people's camp shall be laid out in units of 400 persons, each, each unit to have a space of 12 meters around.

9. GENERAL RULES AS TO SCAFFOLDS

- i) Suitable scaffold shall be provided for workmen for all works that cannot be safely done from a ladder or by other means. When a ladder is used an extra mazdoor shall be engaged for holding the ladder and the ladder shall be given an inclination not steeper than 0.25 to 1 (0.25 horizontal to 1 Vertical) when the ladder is used for carrying materials as well, suitable foot holds and hand holds shall be provided on the ladder.
 - i) Scaffold shall not be constructed, taken down or substantially altered except.
 - a) Under the supervisions of a competent and responsible person and
 - b) As far as possible by competent workers possessing adequate experience in such work
- ii) All scaffolds and appliances connected therewith and all ladders shall be of sound materials
 - a) Be of adequate strength having regard to the load strain to which they will be subjected and be maintained in proper condition.
- iii). Scaffolding or staging more than 3.5 metres above the ground or floor shall have a guard rail properly attached, ball braced and otherwise secured at least 0.3 meters above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be fastened as to prevent it from swaying from the building or structure.

- v) Scaffolds shall be so constructed that no part thereof can be displaced in consequence of normal use.
- vi) Scaffolds shall not be overloaded and so far as practicable the load shall be evenly distributed.
- v) Before installing lifting gear or scaffolds special precautions shall be taken to ensure the strength and stability of the scaffolds.
- vi) Working platform gangways and stairways should be constructed that no part there can severe, unduly or unequally. If the height of the platform or the gangway or the stairway is more than 3.5 meters above ground level or floor level they should be closely boarded, should have adequate width and should be suitably fenced as described in (4) above.
- vii) Every opening in the floor of a building or in a working platform shall be provided with suitable fencing or railing for a minimum height of 0.9 meters to prevent the fall of persons or materials.
- viii) Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 meters in length while the width between side rails in rung ladder shall in no case be less than 30cm for ladder up to and including 3 meters in length.

For longer ladders this width should be increased at least 20mm. for each additional meter of length. Uniform step spacing should not exceed 30cm. Adequate precautions should be taken to prevent danger from electrical equipment. No materials on the site of work shall be so stacked or placed as to cause danger or inconvenience to any person of the public. The Contractor shall provided all necessary fencing and lights to protect the public from accidents and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any persons for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit, action or proceedings to any such persons or which may with the consent of the Contractor be paid to compromise any claim by any such person.

10. WORKING PLATFORMS, GANGWAYS AND STAIRWAYS SHOULD BE SO CONSTRUCTED THAT NO PART THERE CAN SEVER UNDULY OR UNEQUALLY

So constructed that no part there can sever unduly or unequally.

1. The Contractor must be prepared to conduct test at his own cost, on materials used in the work in standard laboratories and produce test certificates to ensure quality of materials
 - a) be so constructed and maintained having regard to the prevailing conditions as to reduce as far as practicable risks of persons tripling or slipping
 - b) be kept free from any unnecessary obstruction.

2. In the case of working platforms gangway working places and stairways at a height exceeding that to be prescribed by national laws or regulations.
 - a) Every working platform gangway working places and stairways at a height boarded unless the adequate measures are taken o ensure safety.
 - b) Every working platform and every gangway shall have adequate width and every working platform gangway working place and stairway shall be fenced.

3. Every opening in the floor of a building or in a working platform shall except and the extent required to allow the excess of persons or the transport of shifting of manufacture provided with suitable means to prevent the fall of persons or materials.

When persons are employed on a roof, where there is a danger of falling from a height exceeding, that to be prescribed, by National Laws of regulations, suitable precautions shall be taken to prevent the fall of person or materials.

4 a) Some means of access shall be provided to all working platforms and other working places

b) Every place where work is carried on and the means of approach, there shall be adequately lightened.

c) Every ladder shall be securely fixed one of such length to provide secure handhold and foothold at every position at which it is used.

d) Adequate precautions shall be taken to prevent danger from electrical equipment

e) No materials on the site shall be so stacked or placed as to be caused danger to any person.

11) HOISTING APPLIANCES

a) Hoisting machines and tackle including their attachments, anchorages and supports shall be good mechanical construction, sound materials and adequate strength and free from patent defect and shall be kept in good repair and in good working order. Every rope used in hoisting or lowering materials or as a means of suspension shall be of suitable quality and adequate strength and free from patent defect.

b) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in control of any hoisting machine including the scaffold which or give signals to the operator.

c) In the case of every hoisting machine and of every chain ring, hook shackle level and pulley block used in hoisting or lowering or as a means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all ear referred to above shall be plainly marked with the safe working load, in the case of a hoisting machine having a variable safe working load, each safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any hoisting machine or of any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.

d) Motors, gearing, transmissions, electric wiring and other dangerous parts of hoisting appliance shall be provided with efficient safeguards. Hoisting appliances shall be provided with such means as will request to a minimum the risk of the accidental descent of the load. Adequate precaution shall be taken to reduce to a minimum the risk of any part of a suspended load becoming accidentally displaced.

When workers are employed on electrical installations which are already energised. Insulating mats, wearing apparel such as gloves, sleeves and boots as may be necessary should be provided. The workers and carry keys or other materials which are good conductors of electricity.

12. SAFETY EQUIPMENT AND FIRST AID

- 1) These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at workshop. The person responsible for the compliance of the safety code shall be named by the Contractor.
- 2) To ensure effective enforcement of the rules and regulations relating to safety precautions, the arrangements made by the Contractor shall be open to inspection by the Labour Officer, Executive Engineer of the Departmental or other representative.
- 3) All machinery personal safety equipment shall be kept available for the use of the person employed on the site and be maintained in a condition suitable for immediate use.
- 4) The workers shall be required to use the equipment as provided and the employer shall take adequate steps to ensure proper use of the equipment by those concerned.
- 5) When work is carried on in approximate to any place where there is a risk of drawing all necessary equipment, shall be provided and kept ready for use and all necessary steps shall be taken for the prompt rescue of any person in danger.
- 6) Adequate provision shall be made for prompt first-aid treatment of all injuries likely to be sustained during the course of work.

The Contractor has to make his own arrangements for proper lighting and ventilation for the labours working inside the tunnels duly paying more attention to their safety.

13. PAYMENT

- 1 When there are complaints for non-payment of wages, payment will be withheld pending clearance certificate from the Labour Department.
- 2 All payment of wages shall be made on a working day except when the work is completed before the expiry of the wage period of which case final payment bill beyond within 48 hours of the last working day. The term working day means a day on which the labourer is employed is in progress.
- 3 Any person aggrieved by the decision of the Commissioner of Labour or the officers deputed by him to conduct enquiry may appeal against such decision of the Chief Engineer –in-Charge of the building works. The Commissioner of Labour shall be appellate authority in this regard.
- 4 The Contractor is bound to allow or cause to be allowed to the labourers directly or indirectly employed in the works one day rest for six days continuous work and pay wage at the same rate as for duty. In the event of default the Executive Engineer or Sub Divisional Officer concerned shall have the right to deduct the sums not paid on account of wages for weekly holiday to any labourer and pay the same to the persons entitled there to from any money due to the Contractor.
- 5 In case of an appeal made by the Contractor under clause-3 above actual payment to labourers will be made by the Executive Engineers after the Commissioner of Labour has given his decision on such appeal.
- 6 A Workman shall be entitled to be represented in any investigation or enquiry under those regulations by
 - a) All officers registered under Trade Union of which he is a member

- b) An officer of a federation of trade which to which the trade union referred to in clause (a) is utilized.
 - a) Where the employer is not member of any Association or by an officer an Association of employer connected with or by other employer engaged in the industry in which the employer is engaged.
- ii) a) No part shall be entitled to be represented by a legal Fractioned in any investigation enquiry under those regulations.
 - b) All fines realised form the workers shall be applied only to such purpose beneficial to the person employed by specific authority.
 - c) Where the worker is not a member of any registered trade union or an officer of a registered trade union connected with or by any other workmen employed in the industry in which the worker.
- iii) a) An officer of an Association of employers to which he is a member
 - b) An officer of a federation of "Association of Employers to which the Association referred to in clause (a) above is affiliated.
- 7) The Contractors shall maintain in a wages register of each worker in such from as may be convenient, but at the same time it shall include the following particulars.
 - a) Rate of daily or monthly wages, nature of work on which employed,, total number of days worked during each wage period, all deduction from the wages with an indicator in each case of the ground for which deduction made and wages actually paid for each wage period.
 - b) The Contractor shall also maintain a wage card for each worker employed on the work.

The wage slips should also contain the particulars as in the above clause. Every Contractor shall get the signature or thumb impression of every worker in wage books.

PREPARATION OF SUBGRADE IN EXPANSIVE SOIL

In case of expansive soils, a cohesive non swelling layer of soil will be used for bedding. The thickness of C.N.S layer shall be designed according to swelling pressure of soil or as directed by the Engineer in charge. The bedding materials shall generally be 1000 mm in thickness and 600 thick cohesive non swelling materials in canal section whose discharges is more than 1.5 cumecs and less than 1.5 cumecs respectively conforming broadly to following gradation and Index properties.

Also, the CNS material shall be laid and compacted to 0.45 m beyond the finished profile (as directed by the Engineer). This will provided a horizontal width of about 2.25 m corresponding to the canal slope of 1:5:1 which is the optimum width required for compaction by the power driven 8 to 10 T rollers the extra width so laid shall be trimmed to the required profile and the material reused.

GRADATION

1. Clay (less than 2 microns)
2. Silt (0.06 mm – 0.002 mm)
3. Sand (2mm – 0.06 mm 0)
4. Gravel (Greater than 2 mm)

INDEX PROPERTIES

Liquid limit less than 55% but greater than 30% plasticity Index less than 30% but greater than 15%. The thickness of CNS in table 1 of IS 9451 - 1985 (reproduced below)

SWELLING PRESSURE OF SOIL

KN / Sqm
50 to 150
200 to 300
350 to 500

THICKNESS OF CNS MATERIAL

Millimeters
750 to 850
900 to 1000
1050 to 1250

Making due to allowance for field control and variation in the properties of CNS material in the field an optimum thickness of 1000 mm / 600 of CNS shall generally be adopted on bed and sides (normal to slopes) in canal sections whose discharge is more than 1.5 cumecs and less than 1.5 cumecs respectively.

The Contractor shall place test sections of selected bedding material at times and place designated by the Engineer – in – charges to show the adequacy of his construction procedures for laying the bedding material. The test sections shall confirm to clause 4.5.2 of I.S 3873 – 1978.

Suitable material trimmed from the canal shall be used to complete canal embankments to construct road embankments for back fill above structures or for selected bedding material. Where material suitable for selected bedding materials as determined by the Engineer –in-charge is encountered during trimming operations and cannot be placed in one continuous operation. Such materials shall be stock fitted along the right of way where designated by the Engineer in Charge.

All material required for preparing foundation shall be furnished by the Contractor.

SPECIAL CONDITION

1. The following special conditions of contract shall supplement the conditions of contract. Wherever there is a conflict the provision herein shall prevail over the conditions of contract and/or those elsewhere.
2. The bidder should inspect the site and quarries and satisfy himself about the availability of the quality and quantity of materials required for the work and leads for the materials.
3. The contractor shall make his own arrangement to procure all materials required for the work.
4. The contractor should make his own arrangement for water supply, for works and drinking purpose, at his own cost.
5. The contractor shall make his own arrangements to obtain electricity for his consumption on the works, at his own cost.

INCOME TAX

6. During the course of contract period deduction of I.T. shall be made at 2% of the gross amount of each bill or as directed by the I.T. department from time to time.

7. CONDITIONS FOR GOODS AND SERVICES TAX (GST)

GST RATES AT 12% FOR WORKS CONTRACT

Government of India has notified vide Notification No.20/2017– Central Tax (Rate), dated 22nd August, 2017 and Notification No.24/2017–CentralTax (Rate), dated 21st September, 2017, the concessional rate of the Goods and Services Tax (GST) at 12% [CGST at 6% +SGST at 6%] is liable for any Government Contract, whether Civil or Electrical, irrespective of the Goods and Services Tax (GST) rate applicable on purchase of goods used in the execution of Government Contract. And the GST amount will be calculated at 12% from the sum of total tendered value quoted by the tenderer for construction cost (excluding GST) specified in the BOQ, Subject to GST rate applicable from time to time as recommended by the GST Council.

INPUT TAX CREDIT (ITC)

- a) As per Notification 202, dated 29.06.2017 and as per sub-section (2) of Section 7 of the Tamil Nadu Goods and Services Act, 2017, (Tamil Nadu Act 19 of 2017), activities or transactions undertaken by State Government shall be treated neither as supply of goods nor a supply of service.
- b) As per Chapter IX (Section 41) of the Tamil Nadu Goods and Services Act, 2017, every registered person may be entitled to take the credit of eligible input tax, as self-assessed, in his return and such amount shall be credited on a provisional basis to his electronic credit ledger.
- c) As per PWD Revised SOR (2020-21), dated 20.04.2020, under General Note, 8(ix), the Contractor is eligible to get refund of excess tax paid over or liable to pay tax for this Contract Work.

TOTAL TENDER PRICE: The total tender price will be the cumulative of value quoted for construction (Total Basic Rate + GST).i.e., Total basic rate plus GST @ 12%.

12. Fundamental Breach of contract (G.C.C 59.2)

- (i) The contractor becoming insane or imprisoned shall be deemed as a fundamental breach of contract.
- (ii) The contractor shall employ project Manager and other key personnel as furnished in clause 4.5 B(b) of the Instructions to Bidders.

Recovery for non employment of key personnel :-

Failure to employ project Manager and other key personnel will attract penalty at the rate of Rs. 5000/- (Rupees five thousand only) per month for Degree holder and Rs.2000/ ((Rupees Two thousands only) for Diploma holder.

Working Season.

15. The contract period includes Irrigation, monsoon and non-monsoon seasons without any break. South west monsoon (June to September) and North East Monsoon (October to December).

Annexure I

BILL OF QUANTITIES

The approximate Bill of Quantities is indicated below to give an idea of the work which should be executed in accordance with the approved drawings and specifications to enable the bidder to furnish the lump sum price. Bidders may, however, note that no variations in the lump sum cost is acceptable (except where extra items are ordered by the Engineer).

Sl. No.	Approximate Quantity in Figures & in Words	Description of Work	Rate in Figures & In words.(Rs.)	Unit measurement in Figures & In words.	Amount Rs.
1.	216.00 M³ (Two hundred and Sixteen Cubic Metre only)	Earth work excavation for foundation and Depositing of on bank with initial lead of 10m and initial lift of 2m in hard stiff clay, stiff black cotton, hard red earth, shales, murrum, gravel, stoney earth and earth mixed with small size boulders ets., complete as directed by the Engineer in charge of works and as per the technical specifications etc complete as per specification.	Rs.107.70 (Rupees One hundred and Seven and paise Seventy only).	1 M ³ (One Cubic Meter only).	23263.20

2.	<p style="text-align: center;">61.20 M³ (Sixty one point Two zero Cubic Metre only)</p>	<p>Providing and placing in position of plain Cement concrete of grade M15 using hard well graded aggregates with the nominal maximum size of coarse aggregate of 40mm weigh batching the ingredients and mixing in approved mixers/batching plant (to produce concrete of the specified characteristic strength of 15 N/mm² at 28days) including dewatering the placement site by bailing/pumping and by diverting wherever necessary; laying the concrete in layers of not exceeding 15 cm thick and in bays; compacting and finishing the surface with all leads and lifts; watering curing complete so as to attain the profile and strength specified in the approved drawing & specifications complete as directed by the Engineer in charge of works and as per the technical specifications. (Without Vibration)</p>	<p style="text-align: center;">Rs.5337.90 (Rupees Five thousand Three hundred and Thirty seven and paise Ninety only).</p>	<p style="text-align: center;">1 M³ (One Cubic Meter only).</p>	<p style="text-align: center;">326679.48</p>
3.	<p style="text-align: center;">74.80 M³ (Seventy four point Eight zero Cubic Metre only)</p>	<p>Cement concrete M15 grade design Mix with well graded aggregates and the nominal maximum size of coarse aggregate of size 20mm weigh batching the ingredients and mixing in approved mixers/batching plant (to produce concrete of the specified characteristic strength of 15N/mm² at 28days) including dewatering the placement site by bailing/pumping and by diverting wherever necessary laying the concrete in layers and in bays vibrating, compacting and finishing the surface water curing so as to attain the profile and strength specified in the approved drawing and including the cost component of providing rigid and smooth centering for soffits of concrete slab for plain surface including shuttering wherever necessary for various depths below ground level and various heights above ground level using MS sheets of size 90 x 60 cm and BG 10 gauge stiffened with MS Angles of size 25 x 25 x 3 mm laid over silver oak joist of size 7.50 x 5 cm, spaced at 90 cm C/C and supported by casurina props of size 10 to 13 cm dia, etc., complete as directed by the Engineer in charge of works and as per the technical specifications. (With Vibration)</p>	<p style="text-align: center;">Rs.8023.65 (Rupees Eight thousand and twenty three and paise Sixty five only).</p>	<p style="text-align: center;">1 M³ (One Cubic Meter only).</p>	<p style="text-align: center;">600169.02</p>

4.	<p align="center">14.49 Qtl (Fourteen point Four nine Quintal only)</p>	<p>Supplying, fabricating and placing in position of HYSD (High Yield Strength) bars for all reinforced cement concrete works including cost of binding wire, steel rods, conveyance charges and labour charges etc., complete, complying with standard specifications and as directed by the Engineer in - charge of work.</p>	<p align="center">Rs.7839.80 (Rupees Seven thousand Eight hundred and Thirty Nine and paise Eighty only).</p>	<p align="center">1 Qtl (One Quintal only).</p>	<p align="center">113598.70</p>
5.	<p align="center">15.70 M³ (Fifteen point Seven zero Cubic Metre only)</p>	<p>Providing and placing in position of Cement Concrete of grade M 20 using hard well graded aggregates with the nominal maximum size of coarse aggregate of 20mm; weigh batching the ingredients and mixing in approved mixers/batching plant (to produce concrete of the specified characteristic strength of 20N/mm² at 28days) including dewatering of placement site by bailing/pumping and by diverting wherever necessary laying the concrete in layers and in bays, compacting and finishing, adequate water curing so as to attain the profile and strength specified in the approved drawing and specifications as per the direction of the Engineer complete in all respect but excluding the cost and placing of reinforced grill in position etc, complete as directed by the Engineer in charge of works and as per the technical specifications. (Without Vibration)</p>	<p align="center">Rs.6339.00 (Rupees Six thousand Three hundred and Thirty nine only).</p>	<p align="center">1 M³ (One Cubic Meter only).</p>	<p align="center">99522.00</p>

6.	14.00 Nos (Fourteen numbers Only.)	Fabrication, Supplying of Steel level gauge of size 100mm x 450mm. The outer frame of the board is made of 25x25x6mm M.S. Angle best quality. The corners are neatly welded to form homogeneous joint. Polyvinyl sheets is riveted to the frames by aluminum pop rivets. Necessary hold fast arrangements to fix the leveling gauge to correct position. The lettering and sticker cutting is by high quality of vinyl stickers. The cost includes cost of materials, labour charges, transportation, painting etc complete.	Rs.6000.00 (Rupees Six thousand only).	1 No (One Number only).	84000.00
	(six items only)			Rs.	1247232.40
				GST @ 12%	149667.88
				Rs.	1396900.28
					(or)
				TOTAL	1396900.00

Gross Total Estimated Cost: Rs.13,96,900 /- (Rupees Thirteen lakhs Ninety six thousand and Nine hundred Only) (including GST 12%)

We agree to execute the works in accordance with the approved drawings and technical specifications at percentage above/below the estimated rates, i.e., for a total Contract price of Rs..... (amount in figures) (Rs..... amount in words).

Signature of Contractor

**Executive Engineer, WRD.,
Periyar Main Canal Division, Melur.**

Annexure - 2

Format of certificate

Certified that the works upto ----- stage(as defined in clause 3.1 of the Agreement) in respect of On Farm Development (OFD) works for the work of Working Estimate for **On-Farm Development Works** including Flow Measuring Devices to **Kuruchipatti Cluster (CLUSTER No - 23)** Covered in **Vellalore Water Users Association (MDU - 19)** of Uppar Sub Basin (Package No.1) in Melur Taluk of Madurai District. (Package No. 01 / TN IAMP / WRD / UPR / OFD Kuruchipatti Cluster (CLUSTER No - 23)- 9 / Works / Phase II / 2021-2022)

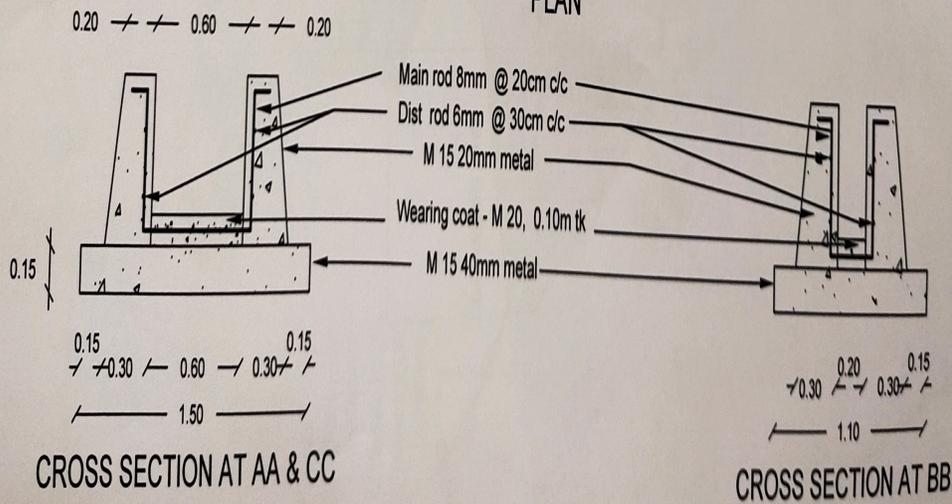
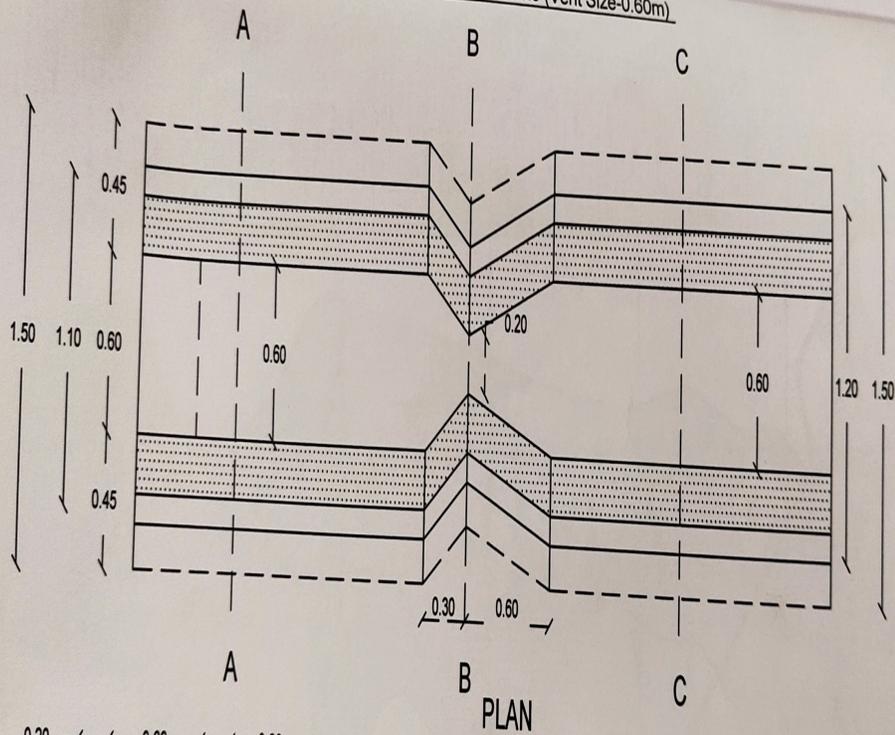
have been executed satisfactorily in accordance with the terms and conditions of the agreement and as per approved drawing and technical specifications.

Signature
Executive Engineer,WRD.,
Periyar Main Canal Division, Melur.

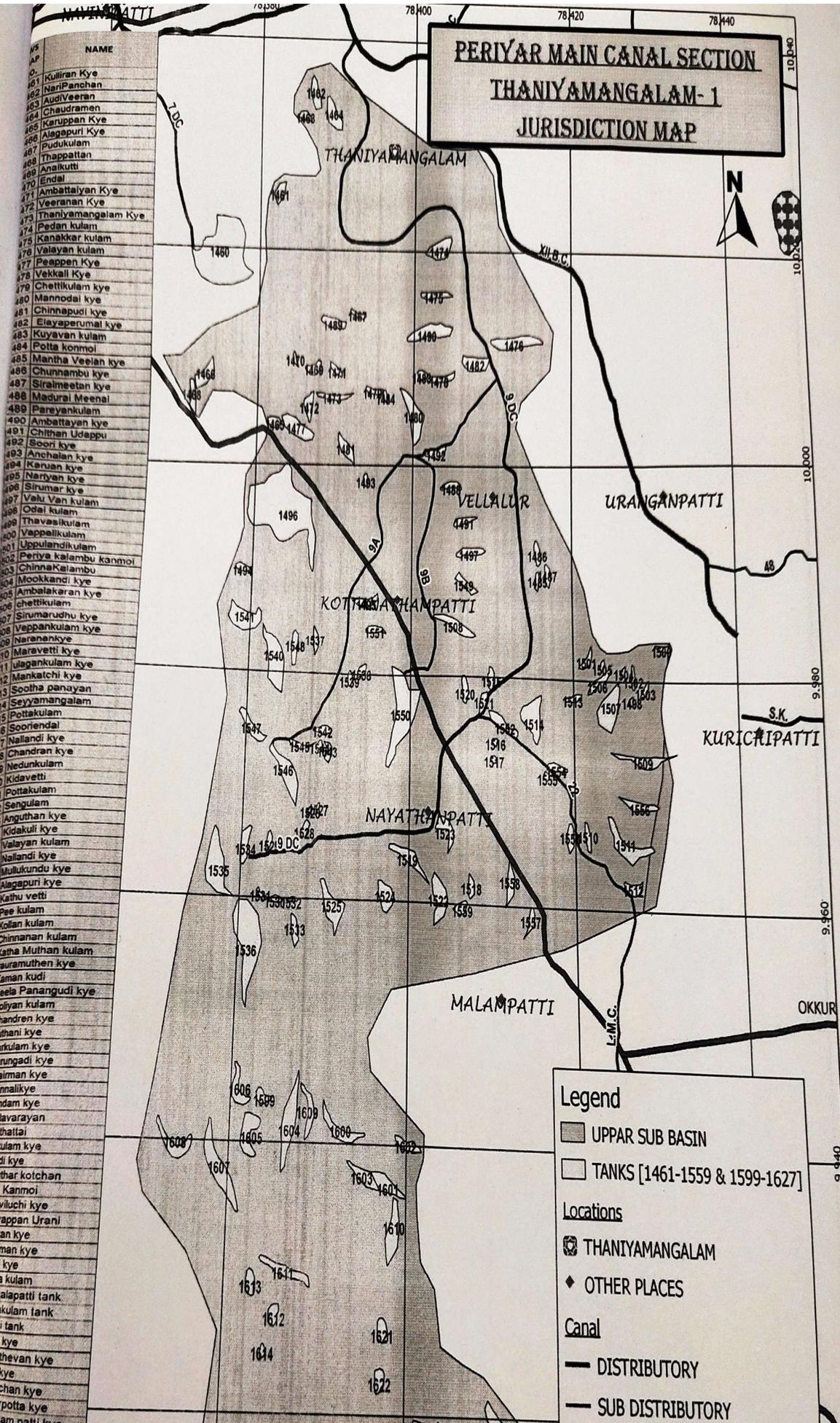
Place :
Date :Office seal

Annexure - 3
Drawings and Specifications

Reconstruction Of Field Channels (Vent Size-0.60m)



PERIYAR MAIN CANAL SECTION THANIYAMANGALAM-1 JURISDICTION MAP



NO	NAME
461	Kulliran Kye
462	NaniPanchan
463	AudiVeeran
464	Chaudramen
465	Karuppan Kye
466	Alagappuri Kye
467	Pudukulam
468	Thappattan
469	Analkutti
470	Endal
471	Ambattayan Kye
472	Veeranan Kye
473	Thaniyamangalam Kye
474	Pedan kulam
475	Kanakkar kulam
476	Valayan kulam
477	Peapen Kye
478	Vekkali Kye
479	Chettikulam kye
480	Mannodai kye
481	Chinnapuoli kye
482	Elayaperumal kye
483	Kuyavan kulam
484	Potta konmoi
485	Mantha Veelan kye
486	Chunnambu kye
487	Siralmeetan kye
488	Madurai Meenai
489	Paryankulam
490	Ambattayan kye
491	Chithan Udaypu
492	Soori kye
493	Anchalan kye
494	Keruan kye
495	Neryan kye
496	Sirumar kye
497	Velu Van kulam
498	Odai kulam
499	Thevasikulam
500	Vappalikulam
501	Uppulandikulam
502	Periya kalambu kanmoi
503	ChinnaKaiambu
504	Mookkandi kye
505	Ambalakeran kye
506	chettikulam
507	Sirumarudhu kye
508	Veppankulam kye
509	Naranenkye
510	Maravetti kye
511	ulapankulam kye
512	Mankatchi kye
513	Sootha panayan
514	Seyyamangalam
515	Pottakulam
516	Sooriendal
517	Nallandi kye
518	Chandran kye
519	Nedunkulam
520	Kidavetti
521	Pottakulam
522	Sengulam
523	Anguthan kye
524	Kidakuli kye
525	Valayan kulam
526	Nallandi kye
527	Mullukundu kye
528	Alagappuri kye
529	Kathu vetti
530	Pee kulam
531	Kollan kulam
532	Chinnanankulam
533	Katha Muthan kulam
534	Isuramuthen kye
535	Kaman kudi
536	Keela Panangudi kye
537	Polyan kulam
538	Chandren kye
539	Kuthani kye
540	Karkulam kye
541	Karungadi kye
542	Chaiman kye
543	Mannaliky
544	Sendam kye
545	Mallavarayan
546	Kiathattai
547	Elakulam kye
548	Nondi kye
549	Karuthar kotchan
550	Vela Kanmoi
551	Peruviluchi kye
552	Meyyappan Urani
553	Valuvan kye
554	Chairman kye
555	Chetti kye
556	Eluppa kulam
557	Katakaiapatti tank
558	Ammakulam tank
559	Kulandi tank
560	Kulliran kye
561	chokkathavan kye
562	Pillathi kye
563	Kollapitchan kye
564	Ayyanarpotta kye
565	Manickkam patti kye

Legend

- UPPAR SUB BASIN
- TANKS [1461-1559 & 1599-1627]

Locations

- THANIYAMANGALAM
- OTHER PLACES

Canal

- DISTRIBUTORY
- SUB DISTRIBUTORY

TECHNICAL SPECIFICATION

1. Earth work for Foundation.
2. Providing and Placing in position Plain Cement Concrete (M15, 40mm)
3. Providing and Placing in position Plain Cement Concrete (M15, 20mm)
4. Providing and Placing in position Plain Cement Concrete (M20, 20mm)
5. Supplying, Fabricating and placing in position mild steel bar ribbed tor steel

CONDITION OF THE EARTH WORK

1. The entire earthwork will be carried out in accordance with the relevant clauses of the Tamilnadu Building Practice and National Building code and confirming to the special specification set forth here under.
2. The site should be cleared before the excavation of foundation and starting of work
3. The rates specified in the schedule for the different items of works are for the finished work and no extra will be paid for incidental works like shoring, strutting, planking, sheeting etc., found necessary during excavation work.
4. The excavation and depositing of excavated soils shall be carried out as per the direction of departmental officers.
5. Each and every borrow pit will be individually marked either by the section officer or by one sub divisional officer and in urgent cases by the Technical Assistants in charge of the works subject to the approval of the Section officer . Earth should be removed only from the places marked and to the depth ordered by the above officers.
6. No borrow pits should be less than 0.5 m in depth and a gap of not less than 0.5m should be left between any two consecutive pits. The length, width and depth of pits shall be decided to suit the requirement of earth work. When they were excavated for more than 3m in width, diagonal thandoos should be provided. In case the depth of the pit has kept lower than 0.5 m as mentioned above, the prior approval of the Executive Engineer must be obtained.
7. The Contractor should not enter any private lands for removal of earth without prior written consent of the land owner and as per directions of the departmental officers. If he does so, for the unauthorized entry by the Contractor, he will be fully held responsible for any consequences.
8. The Contractor shall confine, to the areas allotted to him in the borrow areas. Any borrow pit in a area not allotted to and in reach not specifically allotted to him and in reaches allotted to other Contractor, will not be measured and the Contractor shall have no claim to such earth work. In case of any depute on classification of soils in earth work the decision of the Executive Engineer shall be final, binding on the Contractor.

9. The Contractor's responsibility for excavating earth, loading into his lorries, transporting it and unloading in places shown by the departmental officer. Whenever the earth is to be conveyed in Contractor's lorries, the earth loaded into the lorries shall be transported and unloaded at the places shown by the departmental officers. Any earth deliberately unloaded at any other place not shown by the departmental officers will be measured separately and deducted from the Contractors bill. The cost of conveying this earth will not be billed for.

10. The Contractors responsibility is for excavating earth, loading into his lorries, transporting it and unloading in places shown by the Departmental officers.

11. Whenever the earth is to be conveyed in Contractor's lorries, the earth loaded into the lorries shall be transported and unloaded at the places shown by the departmental officers. Any earth deliberately unloaded at any other place not shown by the departmental officers will be measured separately and deducted from the Contractors bill. The cost of conveying this earth will not be billed for.

ADDITIONAL CONDITIONS

1. CONCRETE

a) Only clear river sand, hard broken granite stones from the approved quarries specified in the tender schedule shall be used for the work. The broken stone shall be thoroughly washed before use.

b) All concrete for the work shall be machine mixed and vibrated. Hand mixing shall not be allowed.

c) All concrete shall be protected against injury until it is set. The Contractor must be prepared to conduct test at his own cost, on materials used in the work in standard laboratories and produce test certificate to ensure quality of materials. Exposed surfaces of concrete shall be kept continuously in a damp or wet condition for atleast 21 days. The Contractor must introduce constant and strict supervision to ensure that the specified curing is done or else the concrete shall be liable for rejection. Immediately after stripping of formwork, the contractor shall ensure that any defective work or small defects including small honeycombing are set right to the satisfaction of the Engineer-in-charge. Concrete shall be rejected if it is porous or highly honeycombed or the reinforcement has been displaced beyond the specified tolerance.

The holes left in the concrete surface by the steel bolts or tie rods etc., shall be reamed, cleaned and filled with dry pack mortars and such filling shall be made flush with the concrete surface.

d) The Contractor must be prepared to conduct test at his own cost, on materials used in the work in standard laboratories and produce test certificates to ensure quality of materials.

2. STONE MASONRY

- a. Only clean river sand and good stone shall be used on the works .
- b. In all walls up to a width of 60cms bond stones running to the full width of the wall shall be provided at an interval of 1.80 meters in a line of headers, each header overlapping the other by 30 cms or more shall be provided from front to back at 1.80 m interval in every course. Care shall be taken not to place the bond stones of successive courses over each other. The position of bond stones shall be marked on both the faces for identification and verification (tar marking where plaster is to be applied will suffice).

3. ROUGH STONE AND GRAVEL FOR REVETMENT AND APRON;

- a). Rough stone and gravel should be stacked for premeasurement at the site of work. The rough stone of 110 cft including chips will be reckoned as 100 cft while 115 cft of gravel is required for 100 cft of finished work.
- b) Payment for these items will be restricted to the quantity based on stack measurement or finished work whichever is less. When the revetment should be built up to uniform depth as directed by the departmental officers, each stone should run to the full depth of the revetment.
- c) The new chips required for the revetment shall be stacked for pre-measurements without any extra claim.

SPECIAL CONDITIONS FOR STEEL

MATERIALS

- 1) The Contractor shall make his own arrangements to procure all materials like cement, steel, binding wire and other materials required for the work, at his own cost.
- 2) In case where the Contractor is required to procure steel for the work, he shall always purchase and use on work, high yield strength deformed (H.Y.S.D) steel bars of Grade Fe 415 confirming to I.S.1786-1985 specification used for cement concrete (Unless shown otherwise on the drawings).
- 3) The Contractor shall always purchase the steel rods as fresh as possible after manufacture and he shall on demand by the Executive Engineer, furnish a laboratory test certificate of the characters of the material, with the approval of the consignment of steel rods and for each category of rods (each dia) samples of rods will be selected for testing by department officer. Each consignment and cost of testing at the Government authorised institution will have to be borne by the Contractor.

The quality of steel rods produced shall be in accordance with the B.I.S. standard. The quality tests shall be conducted by the Contractors at their own cost in the Government testing laboratories or in the laboratories of Public Works Department if available at various stages. Public Works Department has the liberty to confirm the quality of the materials supplied by the Contractor at various levels and stages at their own laboratory at the cost of Contractor.

- 4) The Executive Engineer shall reject any cement and steel which is proved to be not according to standards.

AGGREGATES :

Aggregates shall comply with the requirements of IS.383-1970. Both fine and coarse aggregate shall be well graded. The aggregate shall be hard, durable and free from impurities. The fine aggregate viz., sand shall be clean, dense and free from silt, clay and other impurities.

Water : Water used for mixing and curing shall be clean and free from injurious amounts of oils, acids, alkalies, salts, organic materials etc., Potable water is generally considered satisfactory for use in concrete laying.

PLACING

REINFORCEMENT BARS :

Reinforcement bars shall be placed in the concrete as shown in the drawings. This work shall include cutting, bending, cleaning, placing and fixing in position.

The steel reinforcement shall be arranged by the contractor.

Unless otherwise shown in the drawings, the reinforcement used shall be High Yield Strength Deformed (HYSD) bars conforming to IS.1785-1985.

Tested quality of steel reinforcement bars shall be procured and used by the contractor and requisite IS test certificates are to be provided to the Engineer in charge before the use of reinforcement on the work by the contractor.

Steel bars shall be stored by the contractor in such way as to avoid distortion and present deterioration by corrosion.

Bar shall be bent cold to the specified shape and dimensions by a bar bender by hand as shown in the drawing. The bars shall not be heated to facilitate bending. Bars shall not be straightened in a manner that would injure the material.

Bar bent during transportation and handling shall be straightened before being used on work.

Bars shall not be allowed to sag between supports. These shall not be allowed to be displaced during concreting or any other operation during the work.

The Contractor must ensure that there is no disturbance caused to the reinforcing bars already placed in concrete. All devices used for positioning of bars shall be of non-corrodible material. Pieces of broken stone, brick or wooden blocks shall not be used.

1. The arrangement of steel rods for reinforcement for R.C.C. works shall be in accordance with departmental drawings supplied. For anchoring the concrete to the hard rock, provision of anchor rods is made in the drawings and the Contractor shall place these anchor rods to the spacing and depth as shown in the drawings.

2. Reinforcement shall be bent and fixed in accordance with the procedure specified in IS.2502-1963 (code of practice for bending and fixing of bars of concrete) All reinforcement shall be placed and maintained in position as shown in the drawings.

3. The rates for fabrication works should include all operations such as bending rods, binding wires, fixing grills and placing in position. The payment will be made on the basis of the weights of steel rods only. The diameter and linear length of rods will be measured after grills are tied and fixed in position unless otherwise prescribed. Placement dimensions shall be to the centre line of bars.

Reinforcement will be inspected for compliance with requirements as to size, shape, length, splicing, position after it has been placed but before laying concrete. Before reinforcement is embedded in concrete, the surface of the bars shall be cleaned of heavy flaky rust, if opinion of the Engineer in charge are objectionable. Heavy flaky rust than can be removed by firm rubbing with bulb.

As specified in the clause 11.3 of I.S. 456-1978 unless otherwise specified by the Engineer in charge, reinforcement shall be placed with the following tolerances.

- a) For effective depth 20 min or less plus or minus 10 mm
- b) For effective depth 20 more than 20 mm plus or minus 10 mm.

The cover in no case be reduced by more than one-third of specified cover of 5mm whichever is less. Reinforcement shall be securely held in position so that it will not be placed during placing of concrete. Special care shall be exercised to prevent any disturbances of the reinforcement in concrete that has already been placed. Welding of bars shall be done as directed by the Engineer in Charge in conformity with the requirement of clause 11.4 of I.S.456-1978 Chairs, hangers, spacers and other supports for reinforcement shall be concrete in total or other approval materials. Concrete shall be as shown in the drawings.

C. MEASUREMENT

The diameter, linear length of rods will be measured when grills are tied and fixed in position. The length measure will include overlaps. But overlaps which are not authorised by the Engineer in Charge will not be measured. Overlaps on account of the Contractor will not be measured. The waste cut bits will not be measured. The position on the overlaps should be got approved by the Engineer in Charge, before grills are tied. The rates furnished are inclusive of binding wires and should be supplied by the Contractor for which no extra payment will be given. The Engineer in charge will supply drawings of reinforcement details and bar bending schedules for adoption.

FORM WORK

Forms shall have adequate strength to withstand the pressure resulting from concrete placement and vibrations and shall be maintained rigidly in position.

The Contractor shall ensure that the forms are mortar-tight and water tight or loss of water from concrete during concrete placement. Loss of mortar would result in honey combing and loss of water would cause sand streaking. Concrete shall be rejected if found associated with these defects.

CRUSHED STONE SAND (M SAND):

Crushed stone sand confirming to IS codes: IS-383/2016, IS-2116/1980, IS-1542/1992 and as specified by the Engineer in charge of the work should be used. The term clear river sand should be replaced by the crushed stone sand in all places of this Tender document.

Performance Security - Bank Guarantee

[Guarantor letterhead or SWIFT identifier code]

Performance Guarantee No.....*[insert guarantee reference number]*

Date.....*[insert date of issue of the guarantee]*

To: The Executive Engineer, PWD, WRD.,
Periyar Main Canal Division, Melur.

WHEREAS _____ *[name and address of Contractor]*
(hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. _____
dated _____ to execute On Farm Development (OFD) works for the work of
Working Estimate for **On-Farm Development Works** including Flow Measuring Devices
to **Kuruchipatti Cluster (CLUSTER No - 23)** Covered in **Vellore Water Users
Association (MDU - 19)** of Uppar Sub Basin (Package No.1) in Melur Taluk of Madurai
District. (Package No. 01 / TN IAMP / WRD / UPR / OFD Kuruchipatti Cluster
(CLUSTER No - 23)- 9 / Works / Phase II / 2021-2022)

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
guarantee¹]* _____ *[in words]*, such sum being payable in the
types 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 or of the Works to be performed thereunder or of any of the Contract
documents 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 of any such
change, addition or modification.

This guarantee shall be valid until (i.e.) 28 days from the date of expiry of
the Defects Liability Period, and any demand for payment under it must be received by us
at this office on or before that date.

Signature and seal of the guarantor _____

Name of Bank _____

Address _____

Date _____

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

Section C. Fraud and Corruption
(Text in this Section shall not be modified)

1. Purpose

1.1 The Bank's Anti-Corruption Guidelines and this annex apply with respect to procurement under Bank Investment Project Financing operations.

2. Requirements

2.1 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders, consultants, contractors and suppliers; any sub-contractors, sub-consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption.

2.2 To this end, the Bank:

- a. Defines, for the purposes of this provision, the terms set forth below as follows:
 - i. "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
 - iii. "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
 - iv. "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
 - v. "obstructive practice" is:
 - (a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
 - (b) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 2.2 e. below.
- b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees,

has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

- c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- d. Pursuant to the Bank's Anti- Corruption Guidelines and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;¹ (ii) to be a nominated² sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;
- e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders, consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents personnel, permit the Bank to inspect³ all accounts, records and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank.

¹ For the avoidance of doubt, a sanctioned party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

² A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

³ Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Bank or persons appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.