

BID IDENTIFICATION NO: - 1922// Dt. 27.12.2022 //



GOVERNMENT OF ODISHA

FISHERIES & A.R.D. DEPARTMENT

DETAIL TENDER CALL NOTICE

FOR THE WORK

**“UP-GRADATION & RENOVATION OF REDHAKHOLA FISH FARM
IN SAMBALPUR DISTRICT”**

ESTIMATED COST PUT TO TENDER: ₹ 44,26,891.00

**EXECUTIVE ENGINEER (CIVIL) DIRECTORATE OF FISHERIES,
ODISHA, CUTTACK**

**OFFICE OF THE EXECUTIVE ENGINEER (CIVIL)
DIRECTORATE OF FISHERIES, ODISHA, CUTTACK**

DETAIL TENDER CALL NOTICE

1. Sealed tenders(Percentage rate bids) in prescribed form to be eventually drawn up in P.W.D. form No. P-1 will be sold & received up to **2.00 P.M** on **Dt. 20.01.2023** by the **Executive Engineer[c] Directorate of Fisheries Odisha, Cuttack / District Fisheries Officer, Sambalpur** for the work **“UP-GRADATION & RENOVATION OF REDHAKHOLA FISH FARM IN SAMBALPUR DISTRICT”** from **“B”** class contractors and will be opened by the **Executive Engineer[c] Directorate of Fisheries Odisha, Cuttack** in the presence of the tenderer or their authorized agents who wishes to attend at **11:30 A.M. on Dt. 24.01.2023**. The amount of the estimate is approximately **₹ 44,26,891.00**
2. The tenderer should please note that the work will have to be completed within **06 [Six] calendar months**, commencing from the date of issue of work order. Before acceptance of tender the successful bidder will be required to submit a work programme and milestone basing on the financial achievement so as to complete the work within the stipulated time and incase of failure on the part of the agency to achieve the milestone liquidated damage will be imposed. Without these Programme of works, the tender will not be accepted. Authority for acceptance of tenders would rest over the Executive Engineer (Civil) Directorate of Fisheries, Odisha Cuttack.
3. The tender call notice can be seen from official web site of Government of Odisha (<http://www.orissa.gov.in>) The bidding documents can also be downloaded from internet site. The bidder who down load the bidding document from the internet site will have to pay the cost of bid document i.e. **[Rs. 6,000/-]** in shape of demand draft from any nationalized bank payable at **Cuttack** in favour of **Executive Engineer[c] Directorate of Fisheries Odisha, Cuttack** and submit the demand draft in separate envelop marked **‘cost of the bidding document downloaded from internet ‘** with bid documents. The authority will not responsible, if any portion of the approved documents available in the office of **Executive Engineer[c] Directorate of Fisheries Odisha, Cuttack** is excluded or modified. The download facility will be available up to last date of sale of tender papers. The cost of bid documents is not refundable.
04. Tenderer are required to pay earnest money **Rs. 44,300.00** Either in shape of NSC / KVP / BANK GURANTEE/FIXED DIPOSIT / TDR from any nationalized bank payable at **CUTTACK** or / Postal Savings pass book / Postal Office Time Deposit Account only, duly pledged in favour of **Executive Engineer[c] Directorate of Fisheries Odisha, Cuttack** otherwise tender will not be considered.
05. Bidding documents requested by mail will be dispatched by registered/speed post on payment of an extra amount of Rs.500.00 (Rupees five hundred) only over the cost of documents. The Department will not be held responsible for the postal delay if any, in the delivery of the documents or non-receipt of the same.
06. If the tender documents sent through registered / speed post, do not reach in the concerned office by the above date and time, the offer will not be considered on any account even if the tender documents were dispatched by the tenderer before the due date.

07. The tender is to be submitted with EMD, signed DTCN, attested copy of registration certificate, PAN card, valid GSTIN, original Money Receipt, certificates duly filled-in and documents required as per the relevant clauses of this DTCN and special conditions if any. The cover is to be sealed and super scribed for the work **“UP-GRADATION & RENOVATION OF REDHAKHOLA FISH FARM IN SAMBALPUR DISTRICT”** In order to ensure that the envelopes are properly sealed, the contractor can seal them with superglue and also add tamperproof tapes as additional precaution. Bidders desirous to hire machineries or equipments from outside the state are required to furnish 2% of the amount put to tender as Bid Security. The bidder claiming for exemption of EMD amount must submit application separately for such purpose along with the documentary proof in Original on the date & time of opening of tender otherwise his tender is liable for rejection.
08. The tenderer are not required to write their name on the outer cover containing the bid documents. They are only required to write the name of the work and authority who had issued the tenders. The tender submitted in the wrong box shall not be taken in to consideration.
09. Additional Performance Security shall be furnished by the successful bidder when the bid is less than estimated cost put to tender. In such an event the following provisions has been made for submission of A.P.S. **If the bidders who have quoted below 5% less bid price / rates than the estimated cost put to tender - No A.P.S is required. If the bidder has quoted from 5% and above and below 10%, he has to furnished 50% of the differential cost i.e., 50% of estimated cost put to tender minus the quoted amount as Additional Performance Security. Again, if the bidder has quoted from 10% and above he has to furnished 150% of the differential cost i.e. 150% of estimated cost put to tender minus the quoted amount as Additional Performance Security** , in shape of Term Deposit Receipt of any scheduled Bank / Kissan Vikash Patra / Post Office Savings Bank Account / National Savings Certificate / Postal Office Time Deposit Account only, duly pledged in favour of the **Executive Engineer[c] Directorate of Fisheries Odisha , Cuttack**, in a sealed envelope along with the price bid at the time of submission of bids. The successful bidder have to furnished the exact amount of differential cost as additional performance security within **7 [Seven] days** of intimation, failing which, his bid will not be taken in to consideration. The Earnest Money Deposit of the unsuccessful tenderer who are not awarded with the work will be refunded on application after the tender is finalized.
10. Besides the earnest money deposit and initial security deposit, contractors of all class except C&D class will be required to furnish security deposit by way of deduction from their bills at the rate of 5% of the gross amount of each bill whereas in case of C&D class contractor , such deduction will be made at the rate of 3% of the gross amount of each bill . Thus the total securities deposit from the contractor will be 7% for super , special , A & B and 5% for ‘C’ and ‘D’ class contractor as case may be.
11. In case of Govt. parties, co-operative Societies Diploma or Degree holders in Engineering who are registered with the Department , the rules framed by the government from time to time about EMD deposit , initial security deposit will apply.
12. The Bids will be opened on **Dt. 24.01.2023** at **11:30 A.M** by **Executive Engineer[c] Directorate of Fisheries Odisha, Cuttack**, in the office of the **Executive Engineer[c] Directorate of Fisheries Odisha, Cuttack** in the presence of the bidders or their authorized representatives who wish to attend. If the office happens to be closed on the last date of receipt or opening of the bids as specified, then the bids will be received / opened on the next working day at the same time and venue unless otherwise notified.
13. The plan and specifications for the work can be seen in the Office of the **Executive Engineer[c] Directorate of Fisheries Odisha, Cuttack** during working hours and days,

Complaints at a future date that the plan and specifications have not been seen cannot be entertained. The Contractor may obtain a set of tender documents for the work from the office of the **Executive Engineer[c] Directorate of Fisheries Odisha, Cuttack / District Fisheries Officer, Sambalpur** on payment of **Rs. 6,000.00**, which is non-refundable. The name of the work should be super scribed on the top of the cover.

14. All other information's can be obtained on application to the **Executive Engineer[c] Directorate of Fisheries Odisha, Cuttack.**
15. The Executive Engineer (C), Directorate of Fisheries Odisha reserves the right to reject any or all the tenders without assigning any reasons thereof.
16. The tenderer whose tender is selected for acceptance shall within a period of seven days upon written intimation being given to him of acceptance of his tender make an initial security deposit of 1% (One percent) of the tendered amount, so that the earnest money and initial security deposit will be 2% of the tendered amount and sign the agreement in the P.W.D. form No. P-1 for the due fulfillment of the contract in the office of the **Executive Engineer[c] Directorate of Fisheries Odisha, Cuttack.**
17. This security deposit, together with the earnest money and the ISD amount withheld according to the provision of P-1 agreement shall be retained as security deposit for the due fulfillment of this contract. Failure to enter into the required agreement and to make the security deposits above shall entail forfeiture of the earnest money. No tender shall be finally accepted until the required amount of security money deposited. The written agreement to be entered into between the Contractor and the Govt. shall be the foundation right of the parties and the contract shall be deemed to be incomplete until the agreement has first been signed by the contractor and then by the proper officers authorized to enter into the contract and then by the proper officers authorized to enter into the contract on behalf of the Govt. The Dept. will accept the security deposits in the form of NSC / KVP / BANK GUARANTEE/FIXED DIPOSIT / TDR (from any nationalized bank payable at (**Cuttack**) or / Postal Savings pass book duly pledged in favour of **Executive Engineer[c] Directorate of Fisheries Odisha, Cuttack** and in no other form.
18. The rates (in percentage of excess / less / at par the estimate value) should be quoted in words and figures otherwise the tender will be liable for rejection.
In case of discrepancy in rates between words and figures, the rate in words shall prevail and in case of discrepancy between units. rate & totals the unit rate shall prevail. The tender shall be written legibly and free from erasures, over writings or in cases where corrections are unavoidable the same should be made by scoring out. initialing dating and rewriting.
19. The contractors will be responsible for payment of all royalties or other charges for quarrying materials. All local taxes inclusive of State Sales Tax & Income tax, Ferry. Tollage Charges, Octroi taxes, labour **CESS** is to be paid by Contractor.
20. The tender may not, at the discretion of the competent authority be considered unless accompanied by attested copies of Valid Registration Certificate, the original money receipt towards purchase of tender documents , GST certificate, Pan card. non- assessment certificate. The original certificates of the same only should be produced before the **Executive Engineer[c] Directorate of Fisheries Odisha, Cuttack** for verification with in **3(three)days** of opening of tender, otherwise the bid shall be considered as non – responsive and thus will be summarily rejected.
21. If the contractor removes any materials or stock so supplied to him from the site of work with a view to dispose of the same dishonestly. he should in addition to any other liability. Civil or Criminal arising out of the contract be liable to pay a penalty equivalent to five (5) times the price of the materials or stock according to the stipulated rates and the penalty so imposed shall

be recovered from any sum that may then or at any time thereafter become due to the contractor or from his security or from the 'proceeds of sales thereof.

22. The contractor should be fully liable to indemnify the department for payment of any compensation under 'Workmen's' compensation Act VIII of 1928 on account of the workman being employed by him and the full amount of compensation paid will be recovered from the contractor.
23. Every tenderer must examine the detailed standard specification of Odisha before submitting his tender. The right is reserved without impairing the contract to make such increase or decrease in the quantities or items of work mentioned in the schedule attached to the tender notice as may be considered necessary to complete the work fully and satisfactorily. Such increase or decrease shall be in no case invalidate the contract or rates. It shall be understood that the Govt. do not accept any responsibility for the correctness or completeness of the quantities shown in the Schedule. The schedules are liable to alternation by omission, or additions and such omissions or deductions shall in no case invalidate the contract and no extra monetary compensation will be entertained.
24. The following materials will be supplied by the Department to the contractor at Godown at the price inclusive of storage charges as noted against each. After issue it will be contractor's responsibility for safe custody and upkeep of materials. He has also to bear all incidental charges such as transportation. Storage handling and return of empty cement bags and empty paint drums at the issuing stores. His rates quoted for the work to be inclusive of all such charges.
- (a) Cement in gunny bags at the rate of Rs-..... Rupees (.....-.....) per quintal excluding cost of empty gunny bags
- (b) Paints.
- (c) M.S. Rods will be supplied at the rate of Rs-...../ Qntl.
- (d) Tor steel will be supplied at the rate of Rs-...../ Qntl.
25. All the materials which are to be supplied from P. W.D. Stores will be as per the availability of stock and the contractor will have to bear charges of straightening cutting, jointing, welding cranking, hooking etc. of M.S. Roads or tor steel to required size. No cut pieces of M.S. rods, M. S. Angles, Tees & joints etc. will be accepted back as surplus and all these will be contractor's property. After issue from the P. W.D. stores the materials will be under the custody of the contractor and the contractor will be responsible for its safety and storage.
26. Empty cement bags and empty paint drums etc. are to be returned in good and serviceable conditions at the issuing stores failing which Rs-..... (Rupees-.....) only will be recovered per bag and per drum respectively from the contractor.
27. All reinforced cement concrete work should conform to Orissa Detail standard specification and should be of proportion 1 :2:4 / 1 :1/2:3 having minimum compressive strength in work test of 150 Kg / cm² / 200 Kg / Cm² in 15 Cm cubes at 28 days after mixing and tests conducted in accordance with IS: 1456 & 516 using 12 mm to 20 mm size hard black broken granite chips (20 mm size not to exceed 25%).
28. Shuttering and centering shall be with seasoned Sal wood planks and the Inside of which shall be lined with suitable sheeting and made leak proof and water tight or alternatively steel shuttering may be used.
29. The selected contractor may take delivery of departmental materials according to his need for the work issued by the Sub -Divisional. Officer or Assistant Engineer in charge of the work. The contractor shall make all arrangements for proper storage of materials, but no cost for

shed for the storage of materials and pay of watchman etc. be borne by the Dept These are also to be borne by the contractor. The department is not responsible for considering the theft of materials at site. It is contractors risk under any such circumstances if the contractor stops the work he shall have to pay the full penalty as per clauses of the P1 contracts.

30. For the purpose of jurisdiction in the event of dispute if any, contract should be deemed to have entered into within the state of Orissa and it is agreed that neither party to the contract nor the agreement will be competent to bring a suit in regard to the matters covered by this contract at any place outside the State of Orissa.
31. After the work is finished all surplus materials and debris are to be removed by the contractor and preliminary work such as Vat, mixing platform etc. are to be dismantled and all the materials are to be removed from the site. The ground up to 30 M (100 Ft) wide from the building should be cleared and dressed.
No extra payment will be made to the contractor on this account. The rate quoted should be inclusive of all these items.
32. The contractor shall not interfere with the execution of water supply or Electrical fitting arrangements and any other works entrusted to any other agency by the department at any time during the progress of the work.
33. The Department will have the right to inspect the scaffolding & centering made for the work and can reject partly or fully such structures if found defective in their opinion.
34. The contractor will have to arrange for water supply for all works and make necessary sanitary arrangements at his own cost for his labour camp. Contractor has to arrange adequate lighting arrangements for night work whenever necessary at his own cost.
35. Bailing out water from the foundation either rain water or subsoil water if necessary should be borne by the contractor. No payment will be made for bench marks, level pillars, profiles & benching and leveling round where required. The rates quoted should be for finished items of work inclusive of those incidental items of work.
36. All the quantities mentioned in the schedule are combined for ground floor and multi floors in case of multi-storied building and the rates should be through for the same.
37. Cement concrete in roof slab, beams etc. wherever prescribed by the Engineer-in-charge shall be machine mixed and vibrated and the contractor should arrange his own concrete mixers, vibrators, pumps etc. for the purpose.
38. It should be understood clearly that no claim what so ever will be entertained in regard to extra items of works or extra quantity of any items besides estimated amount. A written order must be obtained from the responsible works officer of fisheries department. and rates settled for the extra items of works or extra quantity of any item of work according to clause II of P1 contract The rates of any item not covered in the Agreement will be arrived on derivation from the rate of same class of item of work with any different specification provided in the agreement with addition or subtraction of corresponding cost of materials. In case, no rate can be derived from the agreement, the same will be arrived or derived from the schedule of rates in vogue at the time of actual execution of that item of work.
39. The tenderer shall have to abide by the OPWD safety code rules introduced by the Govt. of India Ministry of Works, Housing & Supply in their standing order No. 44 to 50 Dt. 25-11-57 which can be seen in the office of the Executive Engineer(C) Directorate of Fisheries, Orissa, Cuttack on working hours and days.
40. Tenderer are required by the Fair wage clause as introduced by the Govt. of Orissa, Works Dept. No. CA. VIIIIR 18/52-25 Dt. 26-2-55 & No.11 M/ 56/61-28842 (5) Dt. 27-9-61 in case of

any complaint by the labourers working about the nonpayment or less payment of his/her wages as per minimum wages act the Executive Engineer will have the right to investigate and if contractor is found to be in default he may recover such amount from the dues of the contractor and pay the due amount to such labourer directly under intimation to the local labour officer and the Govt. and the decision of the Executive Engineer(C) Directorate of Fisheries, Orissa, Cuttack will be final and binding on the contractor

41. The department will have the right to supply at any time in the interest of the work any departmental materials to be used in the work, in addition to those mentioned In the clause and the contractor shall use such materials without any controversy or dispute on that account. The rates of such materials will be at the stock issue rates fixed by the department plus storage charges or market rates whichever is higher.
42. The contractor will be responsible for the loss or damage of any departmental materials equipments supplied to him under clause 13/30 during execution of the work due to reasons whatsoever and the cost of such materials will be recovered from him at the prevailing stock issue rate plus storage charges or market rates whichever is higher.
43. The contractor should arrange at his own cost necessary tools & plants, machines, concrete mixers & Vibrators & other machineries such as pumps etc. required for the efficient execution of the work and the rates quoted should be inclusive of the running charges of such plant and cost of consumables.
44. The contractor will have to submit the **Executive Engineer[c] Directorate of Fisheries Odisha, Cuttack** monthly return of labour both skilled and unskilled employed by him on the work.
45. The tenderers are required to go through such clause of P. W.D. Form No F2 carefully in addition to clause mentioned herewith before tendering. No part of the contract shall be sublet without written permission of the Executive Engineer(C) Directorate of Fisheries, Odisha, Cuttack or transfer made by power of attorney authorizing others to receive payment on the contractor's behalf.
46. If further necessary information is required, the **Executive Engineer[c] Directorate of Fisheries Odisha, Cuttack** will furnish such, but it must be clearly understood that the tenders must be received in order and according to instructions.
47. Cement shall be used by bags and weight of one cubic meter of cement being taken as 14.42 quintals.
48. In the event of any delay due to Dept. in the supply of departmental materials or supply of detailed structural designs for unavoidable reasons, reasonable extension of time will be granted on the application of the contractor. But no claim for monetary compensation will be entertained under any such circumstances for which a no claim undertaking has to be furnished by the contractor in the prescribed Performa along with the application for extension of time submitted by him.
49. No contractor will be permitted to furnish their tenders in their own manuscript papers.
50. Every tenderer is expected before quoting his rates to inspect the site of proposed work. He should also inspect the quarries and satisfy himself about the quality, availability of materials, medical aids. labour & food stuffs etc. and the rates should be inclusive of all those Items of work. In every case the materials must comply with the relevant specifications and samples of stones, metals, chips etc. and other materials to be used are to be deposited in sealed bags duly labeled noting the name of quarry under dated initials by the tenderer for approval of the Executive Engineer(C) Directorate of Fisheries, Odisha, Cuttack

51. Govt. will not however, after acceptance of contract rate pay any extra charges for lead or any other reasons in case the contractor is found later on to have misjudged the materials available.
52. All fitting for doors & windows if supplied by the Contractor should be of best quality and should be got approved by the Executive Engineer(C) Directorate of Fisheries, Odisha ,Cuttack before they are used in the work.
53. The tenders containing extraneous conditions not covered by the tender call notice are liable for rejection.
54. The contractor shall have to furnish a certificate along with tender to the effect that he is not related to any officers of the rank of Asst. Engineer and above and any officer of the rank of Under. Secretary & above of the Fisheries Department.
55. All the tenders received will remain valid for a period of ninety days from the date of receipt of tenders. The period of validity can also be extended if agreed to by the Dept. and the contractor.
56. After completion of the work the contractor shall arrange at his own cost all requisite equipment for testing building if found necessary and bear the entire cost of such test.
57. Tenderers are required to submit (1) a list of works in their hands in the prescribed proforma enclosed herewith (2) list of T & P (3) List of works executed along with the tender.
58. Letter etc. found in the tender box raising or lowering rates or dealing with any point in connection with the tender will not be considered.
59. All reinforced cement concrete works like lintels, column, beam, chajja. Roof slab & other such works should be finished smooth and No extra charges for plastering if required shall be paid by the Dept.
60. The contractor shall employ one or more Engineering Graduate or Diploma Engineers as apprentices at his own cost for works costing As. 2.5 lakhs or more. The period of employment will commence within one month from the date of issue of work order and would last till the date when 90% of work is completed Number of apprentices employed should fixed by Executive Engineer in a manner so that the total expenditure does not exceed 1 % of the Tendered cost of the work (under works & Transport Dept. No. 67811 Dt. 12-8-67).
61. The tenderer shall bear cost of various incidental sundries and contingencies necessitated by work falling within the following or similar category.
 - (a) Rent royalties and other charges of materials. Octroi duties, all other taxes Including sales tax, ferry/ tools conveyance charges and other cost on account of land and building including temporary building required by the tenderer for collection of materials storage housing of staff or other by the tenderer for purpose of the work. No rent will however be payable to Govt. for temporary occupation of land or owned by Govt. at the site of the work.
 - (b) labourers camp or huts necessary to a suitable scale including conservancy and sanitary arrangements there in to the satisfaction of the local health authorities.
 - (c) Suitable water supply including pipe water supply wherever available for the staff and the labour as well as for the work.
 - (d) Fees and dues levied by the Municipal Canal or water supply authorities.
 - (e) Suitable equipments and wearing apparatus for labour engaged in risky operations.

- (f) Suitable fencing barriers signals including paraffin & electric signals where necessary at works and approaches in order to protect the public and employees from accidents
- (g) Compensation including cost of any suits for injury to persons or property due to neglect or any major precautions and also sums which may become payable due to operation of workmen compensation act.
- (h) The contractor has to arrange adequate lighting arrangements for night work wherever necessary at his own cost.
- (i) The contractor has to arrange all the building materials including equipments required ... undertaking under-reamed piles foundation for starting the work, If required
62. 1% (One percent) of gross amount of the bill be deducted towards Income-tax from the contractors bills.
- 63 (a) If during the progress of work the price of any materials in the work not being materials supplied from the Engineer-in-charge's stores (in accordance with clause hereof) increase or decrease as a result of increase or decrease in the average wholesale price index (all commodities). and the contractor thereupon necessarily pays In respect of that material (incorporated in the work) such increased or decreased price then he shall be entitled to reimbursement or liable to refund quarterly, as the case may be such an amount, as shall be equivalent to the plus or minus difference of 75% in between the average wholesale price index (all commodities) which is operating for the quarter under consideration and that operated for the quarter in which the tender was opened. as per the Formula indicated below-

Formula to calculate the .increase or decrease in the price of material

$$V_m = \frac{0.75 \times p_m}{100} \times \frac{R(1-I)}{10}$$

V_m = Increase or decrease in the cost of work during the quarter under consideration due to change in the price of materials.

R = The value of work done in rupees during the quarter under consideration.

IO = The average wholesale price index (all commodities) for the quarter In which the tender was opened as published in the Indian labour journal/Economic Adviser, Ministry of Industries, Govt. of India.

I = The average wholesale price index (all commodities) for the quarter under consideration.

P_m =percentage of material component as per Sub-clause of this clause.

- (b) Similarly, if during the progress of work, the wage of labour increases or decreases as a result of Industrial workers (Wholesale price) which is operating for the quarter under consideration and that operated for the quarter in which the tender was opened as per the formula Indicated below :-

Formula to calculate the increase of decrease in the cost of labour

VI = Increase or decrease in the cost of work during the quarter under consideration due to change in the rate of labour.

R = The value of work done in Rupees during the quarter under consideration.

IO = The average consumer's price Index for the quarter industrial workers (wholesale price) for tM quarter in which tender was opened.

I = The average Consumer's Price Index for Industrial workers (Whole sale price) for the quarter under consideration

PI = Percentage of Labour Component as per Sub-clause of this clause

- (c) Similarly, if during the progress of work, the price of petrol. Oil and lubricants (Diesel Oil being the representatives for price adjustment) increases or decreases as a result of the price fixed therefore by the Govt. of India and the contractor thereupon necessarily and properly pays such increased or decreased price towards petrol, PO L and Lubricants used in execution of the work. then he shall be entitled to reimbursement or liable to refund, quarterly as the case may be such difference in an amount, as shall be equivalent to the plus or minus difference in between the price of POL which is operating for the quarter under consideration and that operated for the quarter in which the tender was opened as per the formula indicated below

Formula to calculate the increase or decrease in the price of POL KI =

$$0.75 \times \frac{R_2}{R_1} \times R \times \frac{(D_2 - D_1)}{100}$$

- KI = Increase in the cost of work during the quarter under consideration due to change in the price of PO.L.
- R = The value of work done in Rupees during the quarter under consideration
- DI = Average price per liter of diesel Oil was fixed by the Govt. of India during the quarter in which the tender was opened.
- D2 = Average price per liter of diesel Oil which is fixed during the quarter under consideration.
- K2 = Percentage of P.O.L. component as per Sub-clause of this clause

- (d) The following shall be the percentage of materials, labour and P.O.L. Component for reimbursement refund on variation in price of material, labour and P.O.L as per Sub-clause (a), (b) & (c) of this clause.

(Category of Work W	Contractor's supply			Dept. supply of materials
	% of Material	% of Labour	% of P.O.L.	
Irrgn. Works				
(A) Structural works	20%	30%	5%	45%
(B) Earth work, Canal work embankment work etc.	20%	60%	5%	15%
R & B Work :	20%	30%	5%	45%
(a) Bridge work	45%	40%	5%	10%
(b) Road Work	30%	30%	5%	35%
(c) Building Work				

ick is supplied by the Dept. It should be 20% instead of 30%)

- (e) Reimbursement/refund on variation in price of materials, labour and POL as per Sub-clause (a), (b) and (c) of this sub-clause shall be applicable only in respect of contract of one year or .more provided that the work has been carried out within the stipulated time or extension thereof as for not attributable to contractor. However the original contractual period is less than one year but subsequently it has been validly extended and the period becomes one year or more escalation clause shall be applicable only for the balance portion of work to be executed beyond one year provided the delay is not attributable to the contractor.

- (f) The contractor shall for the purpose of sub-clause (a),(b),(c) of this clause keep such books of account and other documents as are necessary to show the amount of increase claimed or reduction available and shall allow inspection of the same by a fully authorized representative of Govt. and further shall at the request of the Engineer in charge may require any document kept and as such other information as the Engineer-in-charge may require.

The contractor shall within a reasonable time of his becoming aware of any alternation in the prices of such material, wages or labour and/ or price of P.O.L. give notice thereof to

- the Engineer in-charge stating that the same is given pursuant to this condition together with and information relating thereby which he may be in a position to supply No claims for price adjustment other than these provided herein shall be entertained
64. The bidder shall furnish an affidavit in support of authenticity of documents , relaxation of EMD in case of Engineer Contractor along with the bid. The authority reserves the right to verify the authenticity of documents in case of any doubt or complain.
 65. The schedule caste / schedule tribe contractors desires to avail the facility of 10% price preference should enclose the copy of their registration certificate stating fact of the caste by their registration authority with the bid, failing which they will not get the price preference as per rule in force.
 66. Submission of more than one tender paper by a bidder for a particular work will liable for rejection of all such tender papers.
 67. Over and above to these conditions the terms and conditions and rules and regulations as laid down in Orissa Detailed Standard Specifications and Orissa P. W. D. code and it's up to date amendments/contractual provisions are also binding on the part of this contract.
 68. The date of issue of the notice to the contractor to attend **Office Of Executive Engineer[c] Directorate of Fisheries Odisha, Cuttack** for signing the agreement shall be treated as the date of commencement of work.
 69. If the contractor quote abnormally low rates for some items and department decide to accept his tender that the Dept. would have the discretion of withholding the differential cost between such highly low rated items and schedule of rates from their payment direct against other items till such low rates items are complete.
 70. As goods & service tax has come in to force with effect from 01.07.2017 GST as applicable will be paid extra after gross bill amount prepared.
 71. Bidders must furnish their present e-mail address/ fax no./ telephone no. for correspondence.
 72. The civil contractor in order to take part in the composite tender should enter into an M.O.U. (Memorandum of Understanding duly notarized) with eligible registered electrical contractor having valid H.T./ L.T. license, for execution of electrical installation and other electrical works and a copy of such M.O.U. should be attached with the tender which tender which shall form a part of tender. A copy of electrical license, GSTIN Certificate and PAN Card should also be enclosed with the tender papers, the original of which need to be furnished during verification. The above M.O.U. is not required in case of civil contractor having valid registration in H.T/ L.T. electrical license with the same & style.

(SEVENTY-TWO) Clauses only.

**Executive Engineer (C)
Directorate of Fisheries,
Odisha, Cuttack.**

TECHNICAL SPECIFICATIONS OF P.H. PORTION OF WORK

A. WATER SUPPLY & SANITARY INSTALLATIONS:

Materials of following standard manufacturers are to be used in the work. The contractor shall indicate, in the offer, the brand or make of the materials, for which the rates are quoted.

a. **Sanitary fixtures:**

b. To be of best quality vitreous ware of porcelain. i.

Indian water closet

ii. Foot Rests

iii. Wash Hand Basin

iv. Kitchen Sink

Hindware/Parry Ware / Neycer/ ISI marked v.

Urinals

vi. Drain Board vii.

Odisha Closet

viii. European Water Closet & Low Level Flushing Cistern.

b. **C.I. High Level Flushing Cisterns** : Sushila Industries Prabhat Iron Foundry / East India Steel / I.S.I. marked.

c. **H.C.I. Soil Waste Pipes:** : Confirming to I.S.I. 1729-1954, having I.S.I. Mark d.

C.P. Bath Room Fittings : Plaza/ Jaquar I.S.I. marked & confirming to-latest ISS

e. **Brass Fittings** : Shakti/Anupama /Luster/1.S.I.Marked f.

Gunmetal Valves : Anupama / Leader / B.S.I.S.I. marked

g. **G.I. Pipes (Medium Class)** : Manufactured by TATA / JINDAL / B.ST. having I.S.I. Mark

h. **Galvanised Iron fittings** : I.S.I. marked C/R brand

Galvanised Iron fittings

i. **Paints** : Asian / Berger / Jonson/Confirming to I.S.S

j. **Cast Iron Manhole cover frame** : Sushila Industries / Prabhat Iron Foundry / East India Steel make confirming to ISS 7.26

k. **Stone Ware Pipes & Fittings** : Manufactured by Odisha Ceramic Industries / Odisha industries / Keshab Ceramic confirming to I.S.S. Specification No.651 / 1980 {Grade A}

l. **P.V.C. (S.W.R.) & P.V.C (Rigid.) Pipe/Fittings** : Manufactured by the Supreme Industries Ltd., Bombay / Oriplast, Balasore Duroplast confirming to I.S. Specification No. 4985/81 (Class IV)

B. BUILDING MATERIALS:**a. Bricks**

Bricks shall be of locally available best quality kiln burnt. Bricks shall be well burnt, uniform deep red, cherry or copper coloured, free from cracks and flaws, well shaped, uniform in size, homogeneous in textures and shall emit a clear metallic sound when struck, bricks shall have a minimum crushing strength 75 Kg/Cm^2 and shall not absorb water more than 20% by weight.

b. Cement Mortar

Mortar shall be well mixed to a uniform colour and consisting in the proportion as specified in the items of work. Sand shall be measured on the basis of its dry volume and the quantity shall be adjusted for bulking of damp sand. Cement shall be mixed, taking 50 kg. or 0.035 Cum. in volume only required quantity that can be consumed within 30 minutes of adding water shall be mixed at one time.

c. Cement

Cement should conform to IS-269/IS-455

d. Sand:

Locally available best river sand medium size

e. Coarse Aggregates

The coarse aggregate shall be of hard granite stone and shall generally conform to I.S. 389. Porous coarse aggregate shall not be used. The aggregate shall be free from clay films and other adherent coatings. Aggregate containing clay films over the stone materials shall be thoroughly washed. The aggregate shall be from approved quarry and crusher broken. Coarse aggregates shall be composed of particles ranging between the sizes 2.36 to the maximum size as may be specified in the relevant item of work, within the range, the aggregates shall be well graded so as to produce a dense concrete.

f. Reinforcements:

Mild steel Round Bars, coiled twisted and deformed bars of steel of medium tensile strength will be used as reinforcement as per drawing and design and directions. Mild steel bars shall conform to I.S.:226/1962 standard quality or IS:432/1966 - Grade-1. Black annealed wire (Not thinner than 24 gauge for tying the reinforcements shall be used)

TECHNICAL SPECIFICATION FOR SANITARY & PLUMBING WORKS

A. Sanitary Ware & allied fittings:

1. General

All Sanitary fixtures and their allied fittings, should be of first quality, manufactured by Hindustan Sanitary Ware / Parryware / Nycer, These should be approved by the Engineer-in-charge of the G.P.H. Wing before use.

2. Squatting Pattern W.C. (pan) (Odisha Pattern Closets):

The water closet shall be of vitreous China of specified size and pattern, with an integral flushing rim. It shall have the flushing inlet at the back. The Odisha closet should be of approved quality confirming to I.S.S.-2656 (Part-III).

The squatting type Indian Water Closet (Odisha Closet) shall be sunk in floor sloped towards the pan in a workmanship like manner. The closet shall be fixed on a proper cement concrete base of 1.3.6 proportion, taking care that the cushion is uniform and even, without closet, to receive the specified thickness of the floor finishing. The joint between the Closet and the P.V.C. (S.W.R) trap shall be made with W.C. ring and rubber lubricant and shall be leak proof.

3. Flushing Cistern

The flushing of the Indian water closet (Odisha Closet) shall be done by C.I. or Polyaterine High Level low-level porcelain valve-less syphonic flushing cistern of approved brand and quality I.S.I. Marked and capacity as specified. The connection between the cistern and water closet shall be made by 32 dia O.I. flush pipe, made from G.I. Pipe (Light Quality) or 32 dia P.V.C. Pipe as specified in the tender schedule. The flush pipe with an offset should be fixed to wall by using C.I. Holder Bat Clamps. The capacity of the cistern should be 10 Ltrs. as per I.S.S. 15 Ltrs. In case of low-level cisterns. The Cistern shall be fixed on cast Iron or Rolled Steel Cantiliver Brackets (Bulltin type), which shall be firmly embedded in the wall, with C.C. 1.2.4. The Cistern shall be provided with 20mm dia P.V.C. Overflow Pipe with fittings, which shall terminate into mosquito proof coupling secured in a manner that will permit it to be readily cleaned or renewed.

The 32mm dia Flush Pipe shall be connected to the Water Closet by means of approved type joint. The Flush Pipe shall be fixed to wall by using C.I. Holder Bat Clamps. The bend and the Offset as required in the Flush pipe shall be made cold. The inside of the Cistern shall be painted with two coats of approved black bitumen paint. The Outer face of the Cistern, Brackets Overflow pipe and Flush Pipe etc., shall be painted with two coats of any synthetic enamel paint of approved shade and make, over a coat of priming. The cost of the rate quoted for the flushing cistern. The inlet connection to the Cistern shall be made with 450 mm 1 cmg 15 mm dia P.V.C. Heavy type connection Pipe.

4. Wash Hand Basin

The Wash Hand Basin shall be of the White Vitreous China of approved quality, make and brand I.S.I, marked. It shall be one-piece construction with an integral combined overflow. The size of the basin shall be as specified. Each basin shall be

provided with one 15 mm dia C.R Brass Pillar Tap, 32mm dia C.R Waste, C.R. Chain and Rubber Plug, Unions, Joints, C.P Bottletrap cast complete in all respects of approved quality.

The Basin shall be supported on a pair of R.S. or C.I. Cantilever brackets (built in type) embedded and fixed in wall with cement concrete, 1.2.4. These brackets shall be painted to the required shade with two coats of approved synthetic enamel paint over a coat of priming.

The waste of the Basin shall discharge into a floor trap or Channel through bottle traps as specified. One 32mm dia C.P. Bottle Trap is to be fixed to the Waste of the Basin & the outlet of the bottle trap is to be connected to the waste pipe to discharge the waste to the Pipe, to discharge the waste to the aforesaid floor trap. The inlet connection to the Basin shall be made with 450mm Long 15mm dia Heavy type P.V.C. connection pipe.

5. Kitchen Sink

Unless otherwise mentioned the Kitchen Sink and drain board (if used) shall be of white Vitreous China or fire clay as specified and approved quality, make a brand, confirming to T.S.S, It shall be of one piece construction with integral combined overflow. The size of the sink and Drain Board shall be as specified.

Each Sink shall be provided with one 15mm dia C.P. brass, Bib Cock, long body, 40mm C.P. Waste with overflow C.P. Chain & Rubber Plug, unions etc., complete in all respects as specified and of approved quality.

The sink shall be supported on a pair of M.S. or C.I. Cantilever Brackets (Built in type) embedded or fixed in position in the wall by Cement Concrete 1.2.4. The brackets shall be painted to required shade with two coats of approved synthetic enamel paint over a coat of priming. The waste should discharge into a floor Trap or Channel. The waste pipe should be 40mm dia P.V.C. Pipe jointed to the waste of the Sink with a Brass union nut.

6. Standing Urinals

The Urinals shall be flat pattern lipped front basin of required dimension of White Vitreous China and one piece construction with internal flushing box rim of an approved make and brand as specified. It shall be fixed in the position by*using wooden plug embedded in the wall with screws of proper size. Each Urinal shall be connected to a 40mm dia RV.C. Waste Pipe, which shall discharge into a channel of floor trap. The lip of Urinals shall be kept at 525mm from floor level, while fixing the Urinal on wall.

Where no. of Urinals are fixed in a line, the distance between the centres to centre of each Urinal shall be kept 750mm. and each Urinal should be separated from one to other by a partition plate. The centre to centre of partition plates shall be kept 750mm apart. The partition plate shall be of one-piece 25mm thick marble plates, cut to size and front corners rounded. The partition plates shall be embedded in wall with cement concrete and finished smooth. The bottom of the partition plate should be kept

350mm above floor level and top should be kept at 1250mm above floor level. The plates should project 600mm from wall surface. The width of the plates to be embedded inside the wall should not be less than 100mm. The thickness of the plates shall be minimum 25mm.

For flushing the Urinals each Urinals shall be connected with one 20mm dia G.I. Pipe

(Medium Class), One of this pipe shall be inserted into the inlet of the Urinal and jointed with Jute and putty where as the other end is connected either with a Tee or Bend with the 25mm dia size Water Pipe Line fixed on the wall horizontal above the Urinals. In each 20mm dia flush pipe one 20mm dia cum-metal Gate valve, the water will flow to thermal of Urinal through the inlet pipe and flush the Urinal. After flush, the valve can be closed to avoid wastage of water. One 40mm dia P.V.C. Waste Pipe shall be connected to the waste of each Urinal, to discharge the Waste into the Channel of Trap. One end of this Waste pipe shall be made a cup size to fit into the projected waste and tightened with screws.

7. Squatting Urinal Plates

The Urinal Plates shall be of White Glazed Vitreous China with integral flushing rim of size 450 X 350mm of approved make and brand as specified. There shall be white vitreous channel with stop and outlet pieces in front. These plates shall be fixed on C.C. at 75mm to 100mm above floor level.

For flushing arrangement, one 25mm dia G.I. Common Water Pipeline (minimum size) shall be fixed on the wall parallel to floor. For each urinal one 20mm dia G.I. Branch Pipe shall be taken down up to 1200mm from floor level just at the centre of each plate, in which one 20mm dia Gate Valves is fixed at 350mm above floor level. At 1200mm height, the 20mm dia flush pipe shall be divided into two branches shall be taken downward and connected to the inlets of the urinals plate at floor level. By operating the valve as above, the water will rush into the rims of the urinal plate and flush it.

Where there are number of urinals fixed in a line, each urinal should be separated by a partition plate fixed in the centre of two urinal plates. The centre-to-centre distance of the partition plates shall be kept 750mm.

The partition plates shall be of one-piece marble plate, 25mm thick, cut to sizes and front corners rounded. The plates are to be embedded in wall with cement concrete and finished smooth. The bottom of the partition plates shall be kept flushed to urinal top level and the top level of partition plate shall be kept at 1200mm from the urinal plate top and the projection from the wall shall be 600mm. The width of the plate to be embedded inside the wall should not be less than 100mm.

B. Soil and Waste Pipes and fittings

1. H.C.I. Pipe Fittings

The Cast iron Soil, Waste and design pipes (spigot & socket joints) shall be of make and brand as specified (under specification of materials), confirming to I.S.S. 3989-1970 and ISI marked with approved clamps are to be used. The pipes and fittings shall be free from cracks, laps, pinholes, and other imperfection and carefully cited. The access door fittings shall be designed and made so as to avoid dead space in which filth may accumulate and door shall be provided with 3mm thick rubber insertion packing when closed and bolted.

WEIGHT OF HCL PIPES

2.	Dia of Pipe in MM	Thickness in mm	Length of pipe & width piece	
			1.8 Mtr. D/s	1.8 Mtr.
	50 mm	5 mm	16.00 Kg.	15.00 Kg.
	75 mm	5 mm	13.83 Kg.	16.52 Kg.
	100 mm	8 mm	24.00 Kg.	22.00 Kg.
	150 mm	8 mm	26.70 Kg.	31.82 Kg.

Tolerance 10%

3. The jointing should be done with pig lead confirming to I.S. 782-1966 - grade 99.94.
The spigot and of Pipes and Fittings should enter into the socket end. The annular

space shall be packed with spun yarn gasket, compacted so as to leave a depth for receiving required quantity of lead in a continuous pouring from ladder. After pouring lead in the joints in full, caulking is to be done three times round with the caulking chisels, so that the joints may be sealed with lead. The depth of lead in a point should be 35mm and the rest depth of the joint should be packed with spun yarn Gasket.

4. Requirement of lead and Gasket cement for jointing H.C.I. Pipes (Each Joint)

Dia of pipe in mm	Lead in Kg.	Gasket in Kg. (Same for lead & cement joint)	Cement Kg.
100	1.2 Kg.	0.13 Kg.	0.12 Kg.
50	0.36 Kg.	0.06 Kg.	0.06 Kg.

- 5.** The inside of the pipes and fittings shall be well coated with special tar or bitumen solution of approved quality. Where the pipe and fittings are laid below the ground, the outer surface of the pipes and fittings shall also to be painted with two coats of black anticorrosive paint of approved quality. On completion of the work, the exposed pipes and fittings are to be painted with two coats of synthetic enamel paint of approved colour & quality over a coat of red oxide primer. The cost of paint should include in the rates.
- 6.** Soil pipes for ventilation Is to be connected to the sewer at its floor and without a trap and be carried to such a height, at least above roof level, to prevent damage to health by commission of foul air, The pipe shall terminate as open and protected by a cowl.
- 7.** The waste water pipe shall be connected with the nearest yard gully or a surface drain.
- 8.** The traps should be of hard cast iron and should have a water seal at least 50mm deep.
- 9.** All the soil and waste pipes and fittings, after laid and fixed shall be smoke tested, to the entire, satisfaction of the Engineer-in-charge. The Cost of testing is to be included in the offer. For smoke-test the materials usually burat greases cotton waste, which gives out a clear pungent smoke, which is easily detected by sight and smell. Smoke shall be pumped to the drains from the lower end from a smoke machine, which consists of lower, and burner.
- a) P.V.C (S.W.R.) & P.V.C. (Rigid) Pipes & Fittings**

The P.V.C. (S.W.R.) and P.V.C. (Rigid), soil Waste & Vant Pipes (Spigot & Socket, & couples joints), shall be of make & brand as specified (Under Specification of materials) confirming to I.S.S., B.S.S. & DIN are tube used.

The main specification of P.V.C. Soil & Waste pipes and fittings are as below.

- a) Materials** : Un-plasticized Poly Vinyl-Chloride (UPVC)
- b) Color** : Grey
- c) Dimensions**
- i. Diameter** : Fittings - 75mm/110mm/63mm & 63mm
- Pipes** : 75mm, 110mm, on lengths of 3.or 6 mtr
- d) Wall thickness** : Fittings - Minimum 3.2mm at any port
- Pipes** : As per application
- For Rainwater** : 75mm-1.8. to 2.2.mm, 110mm-2.5. to 3mm
- Waste & Soil** : 75mm -1.8 to 2.2mm, 110mm -2.5 to 3 mm, 63mm
- Underground drainage with light / NIL – Traffics** : 110mm - 2.5 to 3mm
- Light / NIL in Heavy Traffic** : 110mm 3.7 to 4.3mm
- e) Standard Confirming to Attributes Confirms to Standard No.**
- i. Fittings & Wall B.S.4514, DIN 10531 thickness** : DIN 19534 I.S.7834 - PVC (Rigid)
- ii. Pipe Wall thickness** : IS 4905
- iii. Rubber ring** : IS 5382

- iv. Fitting dimensions : DIN 19531 - P.V.C., DIN 19534 – S.W.R. IS - 7834 V.C. (Rigid)
- v. Pipe Dimensions : IS 4985

b. Laying instructions & Jointing Procedure

1. Jointing of P.V.C. (S.W.R.) Pipes & Fittings

Clean the outside of the pipes spigot and the inside of the sealing groove of the fitting. Apply the rubber lubricant, to the spigot end, sealing ring and pass the spigot end into the socket, containing sealing ring, until fully homed. Mark and position of the Socket edge with pencil on the pipe, then withdraw the pipe from the socket by approx. 10mm towards thermal expansion gap.

2. Fixing of the Pipes and fittings on wall surface

P.V.C. pipes both (S.W.R.) & (Rigid), fixed on wall surface, are to be supported by P.V.C. pipe clips, specially made for these pipes, with horizontal runs, the pipe clips should be spaced at intervals of more than 10 times the outside diameter of the pipes. In vertical lines the clips are to be spaced at intervals of one meter to a maximum of two metres according to pipe diameter.

3. Jointing of P.V.C. (Right) Pipe Fittings

Clean the Outside of the pipes and inside of the socket of a fitting of the inside of the couplers (where 2 plain ended pipes are jointed) of. Apply solvent cement solution, evenly and smoothly on the outer surface of the pipe end and inside surface of either the coupler of the socket and pass the pipe end into the socket of the fittings. Up to full depth of socket. In case of jointing 2 plain-ended pipes 1st. push the coupler up to half depth on the end of one pipe and the outer half of the coupler should be pushed to the end of other pipe and thus, both pipes are jointed.

4. Fixing of P.V.C. pipes and Fittings through holes of Walls or Chajja of roofs etc.

The Wall/concrete slots should allow for a stress free installation, Pipes and fittings to be inserted into the slots, without a cement base, have to be applied first with a thin coat of P.V.C. Solvent cement, followed by sprinkling of dry sand (medium size). Allow it to dry. This process gives a sound base for cement concrete fixation, around the pipes/fittings while mending the damages.

5. Anti-syphonage Pipes

All the anti syphonage pipes and fittings to be used are of 63mm. If these are not available under the items of P.V.C. (S.W.R.) materials, 63mm pipes and fittings, manufactured under P.V.C.(right) materials can be used, since the raw materials for both is same.

6. All traps should have a minimum water seal of 50mm as per I.S. 5329 and IS 2556 (Part XIII). Where anti syphonage connection is required, the traps to be supplied and used should have a 50mm anti syphonage gend horn on the outlet side. All the Traps used with the closets, should be of the size 125mm X 110mm i.e. Inlet (Socket end) of 125mm & outlet (spirit end) of 110mm only.

7. Installation of Water Closet

Determine the correct Location of the P/S Trap & set on a firm base, relative to the floor finish by pouring concrete on a slab. Bedding can be carried out by pouring concrete around the trap, ensuring that the traps outlet is left clear of concrete. Place the W.C. Connector ring to the socketed end of 125/110mm R/S trap. Apply rubber lubricant on W.C. Connector ring as well as outer side of water closet (connection point) and now complete the joint by pushing the W.C. to home of 125mm socket of the trap.

8. P.V.C. (Rigid) Pipes and Fittings

63mm (O.D.) P.V.C. Pipes to be used for these work either in anti syphonage system or elsewhere, should be of “Quick Fit” Pipes Class 2 (4kg. F/Cm²), Quick Fit, Pipes have one end socketted. The P.V.C. (Rigid) fittings, such as 63mm elbow, 63mm equal Tees 110mm x 63mm reducer etc. used in the work, should be of injection-moulded fittings.

9. One -'jointing rubber ring will be available, with each P.V.C. (S.W.R.) pipe and fitting and hence, the cost of therein will not be added in the joint.

10. Measurement

All pipes shall be measured not/length as laid or fixed and shall be measured over all fittings such as bends, junctions, traps etc. The length shall be taken along the counter line of the pipes and fittings. Fittings will be counted extra over.

11. Before fixing and painting, the pipe shall be tested hydraulically to pressure $Q.4\text{Kg}/\text{Cm}^2$ for pipes under I.S.-1729/1964 and at a pressure $0.7\text{ Kg}/\text{Cm}^2$ for pipes under I.S. 3989-1970 without showing any sign of leakage, sweating of or her defect of any kind. The pressure should be applied internally and shall be maintained for not less than 15 seconds.

c) Water Supply Pipes and Fittings

1. Materials.

All galvanized Iron Pipes are to be of mild steel continuous welded, screwed tubes, medium quality confirming to I.S.S. and bearing ISI Marks manufactured by reputed Firms and approved brands as specified. The pipes shall confirm to LS.1239 (Part-!) -1975. All G.I. Fittings shall be of 'R' Brand manufactured by M/s. R.M. Engineering Ltd., Ahmadabad and 'C' brand manufactured by Present Engineering works or equivalent best quality.

2. Laying of Pipes

The lay out of the mains and service pipe set etc., will be done in accordance with the drawings. The contractor is to mark out the exact position of the pipes and fittings at site and take approval of the Engineer In-charge, before taking up the work.

3. Where the Pipes are laid, underground these must not be laid less than 450mm below ground level and coated with one coat of approved black bituminous paint. For laying the G.I. pipes and fittings below ground level, the width and the depth of the trenches for different dimensions for the pipes shall be given as below :

Dia of Pipe	Width of Trench	Depth of trench
15 mm to 50 mm	300 mm	600 mm
65 mm to 100 mm	450 mm	750 mm

The pipes shall be laid on a layer of 75mm thick sand and filled up with sand up to 75mm above pipes and the remaining portion of the trench shall then be filled up with proper ramming as described in “GSTIN and refilling”. The surplus earth shall be disposed of as directed. Thrust or anchor blocks of cement concrete 1.2.4 in hard granite chips shall be constructed on all bends or branches to transmit the hydraulic pressure without impairing the ground and spreading it over a sufficient area. Pipes shall not be laid to pass through manholes, catch pit, drain, where, it is unavoidable the pipes shall be carried in sleeve pipe of M.S./G.I., as approved by the Engineer-in-charge. The rate should include such a situation.

4. Where Pipes run along walls, the same are to be fixed to the wall with holder bat clamps / M.S. Hooks as below.

Dia of pipe in mm	15	20	25	32	40	50
Horizontal line	2m	2.50m	2.50m	2.50m	3m	3m
Vertical line	2.5m	3m	3m	3m	3.5m	3.5m

Where the pipes are passing through the R.C.C. / Masonry wall / Column / beam or pillars, these must pass through the appropriate higher sizes of C.I./G.I Sleeve Pipes and are to be included in the rates. In case the pipes are embedded in walls and floors it should be painted with one coat of anticorrosive paint of approved quality.

All pipes should be fixed horizontal and vertical. For taking the pipes through the walls and floors & roof slabs etc. the holes shall be made by filling with chisels or jumper and not by dismantling the brickwork or concrete. After fixing, the holes shall be made good with cement concrete 1:2:4 and properly finished with C. Plaster 1.4 to match the adjacent surface. Union Nuts are to be provided in each of the vertical riser or drop on and from G.I. Tank and near the Valve and as and where necessary. The long screw fittings of 3 mtrs. for long horizontal lines and inside the GSTIN / Kitchen etc.

5. After laying and jointing the pipes and fittings shall be inspected under working condition of pressure and flow. Any joint found leaking pipes should be removed and replaced without extra cost. The pipes and fittings after they are laid shall be tested to hydraulic pressure of 6 Kg/Cm². The test pressure should maintain without loss of for at least half an hour.

6. Painting

On completion of the test, the exposed pipes and fittings are to be painted with two coats of synthetic enamel paint of approved colour and brand over a coat of priming.

7. Measurement

The length shall be measured in running meter. Correct to centimetre for the finished work, which shall include the pipes and fittings such as Bends, Tees, Elbows, etc., but excludes brass or Gun-metal fixture like tap, Cooks, Valves, PVC connection pipes etc.

8. Ball Valve

The ball valve shall be high or low pressure class as stipulated in the Tender Schedule and shall confirm to I.S. 1703-1968, The nominal size of ball valve shall be that corresponding to the size of Pipe for which it is used. The Ball valve shall be of brass or gun-metal and the float for low pressure polyethylene and for high pressure in copper. Each and every ball valve while in closed position shall withstand and internally applied hydraulic pressure of 20 Kg/Cm² for a minimum period of two minutes without leakage or sweating.

Every high pressure ball valve when assemble in working condition, with the float immersed to not more than half its volume shall remain closed against a test' pressure of 10.5Kg/Cm² and a low pressure ball valve against a test pressure of 5.3 Kg/Cm².

Polyethylene floats shall be watertight and non-absorbent and shall not contaminate water and with do jointing adhesive jointing parts. The minimum thickness of the copper sheet used for making copper floats shall be of 0.45 mm. The thickness of materials of the float shall be uniform throughout.

9. Ferrule

The ferrules for connection with C.I. main shall generally confirm to I.S. 2692-1964 and shall be of nominal bore as specified. The ferrule shall be fitted with 3 screw and 1 plug or valve capable of complete cutting off the supply to the connected pipe as and when required. For fixing the ferrule, the C.I. main shall be drilled and tapped during non-supply hour at 45 to the connected Pipe as that when required. The ferrule must be so fitted, that no portion of the sunk shall be left projecting within the main on which it is fitted. After the ferrule is connected, one C.I. bell mouth cover or with bricks (as specified) shall be kept over the ferrule to cover the

ferrule to protect it and the cost thereof is to be included in the item, even if there is no mention.

10. Non-return Valve (Check Valves)

The non-return valve shall be of Brass or Gunmetal and shall be of horizontal or vertical flow type and of the size as specified and confirm to I.S. 7810-1959 and I.S. 778-1957. The approximate weights of the valves are given below.

Dia in mm	Horizontal type (in Kg)	Vertical type (in Kg)
15	0.30	0.25
20	0.55	0.25
25	0.90	0.75
32	1.25	0.90
40	1.70	1.20
50	2.90	1.45
65	5.25	2.15
80	7.70	4.10
	± Tolerance 5%	

11. Foot Valve

Foot valve is generally placed at the lower end of the suction pipe of the centrifugal pump to prevent the suction pipe from emptying. On vertical non-return valve may also be fixed in place of foot- valve. The foot valve shall confirm to I.S.038-1967.

12. Water meters (Domestic types)

Water meter up to 50mm nominal size shall confirm to I.S.-779-1968. The meter body shall be of bronze/ Gun-metal and marked to read in liters complete with registration box and lid. The water meters shall be provided with Strainers. Strainers shall be of material, which is not susceptible to electrolyte, clean and shall be fitted on the inlet side of water meter. It shall be possible to remove and clean the strainer and not permit disturbing the registration box. The offer should include the same. The water meters shall bear ISI Mark.

13. Bibcock & Stopcock

These shall confirm to I.S.781-1967 and bear ISI Mark. The bibcock is a draw off tap with a horizontal inlet and free outlet and stopcock is a valve with a suitable means of connection for Insertion in a pipeline for controlling or stopping the flow. This shall be of screw down type. The cock shall open in anti-clockwise direction. The stopcocks should be of C.P open type/concealed type/angle valves type as specified in tender schedule. Bibcock should be also C.P Brass bibcock.

14. Full way Valve (Brass)

Full way valve is a valve with suitable means of connection for insertion in a pipeline for controlling or stepping the flow. The valve shall be of brass fitted with a cast-iron wheel and shall be of gate valve type confirming to I.S, 780-1960, opening Full way and of the size as specified.

Dia in mm	Flanged End Valves in Kg	Screwed End Valve in Kg
15	1.021	0.56
20	1.503	0.68
25	2.498	1.07

32	5.232	1.55
40	6.082	2.26
50	6.691	3.23
65	10.149	6.84
80	13.281	8.84

15. Gun Metal Full way Valve

This shall be of the Gun-Metal fitted with wheel and shall be of Gate-Valve type opening full way. This shall confirm to I.S, 778-1971. Class I. The Valves should bear ISI Mark.

TECHNICAL SPECIFICATION FOR STONEWARE PIPE ETC

1. Stoneware Pipes (Materials)

The S.W. pipes & fitting should be of Grade 'A' confirming to I.S 651/1965. The pipes shall be sound, free from visible defects such as fire crack or hair crack and flow or blister. The pipes shall give a sharp clear line when struck with a light hammer and should be perfectly salt glazed.

Internal dia of pipe in mm.	Thickness of the Barrel in mm.	Weight of each pipe in Kg.
100	12	14
150	16	23
200	17	33
230	19	44
250	20	52
300	25	79
350	30	100
400	35	125
450	38	147

The length of pipes is 600 mm exclusive of the internal depth of socket.

2. GSTIN of Trench for laying Sewer Pipes

The trenches for the pipes shall be GSTIN to the lines & level as directed. The bed of the trench shall have to be evenly dressed throughout from one change of grade to the next. The gradient is to stout by means of sight rails and boning rods and required depth be GSTIN at any point. The depth of the trench shall not less than one meter, measured from top of the pipe to the surface of the ground under roads and not less than 0.75m elsewhere. The width of the trench shall be the nominal diameter of the pipe plus 350mm. The bed of the trench if in soft or made up earth, shall be well watered and rammed before laying the pipes and the depressions if any shall be properly filled with sand and consolidated in 200mm layers. Depending on soil condition, piling may even be necessary if so desired by the Engineer In- charge. If rock is met with, it shall be removed 150 mm below the level of the pipe and the trench will be refilled with sand and consolidated.

The GSTIN materials shall not be placed within One Mtr. or half of the depth of the trench whichever is greater from the edge of the trench. The trench shall be kept free from water. Shoring and shuttering shall be provided wherever required. GSTIN below water level shall be done after dewatering the trenches.

After the GSTIN of the trench is completed, foundation of cement concrete 1.4.8 in hard granite metal (size 40mm) shall be laid with proper level all along under the length of the pipe

with launching on all around concrete as per drawing.

3. Laying, Jointing, haunching of the Pipes and fittings.

Drain Pipes (S.W. pipe & other pipes used for drain and Sewer) shall be laid in straight lines and to the even gradients as shown in the layout drawings. The socket end of the pipes shall face stream. Adequate care shall be exercised in setting out and determining the level of the pipes and the contractor shall provide suitable instruments, templates, sight rails, boning rods and other equipments necessary for the purpose. In the case of pipes with joints to be made with loose collars, the collars shall be slipped on before the next pipe is laid. In those joints, a tight ring of twisted tarred jute soaked in cement mortar filling to ensure proper alignment and prevent. Cement entering the pipes, Cement compound joints is to be finished with proportion 1.1 with 45 beveling. The joints are to be kept wet with wet bag until the same are properly set with. The cement mortar joints shall be cured at least for 7 (Seven) days.

In the case of S.W. Pipe joints (socket & spigot), they should be caulked first with tarred jute (Spun) of required diameter, almost quarter depth of the socket, after which cement mortar 1:1 is pushed in with wooden chisel and finishing beveled at outside at 45 degree. Instead of jute of hump rubber gasket of proper size may also be used. The whole joint must be cured for not less than three days. In case of pipes less than 250mm dia, joints should be made at ground level with three pipes at a time and for larger ones two pipes at a time and after curing they should be soiled in foundation with the help of the ropes. All pipes should be properly launched with cement concrete 1.3.6 with washed gravel where the pipes are crossing the drain or all round concrete 1.3.6 with washed gravel is to be done to 150 mm thick over the barrel of the pipe. The whole of the drain work shall be tested when laid, and at the completion of the contract, to the satisfaction of the Engineer-in-charge and shall be retested if necessary until found satisfactory. The test shall be made by means of water under pressure at the highest point of the Section under test and providing an air pipe at the lower end of the line. Maximum head of 5 (five) feet (1.5m) must be maintained.

4. GSTIN and refilling.

GSTIN for drain and pipe trenches shall be straight and to correct depth and gradient. The trench bottom shall be of required width as per specification to allow working space for pipe jointing.

GSTIN materials shall be dumped away from the site as directed by Engineer-in-charge. Suitable precautions are to be taken to prevent in flow of water into the GSTIN area, during construction.

The contractor at his own expense shall pump out or otherwise remove any or all water which during the continuance of contract may be found in the GSTIN trenches to keep the trench clear of water during the work under progress. The pipeline shall not be refilled and covered, until the line therein has been passed and tested.

5. Buried Services

All pipes, cable mains and other services exposed by the GSTIN shall be effectively supported by timbering or other means for which no extra payment will be allowed. The contractor shall be responsible for any damage occurring to buried services and make good the same at his own cost to the satisfaction of the Engineer-in-charge.

6. Trench condition

Where a trench is GSTIN and refilled after laying the pipe, settlement of the earth in the refilled trench take place. The filling above the top of pipe, settles relatively, more than the sides of the trench, thereby developing frictional resistance. The contractor is required to take special precaution against this, while refilling the trenches. Procedure for backfilling as stipulated earlier should be strictly followed.

7. Inspection Chambers/Manholes

At every change of alignment, gradient or diameter of a drain there shall be a manhole or Inspection Chamber. The maximum distance between manhole chamber shall be 30 metres for the line laid straight.

All manhole and inspection chamber shall have internal dimension as shown in drawing and B.O.Q. The depth of invert shall be fixed to the gradient. The foundation for Manhole shall be 175mm thick & with cement concrete 1.3.6 in hard stone metal / granite metal of 40mm size. The concrete shall project 150mm beyond the external faces of the brickwork.

The brick masonry shall be done in cement mortar in the proportion of 1:4 and thickness of the brick wall should be 250mm thick up to 1200mm depth from Ground Level and beyond that the wall thickness shall be maintained 375mm. The inside surface of the walls of the chamber, shall be finished with cement plaster 1.3 and outside with cement pointing 1.3. In addition to this, the inside surface should also be provided with cement punning.

On the top of base concrete channeling on C.C. 1.2.4 with granite chips is to be done keeping the diameter equal to the dia of drain pipe and depth equal to half of the dia of pipe. The channel, 'should be done longitudinally at the centre, connecting both the ends of the pipe. The channel is to be hunched up with concrete 1.2.4 with hard granite chips of size 12mm sloping upwards from the edge of channel to meet the side of chamber at gradient of 1:6. The channel and benching are to be finished smooth and cement mortar 1.3 and punning unless it is unavoidable. The branch should deliver sewerage in the Manhole in the direction of main flow and the junction must be made with care so that the flow in the main is not impeded. Channels for drains coming from the side of the Manhole Chamber, shall be curved to meet the main drainage channels.

The Manhole and Inspection Chambers shall be covered with R.C.C. cover slab of thickness

100mm to 150mm according to the requirement at site. One C.I. Manhole cover of diameter and weight as stipulated in the tender schedule shall be fixed, on the cover slab. Unless otherwise mentioned the C.I. Cover and Frames shall conform to I.S. 1726/1960. Heavy duty covers etc., under heavy vehicular traffic condition and capable of bearing wheel loads up to 11.25 tons, are to be used and medium duty under light type wheel traffic loads and light duty for domestic premises are to be used. Covers and Frames shall be clearly cast, double water seal type and they shall be free from all and sand holes. The cover shall be gas tight and water tight with proper water-seal. The C.I. Cover and frame shall be coated with two coats of black bituminous paint. The frame of Manhole cover shall be fixed on the slab while the slab is cast. R.C.C.M.H. covers of 50cm dia and 100mm thickness shall be fitted in line of C.I.M.H. cover if stipulated in the bill of quantity of the tender schedule.

8. Gully Trap Chamber

The size of chamber for 100mm HCI yard gully shall be of 250mm X 250mm (Inside). Foundation with 100mm thick cement concrete 1.3.6 with hard granite metal of size 40mm from outer surface of wall and Brick work in cement mortar 1.4, 125mm thick, depth up to 600mm maximum. The finishing of masonry wall both inside and outside should be done in

cement mortar 1.4 cement punning should be provided on the inner surface the trap should be buried in cement concrete 1.2.4 in H.G. chips up to the mouth and one hinged C.I. Grating of size 300mm x 300mm are to be fixed on the top of mouth of Gully trap to arrest rubbishes shall be provided. The foundation, should project 75mm from outer.

9. Kota/ Marble Stone flooring

The Kota/Marble stones shall be of thickness specified but not less than 20mm and of uniform with edges absolutely square & straight. They shall be laid in Cement Mortar (1.4) over masonry or concrete base. The sides of the stones shall be arranged to butt against each other truly so as to came the joints practically invisible and certainly not more than 0.8mm in width anywhere. The joints shall not be filled with mortar but may afterwards be grouted with neat white cement mixed with matching colour pigment. When the floor has completely set, it, should be polished with pumice stone and finally with pads of felt.

10. Glazed tile dado

The glazed porcelain tiles shall be of approved size and thickness 5mm to 6mm with edges absolutely straight & surface accurately plain. They shall be fixed in 6mm. thick cement mortar 1.3 using cement slurry over pre-cement plastered base. The sides of the tiles shall be arranged to but against each other truly so as to make the joints practically invisible. However, the joints may be granted with white cement mixed with colouring materials to match the tiles and neatly cleaned leaving no trace of excess grouting materials. The tiled surface and edges should be perfectly vertical and straight. The corner points must be normally right angled unless the site condition demands otherwise.

ADDITIONAL APPENDIX TO BILL OF QUANTITY (For P.H. Items of Work)

1. The quantities of items mentioned in the tender schedule may increase or decrease during execution of works but the contractor will complete the work as per his tendered rates in accordance with the instruction of Engineer in charge of G.P.H. wing.
2. **Specification:** The standard PHD and PWD specification will be followed for execution of work. During the course of execution of work, the instructions of the Engineer in charge shall be final and binding.
3. The Sales Tax element should not be added to the analysis of rates and the previous practice should be followed as per the Works Department letter No.IIT.22-89-18170 dt.18.7.1989.
4. There should be no clause either in the tender or in agreement for payment of any additional claim on account of Sales Tax on completed works which will be deemed to be recovered by existing omnibus stipulation as per the works Department letter No.TIT 22/89-18170 dt.18.7.89.
5. It is the responsibility of the Contractor to arrange watch and ward to the installations until testing commissioning and handing over for which no extra payment towards watch and ward will be paid,
6. The contractor shall maintain a separate site order book for P.H. portion of work.
7. The P.H. portion of work shall be open for inspection by the authorities of P.H. Circle (R&B) Odisha, Bhubaneswar and the higher authorities and instructions imparted during the course of Inspection should be binding on the contractor.

8. Materials not covered by any of the above categories of items in the bill of quantity have to be approved by the competent authorities before utilizing the 'same in works. In such event, the payment of such item will be made as per actual on due approval by the competent authority.
9. All materials required for the work shall be supplied by the contractor as per standard specifications appended with due approval by the Engineer in charge of G.P.H. Wing.
10. In case the materials as per make specified are not available, the materials of equivalent make and as per I.S. Specifications or of best quality when not covered by I.S. Specifications can be utilized on prior approval of concerned S.E./ E.E., GPHD (R&B) Circle/Division or the officers duly authorized. It is binding on the part of the contractor to use such items of materials which are available in the Departmental store and in such case the deduction from the bills will be made at stock issue rates.

Bidder(s) is/are required to submit the information in the following Schedules

SCHEDULE – A

CERTIFICATE OF NO RELATIONSHIP

I/We hereby certify that I/We* am/are* related / not related (*) to any officer of the rank of Assistant Engineer & above and any officer of the rank of Assistant / Under Secretary and above of the F& A.R.D. Department, Govt. of Orissa I/We* am/are* aware that, if the facts subsequently proved to be false, my/our* contract will be rescinded with forfeiture of E.M.D and security deposit and

I/We* shall be liable to make good the loss or damage resulting from such cancellation. (*) -

Strike out which is not applicable

Signature of the Bidder

Date:-

SCHEDULE – B

WORKING EXPERIENCE
LIST OF SIMILAR NATURE OF PROJECTS IN PROGRESS

Name of Employer	Name of location and name of work	Contract price in Indian Rupees/ Agreement No.	Major Items of works	Date of starting the work as per Agreement	Stipulated date of completion of the work as per Agreement	Revised target date of completion of the work, if any	Reasons for slow progress, if any, with the updated billing amount
1	2	3	4	5	6	7	8

Note: The above information is to be certified by the Engineer in Charge / Employer not below the rank of Executive Engineer.

Signature of the Bidder
Date.....

SCHEDULE – C

WORK EXPERIENCE
LIST OF SIMILAR NATURE OF PROJECTS EXECUTED

Name of Employer	Name of location and name of work	Contract price in Indian Rupees/ Agreement no.	Major Items of works	Date of starting the work as per Agreement	Stipulated date of completion of the work as per Agreement	Revised target date of completion of the work, if any	Reasons for slow progress, if any, with the updated billing amount
1	2	3	4	5	6	7	8

Note: The above information is to be certified by the Engineer in Charge / Employer not below the rank of Executive Engineer.

Signature of the Bidder
Date.

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SCHEDULE – D**INFORMATION REGARDING CURRENT LITIGATION, DEBARRING EXPELLING
OF BIDDER OR ABANDONMENT OF WORK BY THE BIDDER**

1. a) Is the bidder currently involved in litigation relating to the works. Yes / No in any
- b) If yes: give details:
2. Has the bidder or any of its constituent partners been debarred/expelled by any agency in India during the last 5 years. Yes / No
3. a) Has the bidder or any of its constituent partners failed to perform on any contract work in India during the last 5 years. Yes / No
- b) If yes, give details:

Note: If any information in this schedule is found to be incorrect or concealed, qualification application will summarily be rejected.

Signature of the Bidder

Date.

AFFIDAVIT

1. The undersigned do hereby certify that all the statements made in the required attachments are true and correct.
2. The undersigned also hereby certifies that neither my / our firm / company / individuals _____ nor any of its constituent partners have abandoned any road/ bridge/Irrigation /Buildings or other project work in India nor any contract awarded to us for such works have been rescinded during the last five years prior to the date of this bid.
3. The undersigned hereby authorise(s) and request(s) any bank, person, firm or Corporation to furnish pertinent information as deemed necessary and as requested by the Department to verify this statement or regarding my (our) competency and general reputation.
4. The undersigned understands and agrees that further qualifying information may be requested and agree to furnish any such information at the request of the Department.

(Signature of Bidder)

Name of Firm

Date:

RELATIONSHIP DECLARATION

To,

The Tender Inviting Officer,

Subject: (Name of the Work)

Reference: (Bid reference number) Sir,

Pursuant to clause 2 of the ITB, it is to inform that I have relative(s) employed as an Officer in the rank of an Assistant Engineer/Under Secretary under the _____ Department. His (Their) details are as follows.

Relationship:

Name:

Designation

Office

Address

Pursuant to clause 2 of the ITB, I am to submit herewith the names of persons who are working under my firm having near relatives to any gazetted officer in the rank of an Assistant Engineer/Under Secretary in the Department.

SI No	Name of the my employee and his designation in the firm	Presently working at	Details of his relatives working in the Department
			Relationship Name: Designation Office Address
			Relationship Name: Designation Office Address

I am also duty bound to inform the relationship of any subsequent employment with any gazetted officer in the rank of an Assistant Engineer/Under Secretary in the _____ Department. I am aware that any breach of this condition would render my firm liable for penal action for suppression of facts.

Yours Sincerely

Signature of the Bidder.

Date:-

PRICE BID**BILL OF QUANTITY FOR THE WORK****UP-GRADATION & RENOVATION OF REDHAKHOLA
FISH FARM IN SAMBALPUR DISTRICT****ESTIMATED COST PUT TO TENDER: ₹ 44,26,891.00****OFFICE OF THE EXECUTIVE ENGINEER
[CIVIL] DIRECTORATE OF FISHERIES, ODISHA
CUTTACK**

BILL OF QUANTITY

**NAME OF WORK:- UP-GRADATION & RENOVATION OF REDHAKHOLA FISH FARM IN
SAMBALPUR DISTRICT**

SL NO.	ITEM OF WORK	QTY.	UNIT	ESTIMATED	
				RATE	AMOUNT
1	Dewatering using 5.0 HP diesel pump including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge. I.Renovation of Tank- 103.21 Hour Total 103.21 Hour	103.21	Hour	₹ 51.30	₹ 5,294.67
2	Excavation, loading, unloading and carriage by mechanical means of all kinds of soil, including stoney earth, gravel & muroom, etc interspread with boulders upto 1/2 cum size with all lifts & delifts including trimming of slopes & bed to design section and depositing the excavated materials away from work site as per the specification and within an initial lead of 5 KM from the place of excavation complete including cost, conveyance, taxes of all materials and cost of all labours, labour cess, T&P etc required for the work complete as directed by the Engineer-in-charge. I.Renovation of Tank- 5201.85 Cum. Total 5201.85 Cum.	5201.85	Cum.	₹ 166.50	₹ 8,66,108.02
3	Clearing Shrub jungles uprooting stumps and small bushes and trees below 1.00 m girth on premeasurement including cost, conveyance, taxes of all materials and cost of all labours, labour cess, T&P etc required for the work complete as directed by the Engineer-in-charge. I. Renovation of tanks- 7275.00 Sqm. Total 7275.00 Sqm.	7275.00	100 Sqm	₹ 19.42	₹ 1,412.80
4	Excavation of any approved type of soil in approved borrow area by mechanical means loading into and trasportation by mechanical means and unloading the soil within initial lead of 10 KM on properly prepared and scientifically approved surface including spreading and levelling the earth in 22.50 cm layers to make ready for watering and compaction with sheep foot rollers and dozers but excluding watering and compaction in dams and dykes for all heights including construction, maintenance, watering and light of haul road and borrow area etc including cost, conveyance, royalties and taxes of all materials, cost of all labour, labour cess, T&P required for the work etc. complete in all respect as directed by the Engineer-In-charge. I.Raising of Embankment- 1501.50 Cum. Total 1501.50 Cum.	1501.50	Cum.	₹ 332.70	₹ 4,99,549.05

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5	Watering earthwork upto OMC condition and compaction by sheepfoot rollers and dozers in layers not exceeding 22.50 CM to 95% dry density including hire & running charges of all the machinaries including cost, conveyance, taxes of all materials and cost of all labours, labour cess, T&P etc required for the work etc. complete as directed by the Engineer-in-charge. I.Raising of Embankment- 1501.50 Cum. Total 1501.50 Cum.	1501.50	Cum.	₹ 26.90	₹ 40,390.35
6	Earth work in all kind of soil in excavation of foundation including levelling the bed shoring and shuttering the foundation trench if required including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge. I.Precast Boundary Wall - 16.95 Cum. II.Approach Road - 23.64 Cum. Total 40.59 Cum.	40.59	Cum.	₹ 199.60	₹ 8,101.76
7	Earthwork in slushy soil [in water up to 0.60 m depth requiring aid of pans and vessels] with initial lead and lift including cost, conveyance, royalty, taxes of all materials, labour, labour cess, T&P etc. required for the work etc. complete as per the direction of the Engineer-in-charge. I.Retaining Wall - 97.87 Cum. Total 97.87 Cum.	97.87	Cum.	₹ 170.00	₹ 16,637.90
8	Supplying, filling in foundation and plinth with good quality of filling sand including watering and ramming, poking & compacting including cost, conveyance, royalties, taxes of the materials, cost of all labour, labour cess, T&P etc. required for the work etc. complete as directed by the Engineer-in-Charge. I.Precast Boundary Wall - 3.58 Cum. II. Approach Road - 48.37 Cum. III. Retaining Wall - 19.57 Cum. Total 71.52 Cum.	71.52	Cum.	₹ 376.30	₹ 26,912.97

9	<p>Providing and laying Plain Cement Concrete of proportion (1:3:6) in foundation and floors using 4 cm size black hard crusher broken granite stone metal and screened washed sharp sand for mortar of approved quality and from approved quarry including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels laid in layers not exceeding 15 cm. thick in each layer including cost, conveyance, royalties, taxes of all materials and cost of all labours, labour cess, T&P etc required for the work including shoring, shuttering and dewatering if required including hire & running charges of all machineries required for the work etc. complete as directed by the Engineer-in-charge.</p> <p>I.Precast Boundary Wall -3.58 Cum. II. Approach Road - 16.12 Cum. III. Retaining Wall - 17.40 Cum Total 37.10 Cum.</p>	37.10	Cum.	₹ 4,402.00	₹ 1,63,314.20
10	<p>Reinforced Cement Concrete work of M-20 grade having minimum compressive strength in work test of 200 Kg / Cm² in 15 cm. cubes at 28 days after mixing and tests conducted in accordance with IS 456 & IS 516 using 12 to 20 mm size black hard crusher broken granite stone chips of approved quality and from approved quarry including hoisting lowering, laying concrete and compacting by using vibrators watering and curing for 4 weeks and finishing the exposed surface smooth providing grooves or beads where ever necessary in all floors including cost, conveyance, royalties and taxes of all materials, cost of all labour, labour cess, T&P required for the work etc. complete in all respect as directed by the Engineer in-charge.</p>				
10.1	<p>R.C.C. Base of Column I.Precast Boundary Wall - 1.06 Cum. Total 1.06 Cum.</p>	1.06	Cum.	₹ 4,708.40	₹ 4,990.90
10.2	<p>R.C.C. Column I.Precast Boundary Wall -0.50 Cum. Total 0.50 Cum.</p>	0.50	Cum.	₹ 9,912.60	₹ 4,956.30
11	<p>Straightening cutting, bending bent up or coiled rods, including cranking, hooking, welding or jointing the M.S. rods or Tor steel confirming to I.S. 432 (Plain) and 1785 (Tor) steel and binding, tying the grills, hoisting, lowering and placing in proper position required for R.C.C. works including cost, conveyance and taxes of M.S. rods or Tor steel and binding wires of 18 to 20 gauge confirming to I.S. 280 (galvanized minimum 1 mm) and cost of all labour, labour cess, all T&P required for the work etc. complete as directed by the Engineer- in-Charge.</p> <p>I.Precast Boundary Wall -1.09 Qntl. Total 1.09 Qntl.</p>	1.09	Qntl	₹ 8,929.30	₹ 9,732.93

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12	<p>Providing, fitting, fixing of pre-cast compound wall made up of pre-cast slab of 2.0 Mtr. Length & 50 mm thick & pre cast post of (0.15x0.15)Mtr size & 2.40 M height and fixing the pre cast slab upto a height of 1.50 Mtr including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P etc. complete as directed by Engineer-In-Charge.</p> <p>I.Precast Boundary Wall - 450 Sqm. Total 450.00 Sqm.</p>	450.00	Sqm.	₹ 1,603.70	₹ 7,21,665.00
13	<p>Providing Plain Cement Concrete work of M-20 grade having minimum compressive strength in work test of 200 Kg / Cm² in 15 cm. cubes at 28 days after mixing and tests conducted in accordance with IS 456 & IS 516 using 12 to 20 mm size black hard crusher broken granite stone chips of approved quality and from approved quarry including hoisting lowering, laying concrete and compacting by using vibrators watering and curing for 4 weeks and finishing the exposed surface smooth providing grooves or beads where ever necessary in all floors including cost, conveyance, royalties and taxes of all materials, cost of all labour, labour cess, T&P required for the work etc. complete in all respect as directed by the Engineer in-charge.</p> <p>I.Precast Boundary Wall -8.42 Cum. II.Approach Road - 32.25 Cum. III. Retaining Wall - 146.80 Cum Total 187.47 Cum.</p>	187.47	Cum.	₹ 4,574.00	₹ 8,57,487.78
14	<p>Supplying M.S grills made up of M.S angle iron and flats for windows venti-lators and openings including cost of all and complete finished in all respect with cost, conveyance, royalties and taxes of all materials with cost of all labour, labour cess, T&P, and scaffolding required for the work etc. complete in all respect as directed by the Engineer in charge.</p> <p>I.Precast Boundary Wall - 229.95 Kg. Total 229.95 Kg.</p>	229.95	Kg	₹ 102.00	₹ 23,454.90
15	<p>Finishing walls with weather coat of approved shade on new work two coats over a coat wall primer to give an even shade including cost of all and complete including cost of paint with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge.</p> <p>I.Precast Boundary Wall - 900.00 Sqm. Total 900.00 Sqm.</p>	900.00	Sqm.	₹ 67.10	₹ 60,390.00

16	Painting two coats with approved enamel paint paintover one coat of oxide primer over new steel work including cost of all and complete with cost of all materials taxes, labour T&P etc. complete with cost, conveyance, taxes of all materials, cost of all labour, T&P, labour cess complete as per the direction of the Engineer-in-charge. Total 3.28 Sqm	3.28	Sqm.	₹ 128.20	₹ 420.49
17	Providing Weep holes in brick masonry/ Plain reinforcement concrete abutment/ wing wall/ return wall with 100mm dia AC pipe extending through the full width of the structure with slope towards drawing face including cost, conveyance, royalties and taxes of all materials with cost of all labour, labour cess, T&P, and scaffolding required for the work etc. complete in all respect as directed by the Engineer in charge. I.Retaining Wall- 290.00 Nos. Total 290.00 Nos.	290.00	Each	₹ 143.30	₹ 41,557.00
18	Rigged smooth centering and shuttering for RCC works including false works and dismantling them after casting including cost, conveyance, royalties and taxes of all materials with cost of all labour, labour cess, T&P, and scaffolding required for the work etc. complete in all respect as directed by the Engineer in charge.				
18.1	Foundation & Plinth I. Retaining Wall - 87.45 sqm Total - 87.45 Sqm	87.45	Sqm.	₹ 107.60	₹ 9,409.62
18.2	Walls & Fins I. Retaining Wall - 436.57 sqm Total - 436.57 Sqm	436.57	Sqm.	₹ 660.50	₹ 2,88,354.48
19	Labour for drilling a perfectly vertical bore hole of specified dia for a specified depth below ground level through consolidated and unconsolidated rock with down the hole hammer drilling rigs or combination drilling rigs (1200 cfm/ 300 psi) as required to suit the site condition as per the direction of Engineer-in-charge including use of own rigs with its accessories, tools and plant and consumables etc for lowering of 200 mm dia PVC/GI pipes for housing fitted with socket and with or without well screen as per the necessity for soft, medium, hard and boulder formation (GI/PVC casing pipes if required to prevent collapse of over burden is to be provided by the contractor including lowering and withdrawing after completion of the tube well) including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge. Total 90.0 Mtr	90.00	Mtr	₹ 932.50	₹ 83,925.00

20	<p>Supply of all labour & T&P for Lowering the following size G.I/PVC Pipes with or without slotted pipes as per the necessity from ground level and fitted up in perfectly vertical position, including cutting and threading pipe and slotted pipe and fixing all jointing materials etc. complete and keeping the top of the casing pipe threaded including plugging tube wells to prevent entry of foreign from above excluding cost of fittings & jointing materials including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge.</p> <p>I.Sinking of Production well- 90.00 Mtr. Total 90.0 Mtr.</p>	90.00	Mtr	₹ 4,114.50	₹ 3,70,305.00
21	<p>Cleaning and developing the tube well using their own compressor continuously worked till clear and adequate discharge is obtained from the tube well including supply an use of all necessary equipment and labour as per specification including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge.</p> <p>I.Sinking of Production well- 1.00 Nos. Total 1.00 Nos.</p>	1.00	Nos.	₹ 8,493.10	₹ 8,493.10
22	<p>Supplying all materials, labour, tools and plant and withdrawing casing pipes from the unsuccessful bore and depositing in the departmental store in good condition, including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge.</p> <p>I.Sinking of Production well- 90.0 Mtr. Total 90.0 Mtr.</p>	90.00	Mtr	₹ 285.50	₹ 25,695.00
23	<p>Supplying all labour, T&P and materials for Packing the bore with washed gravel (size P-6) around the pipes in good quality excluding cost of gravel etc. complete including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge.</p> <p>I.Sinking of Production well- 1.00 Nos. Total 1.00 Nos.</p>	1.00	Nos.	₹ 2,358.67	₹ 2,358.67

24	<p>Supplying all materials labour and T&P and grouting with cement slurry for Sanitary Sealing around the GI/PVC casing pipe up to 3 mtrs. Below ground level including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge. I.Sinking of Production well- 1.00 Nos. Total 1.00 Nos.</p>	1.00	Nos.	₹ 3,029.70	₹ 3,029.70
25	<p>Providing supplying fitting and fixing of 5 HP Single Phase oilfitted 100mm dia borewell submergable pump set of KSB/ kirlosker/ crompton/texmo and other IS make with control pannel including 2.5sqmm three core PVC coated copper flat cable, 32mm dia HDPE pipe / nipple / bolt and PVC coated 6mm wire rope , U bolt , M.S clamp including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge. I.Sinking of Production well- 1.00 Nos. Total 1.00 Nos.</p>	1.00	Nos.	₹ 48,865.00	₹ 48,865.00
26	<p>Construction of LT 3 Ph 4way line with 3x35x1x25sqmm XLPE AB Cable including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge. I.Sinking of Production well- 0.10 Km. Total 0.10 Km.</p>	0.10	Km.	₹ 3,23,283.90	₹ 32,328.39
27	<p>Supply of PVC armored cables of 16 sqmm 4 Core ISI marked.(Make- Glowstar/ Polycab/ Nicco/KEI/HPL/ Mescab) including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge. I.Sinking of Production well- 30.00 Mtr. Total 30.00 Mtr.</p>	30.00	Mtr	₹ 157.14	₹ 4,714.20
28	<p>Laying of Cable on wall surface with steel shaddle including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge. I.Sinking of Production well- 30.00 Mtr. Total 30.00 Mtr.</p>	30.00	Mtr	₹ 55.35	₹ 1,660.50

29	Supply and making and termination with brass compression gland and aluminium logs for PVC insulated and PVC sheathed aluminium cable of 1.1kv grade (without cost of cable) including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge. I.Sinking of Production well- 2.00 Set Total 2.00 Set	2.00	Set	₹	152.67	₹	305.34
30	Supply, installation, testing and commissioning of OUTDOOR pannel board with one coat of powder coating wheather resistant enamel paint with danger board. 16/18 SWG pannel box L X BX 5"= Sq. inch for single door made out of CR sheet of 16SWG and boarder angle frame to provide above pannel with proper space ,hinged door must be painted one coated red oxide and two coat enamel gray paint including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge. I.Sinking of Production well- 14404.0 Sq Inch Total 14404.0 Sq Inch	14404.00	Sq Inch	₹	1.34	₹	19,301.36
31	Supply and fixing of internal wiring to equipment installed in the pannel board with required size of copper multistrand single core cables duly crimped with copper lugs and all connections L X B including cost of copper conductor and other fittings including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge. I.Sinking of Production well- 14401.00 Sq Inch Total 14401.00 Sq Inch	14401.00	Sq Inch	₹	0.77	₹	11,088.77
32	Supply and fixing of Ammeter with selector switch including all connections including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge. I.Sinking of Production well- 1.00 No. Total 1.00 Nos.	1.00	Nos.	₹	1,248.21	₹	1,248.21
33	Supply and fixing of voltmeter with selector switch including all connections including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge. I.Sinking of Production well- 1.00 Nos. Total 1.00 Nos.	1.00	Nos.	₹	1,248.21	₹	1,248.21

34	Supply and fixing of Indicator lamp with toggler switch and fuse including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge. I.Sinking of Production well- 3.00 Nos. Total 3.00 Nos.	3.00	Nos.	₹ 216.07	₹ 648.21
35	Supply and fixing of C.T coil upto 400Amp including all connections including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge. I.Sinking of Production well- 3.00 Nos. Total 3.00 Nos.	3.00	Nos.	₹ 767.85	₹ 2,303.55
36	Supply and fixing of TPN switch disconnecter fuse (panel mounted type with ISI marked HRC fuse). Supply and fixing of 100Amp TPN switch disconnecter fuse/capacitor (panel mounted type with ISI marked HRC fuse)including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge. I.Sinking of Production well- 1.00 Nos. Total 1.00 Nos.	1.00	Nos.	₹ 4,533.92	₹ 4,533.92
37	Supply and fixing of 4pole MCCB in cubicle panel board including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge. 160 AMP 16 KA. I.Sinking of Production well- 1.00 Nos. Total 1.00 Nos.	1.00	Nos.	₹ 5,984.42	₹ 5,984.42
38	Supply, installation, testing and commissioning INDOOR panel board with danger board Base channel 50 X 50 X 8mm with base concreting including connection and testing, including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge. I.Sinking of Production well- 54.07 Mtr Total 54.07 Mtr	54.07	Mtr	₹ 98.21	₹ 5,310.21

39	Supplying all materials, labour, and T&P for cutting holes in RCC floors, roofs or cornice including making good & leak proof the damages for taking sand cast iron (SCI) / centrifugally cast (Spun) iron/ GI/PVC pipes & fittings including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge. I.Sinking of Production well- 3.00 Nos. Total 3.00 Nos.	3.00	Nos.	₹ 160.90	₹ 482.70
40	Providing and fixing on wall face unplasticised rigid PVC soil waste and rain water pipes confirming to IS : 13592 Type A including jointing with seal ring confirming to IS:5382 leaving 10mm gape for thermal expansion including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge. I.Sinking of Production well- 134.00 Mtr. Total 134.00 Mtr.	134.00	Mtr.	₹ 544.80	₹ 73,003.20
41	Supplying all materials, labour, and T&P for Fixing 100 mm dia Agriculture model Brass / Gunmetal full way volve confirming to IS:781-1995 of the following nominal sizes as per specification including cost of all and complete finished in all respect with cost, conveyance, taxes of all materials, cost of all labour, labour cess, T&P scaffolding etc. complete as directed by Engineer-In-Charge. I.Sinking of Production well- 5.00 Nos. Total 5.00 Nos.	5.00	Nos.	₹ 13,983.50	₹ 69,917.50
TOTAL= 41 (FORTY-ONE) ITEMS ONLY					₹ 44,26,891.28
				Or Say.	₹ 44,26,891.00
[RUPEES FORTY-FOUR LAKHS TWENTY-SIX THOUSAND EIGHT HUNDRED NINETY-ONE] ONLY					
RATE QUOTED BY THE TENDERER					
		IN FIGURE		IN WORDS	
PERCENTAGE EXCESS OVER THE ESTIMATED VALUE					
PERCENTAGE LESS OVER THE ESTIMATED VALUE					
PERCENTAGE AT PAR THE ESTIMATED VALUE					

CONTRACTOR

APPROVED

CONTRACTOR

Executive Engineer (C)
Directorate of Fisheries,
TENDER OPENING OFFICER
Odisha, Cuttack