

Government of Andhra Pradesh

A.P. Revised Standard Data

(with Schedule of Rates 2026-27)

(Effective from 01-06-2026)

Part – 1

For Water Resources Department Works
and
LEADS & LIFTS (Common to all Departments)

BOARD OF CHIEF ENGINEERS

Office of the Engineer-in-Chief (I.W),
Water Resources Department, 2nd Floor,
Jalasoudha Building, Irrigation Compound,
Governorpet,Vijayawada.

Procs.No. ENC(IW)/SE(P&M)/EE.1/DEE-3/AEE / SoR 2026-27/Vol.1/1020dt:10.07.2026.

Sub:- A.P. Revised Standard Data updated with SoR 2026-27 for Water Resources Department Works (Part-I) – Approved –Communication of Standard Data – Reg.,

Ref:-
1) G.O.Ms.No.49, I&CAD (PW: Reforms) Dept., dt: 02.03.2009.
2) Minutes of BOCEs meetings for Schedule of Rates held on dt:18.06.2026 & 06.07.2026.
3) Procs.No. ENC(IW)/SE(P&M)/EE.1/DEE-3/AEE6/ SoR 2026-27/Vol.1/1019/dt: 10.07.2026.

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The BoCEs meeting for finalization of Schedule of Rates (SoR) for WR Dept. (Part-I), Road & Bridges (Part-II) and Public Health Items (Part-IV) was held on 18.06.2026 & 06.07.2026 and approved minutes of meeting is placed on the Water Resources website i.e., https://irrigation.ap.gov.in/wrd/home/

Based on the approved minutes of meeting, the labour rates/Capital Cost of machinery/material rates pertaining to Water Resources (Part-I), Roads & Bridges (Part-II), Buildings (Part-III) & Public Health (Part-IV) Departments are updated and proceedings are issued for approved SoR-2026-27 on 10.07.2026 by Engineer-in-Chief(A.W/I.W), WR Dept. & Chairman, BoCEs.

Subsequently, the unit rates of work items related to Water Resources Department are updated with the approved SoR rates for the year 2026-27.

As per the AP Government sand policy issued in the year 2024, the adoption of sand rate is as follows:

While updating the unit rates of work items, the cum rate of fine aggregate (sand) is taken as zero as per Government free sand policy. However, during the estimate preparation, the field officers are advised to adopt the fine aggregate(sand) rates, at the nearest sale point from work site, as fixed by the District Level Sand Committees (DLSCs)(constituted vide G.O.Ms. No.43 Industries & Commerce dated.08.07.2024) in respective districts. The illustration to adjust the sand rate as per the DLSC recommendations, while preparing estimates, is annexed to these proceedings for ready reference.

By incorporating approved labour, material and Hire Charges for SoR 2026-27 & Percentage Provision of 13.615% towards Contractor's profit and overhead charges in the

items, the A.P. Revised Standard Data (unit rate for work items) for the year 2026-27 is finalized.

Any additions or modifications or deletions in the existing data must be approved by BOCEs only.

Encl: 1. Soft copy of A.P Revised Standard Data for WR Department for the year 2026-27.

2. Annexure.

Sd/- Sri M.L.N.Vara Prasad, Dt:10.07.2026
Engineer-in-Chief (AW/IW) &
Chairman, BoCEs
Water Resources Department.

I) Copy submitted to the Special Chief Secretary to Govt., WR Dept., 4th Block, A.P.Secretariat Buildings, Velagapudi, Amaravathi.

II) Copy communicated to the following Heads of Departments along with enclosures for information.

1. Engineer-in-Chief (Admin)., Roads & Buildings Department.
2. Engineer-in-Chief, Public Health Department.
3. Engineer-in-Chief, Panchayath Raj Department.
4. Engineer-in-Chief, R.W.S. Department.
5. Chief Engineer (Buildings &RSW), R&B Department.

III) Copy of Scheduled of Rates 2025-26 & Standard data, Part-I (WR Dept. works) are communicated to the respective e-mail ids of all the Engineers-in-Chief, Chief Engineers and regional Superintending Engineers of Irrigation circles of Vijayawada, Guntur, Dowlaiswaram & Chittoor of Water Resources Department for taking necessary action.

IV) Copy to DEE (Computers), EnC (AW) for uploading the approved SoR-2025-26 (Part-I, Part-II, Part III & Part-IV) & Standard Data Part-I on the Water Resources Department website to communicate this letter to all the members of Board of Chief Engineers through E-mail.

Sd/- Sri M.L.N.Vara Prasad, Dt:10.07.2026
Engineer-in-Chief (AW/IW) &
Chairman, BoCEs
Water Resources Department.

Annexure-A

A. Guidelines for Converting the sand rate from Rs/Tonne to Rs/Cum.

1) For fine aggregate (sand), cum rate is taken as Rs.0 in the Standard data items, as per Government free sand policy.

2) However, the rates fixed by DLSC (constituted vide G.O.Ms. No.43 Industries & Commerce dated 08.07.2024) for respective districts are to be adopted.

3) For Sand, no seigniorage fee, DMF charges and MERIT charges shall be added in the estimate in view of exemption given by Government vide GOMs No.66. Industries & Commerce dated 25.10.2024.

4) No Consideration amount is to be added in view of the Government revocation of consideration amount vide G.O.Ms.No.57, Industries and commerce (Mines-II) Department dated 18.04.2025.

5) The sand rates fixed by DLSC is Rs/M.Tonne. Hence, this must be converted to Rs/Cubic meter.

6) In order to arrive cubic metre rate from tonne rate, the following steps are to be taken:

If GST component is included in the tonne rate, the GST component is to be excluded. Then the sand rate so arrived in Rs/Tonne shall be converted to Cum rate by using the conversion factors recommended by BOCE vide Minutes of 1 BOCE meeting held on 10.2.2023 i.e., 1.57 for sand used in Concrete/plastering works (MAT-00027 (a)) and 1.19 for sand used for filling (MAT-00028(b)).

For Illustration purpose,

(a) If the rate of sand at sale point is Rs.100 (inclusive of operational costs, and applicable GST etc.)

Rate of sand excluding GST component (for example with GST of 5%) is = 100/1.05 Rs.95.24/Tonne.

(b) In case, the tonne rate of sand at sale point is Rs. 100 (exclusive of GST but inclusive of operational costs, admin charges),

Rate of sand excluding GST component is = Rs.100.00/Tonne.

Now, to convert the tonne rate of sand (excluding GST) to cum rate of sand using conversion factors as given below:

Table No.I
Converting the sand from Rs/Tonne to Rs/Cum

Type of Sand (1)	**Rate of Sand Rs per Tonne as fixed by DLSC excluding GST (2)**	**Conversion Factor (3)**	**Screening Charges (4)**	**Rate per Cum (5)**
				(2)*(3)+(4) =(5)
(a) When Sand cost is Rs. 95.24 / ton (excluding GST)				
(i) Sand for Concrete	**95.24**	1.57	0	(95.24*1.57) + 0 = 149.53
(ii)Sand for Plastering	**95.24**	1.57	128	(95.24*1.57) +128 = 149.53
(iii)Sand for filling	**95.24**	1.19	0	(95.24*1.19) + 0 = 113.34
(b) When Sand cost is Rs. 100.00 / ton (excluding GST)				
(i) Sand for Concrete	**100.00**	1.57	0	(100.00*1.57) + 0= 157
(ii)Sand for Plastering	**100.00**	1.57	128	(100.00*1.57) + 128 = 285
(iii)Sand for filling	**100.00**	1.19	0	(100.00*1.19) +0 = 119

B. Adjusting the unit rates with the sand rate arrived using the methodology mentioned against SL. No. 6- An illustrated Example:

IRR-CCDW 2-8, M20 concrete for sub/super structure with zero sand cost is Rs 7000.53/cum. In order to add the cum sand rate, arrived as per the methodology mentioned in SL No.6, to the above data item,

(a) For 15 cum, the sand quantity involved as per IRR-CCDW 2-8 data is 6 cum. For 1 cum the sand quantity involved is = 6/15 = 0.4 cum.

(b) Multiply the sand quantity with the sand rate (say a(i) in the above table) as arrived for concrete works i.e., 149.53 / 0.4 cum = Rs. 59.812,

(c) The applicable lead charges shall be allowed from the nearest sale point to the work site as per the prevalent SoR Rates, say about 5Km. Le, Rs. 108.92/cum

Sand cost including lead charges of 5km is Rs. 59.812 + Rs 108.92 = Rs. 168.732/cum

(d) Adding CPOH 13.615%, the sand rate would become Rs.191.71/Cum

i.e., sand rate to be added at the end to the item rate arrived against item IRR-CCDW 2-8, M20 concrete is Rs. 191.71/Cum

(e) So, the finished rate of IRR-CCDW 2-8, M20 concrete for sub/super structure is = Rs.7000.53+Rs. 191.71 = Rs.7192.24/cum

Sd/- Sri M.L.N.Vara Prasad, Dt:10.07.2026
Engineer-in-Chief (AW/IW) &
Chairman, BoCEs
Water Resources Department.

GOVERNMENT OF ANDHRA PRADESH

ABSTRACT

Irrigation & CAD Department – Adoption of Revision and Updating of Andhra Pradesh Standard data in all Engineering/Public Works Department and other organisations – Orders – Issued.

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IRRIGATION & CAD (PW- REFORMS) DEPARTMENT

G.O.Ms. No. 49 Dated: the 2nd March, 2009

Read the following:-

1. G.O.Rt.No.7326 , GA (GPM/AR) Department dated 26.10.2005
2. From the Director General D.O.Letter.No.CGG/AP Standard Data/2006-07, dated 8.12.2006
3. Govt.Memo.No.36710/Reforms/I&CAD(PW) Dept., dated 22.6.2007
4. U.O.Note.No.36710/Reforms/2005, I&CAD (PW) Dpt., dt.29.6.2007
5. Govt.Memo.No.36710/Reforms/2005, I&CAD Dept., dated 10.3.2008
6. From ENC (AW)/IW I&CAD Dept., Letter.No.ENC/IW/P&M/EE.1/DEE.8 /19200-98, dated 21.4.2008

ORDER:

The basic components for preparing any estimate are Standard Specifications, Standard Data, and Schedule of Rates for construction materials, skilled and un-skilled labour and hire charges of machinery utilized on works. To get the work done, as per the standard specifications, required quantities of recommended materials, requirement of specific need based manpower, deployment of proper utility based machinery and duration of its utilization are to be observed and quantified for each unit of work, and this is called Standard Data. Thus, the Standard Data gives the details of various inputs in terms of quantities required for one Unit of any work. Schedule of rates for material, skilled and unskilled labour are fixed and revised by the Board of Chief Engineers' once in a year and these are called Standard Schedule of Rates. When the Standard Schedule of Rates and Hire charges of machinery are incorporated in the inputs of Standard Data and Standard Schedule of Rates it will have direct bearing on the preparation of project Estimates and consequent finalization of Tenders.

(P.T.O.)

2. The existing AP Standard Data for various construction items were based on observations made several decades back mostly by utilizing manpower for execution of all items of works, and deployment of machinery was at the barest minimum. The advent of latest machinery and their extensive use has changed the structure and methodology of data formulation and rate structure. There is a need to revise the present "Standard Data" for all items of works dealing with Public works. Realizing the urgency and importance to have realistic data, Government in the GO.Rt.No.7326 G.A (GPM & AR) Department dated 26-10-2005 constituted a High Level Committee under the chairmanship of Special Chief Secretary, General Administration (GPM&AR) Department, to advise on "Updating and Revising the A.P.Standard Data". A project for Standard Data (revision) and Schedule of Rates was conceived and entrusted to the Centre for Good Governance. Keeping in view the strategy, factors considered and classification of works, a number of High Level Committee meetings and review meetings were conducted at Centre for Good Governance/ A.P.Secretariat and in the offices of concerned Engineers-in-Chief I&CAD, Public Health, Panchayati Raj and Roads & Buildings Departments etc. Their specific views, suggestions and recommendations were taken into account, besides collecting the data from various sources while finalizing the Draft AP standard Data and Standard Schedule of Rates. This has been cleared by the Board of Chief Engineers' and finally by the High level Committee. The Standard Data has been revised and updated in four parts considering nature of work, location of work and magnitude of work as indicated below.

1. PART – I : Irrigation & Command Area Development.
2. PART- II : Roads & Bridges.
3. PART-III : Buildings
4. PART-IV : Drinking Water Supply Schemes.

3. The revision of Standard Data and Schedule of Rates in respect of works items of Irrigation Department has been taken up by the SPIU (Irrigation) and completed as per the C.W.C guidelines and B.I.S standards and also observations and recommendations made by the High Level Committee. In respect of other Departments, MORTH data is adopted for Roads & Bridges, where higher capacity machinery can be deployed and MORD data is adopted for Roads & Bridges in Rural areas. For other works data as per MORTH, MORD, and C.P.W.D. etc., is adopted. The comparative estimates have been prepared by the T.R. &B Dept. , Engineering-in-Chief (Irrigation) and MA & UD Department for various types of works of a magnitude of Rs.15-20 crores, based upon the earlier data and the newly revised and proposed data .

4. After detailed deliberations and discussion on the above issue, the Govt. accept the recommendations of Board of Chief Engineers and High level Committee and accordingly issue the orders for adoption of the Revised and Updated Standard data in all Engineering/ Public works Department and other organisations in four parts considering nature of work, location of work and magnitude of work as indicated below. The four parts of Standard Data

booklets are forwarded to Engineer-in-Chief (AW), who in turn will publish the authenticated version and circulate a copy to all works Departments.

1. PART – I : Irrigation & Command Area Development.
2. PART- II : Roads & Bridges.
3. PART-III : Buildings
4. PART-IV : Drinking Water Supply Schemes.

5. The Revised Data now approved is to be adopted by all Engineering Departments/ all Public Works Department and other organisations, duly superseding all the earlier orders issued on the subject.

6. These orders shall come into force from the date of issue.

7. This order issues with the concurrence of Finance Department vide their U.O.No.5532/520/Exp.PW.I Dept/08, dated 13-5-2008.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF ANDHRA PRADESH)

RAJIV RANJAN MISHRA
SECRETARY TO GOVERNMENT

To
All the Engineer-in-Chief of Irrigation & CAD Department.
All the Chief Engineers of Irrigation & CAD Department.
The Commissioner, Commissioner of Tenders,
The Engineer-in-Chief, PR &RD Department, Hyderabad.
The Engineer-in-Chief (R&B) Admn.,Dept., Hyderabad.
The Engineer-in-Chief (PH) Hyderabad.
Copy to:
All the Collectors & Dist. Magistrate of Andhra Pradesh
All Sections in Irrign. & CAD (PW/Irrgn.) Dept.
The Accountant General Andhra Pradesh Hyderabad.
The G.A. (Cabinet) Dept. w.r.t. U.O.No.79/2009, dated 17-2-2009.
The G.A. (GPM&AR) Dept.
The Finance (W&P) Dept.
The P.S. to Ministers (PR & RD/ MA &UD/ T.R. & B / Housing)
The P.S. to Prl. Secy. (SKJ)/ P.S. to Secretary (AD)/ P.S. to Secretary (RRM)
The P.S. to Prl. Secretary, Housing/P.S. to Prl. Secy, M.A. & U.D. / P.S. to Secretary, T.R.& B / P.S. to Prl. Secretary, PR & RD./P.S. to Secretary , Housing.
All the Advisors of Irrgn. & CAD Dept.
SF/SC.

// FORWARDED::BY ORDER//

SECTION OFFICER

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A.P. REVISED STANDARD DATA

PREAMBLE

The AP Revised Standard data for various construction items has come into existence as per the Government orders G.O.Ms.No.49, I & CAD (PW: Reforms) Dept., dt: 2-3-2009.

The background for adoption of A.P. Revised Standard Data is:

1. Government, in GO 7326 (GAD-GPM& AR), Dated 26-10-2005, has observed that the age old "Standard data" requires revision and updation with reference to the latest machinery and contemporary practices and has constituted a **High Level Committee** to advise on updating and revision of standard data and schedule of rates. The work has been taken up by CGG and SPIU-irrigation. The secretary (Irrigation) is the member- convener of the committee.

   Accordingly, the data has been revised adopting the procedures and guidelines given by CWC, Report on "committee on cost control of river valley Projects, BIS specifications, NHAI, MORTH, MORD, CPWD and Government of Karnataka and revised data and formulated schedule of rates for all infrastructure Departments (I&CAD, R&B, PR and PH). The team of senior engineers interacted with the S.R Committee of Karnataka on implementation and improvements needed. For Water Resources work items, the data pattern as adopted by Karnataka has been considered and for other Departments, the data adopted by MORTH, MORD and NHAI etc. is adopted.

2. Sequence followed in revision of standard data is,

   (a) The first step is the revision and formulation of standard data for each work component.

   (b) The second step is to work out the details of inputs. This enables to generate the unit work item rates, by incorporating the use rates of machinery, materials, labour charges and other supplementary parameters.

   (c) The third step is to develop software tool to generate unit rate using the software (completed for Water Resources work items by the SPI Unit of Irrigation)

3. The Detailed draft data was communicated to all the HOD's and interacted through many seminars and discussions and incorporated the relevant features. The Board of chief engineers in their meetings have recommended for acceptance to the data formulated and schedule of rates. It was proposed to examine the recommendations on

important parameters, to refer to high level committee, for their specific recommendations for adoption, as they are common to all departments.

The committee made in depth study on the methodology and systems followed by the reputed National organizations and other States and made detailed deliberations with HOD's and representatives of Builders Association of India and made recommendations to the Government, on adoption of such parameters in A.P.

4. The Chief Secretary held a detailed discussions on 04-07-2007, with the Secretaries of the Departments and Heads of Departments.

GUIDELINES

1) The Revised Standard Data is formulated under four Parts, which are applicable to all the Engineering Departments and other Organisations.

PART -1: Water Resources Department work items (Dam and Allied Works, Canals and Allied Works, Canal C.D. Works, Tunnels and Allied Works, Preliminary and Maintenance Works, Hydraulic Gates and allied works and Leads and Lifts applicable to all Departments)

PART -2: Roads and Bridges.

PART -3: Buildings including Electrical Works.

PART -4: Drinking Water Supply and Public Health (ONLY FOR WORKS DONE BY MANUAL MEANS)

2) Brief description of item of work (Specification of work item):

Brief description of the item of work to cover all important aspects of the work included in the Data. On reading the item description, the user should be in a position to assess the various cost components involved in the work.

3) Data for assessing quantities:

The data reflects various assessments / assumptions made in arriving at the quantities of materials, machinery, labour and other in-puts. In case of plants and equipment the output of main plant is worked out and the requirement of all other inputs and assessed to match the output of the main plant. Cycle time of operations is the criteria for assessing the output of equipment. Generally, the equipment manufacturers furnish the output of machinery under ideal conditions of working. Suitable job and management efficiency factors are considered while working out the average output of machinery under field conditions. In case of combination of machinery and manpower, the assessment of manpower shall match the output of machinery.

Though cycle time of operations is the criteria for hourly / daily out-put of machinery work-force, the actual progress of work depends on several other factors such as power interruptions, minor break-downs, time for meals and other needs of work-force, stray rains etc. Therefore, it is the general practice to consider 50 minutes as the actual working time per hour for working out the hourly / daily out-put of machinery / work-force. CWC / BIS guide-lines stipulate the actual working hours for the purpose of equipment planning and utilisation. The daily out-put is computed duly considering the actual available working time and feedback from the field.

- For gate and hoist works, it is the general practice to specify the quantity of work in terms of number of sets of embedded parts / gates. The requirement of machinery and work-force for cutting, bending, fabrication, erection, painting etc., is assessed to commensurate with the task involved.
- The data for gates and E.M. Parts is arrived per Ton quantity.
- The data for Hoists and Gantry Cranes is worked out on the basis of capacity in tonnage.

3) The lead and lift charges provided in PART-I (B) are generally applicable and common to all Departments. For applicability of lead and lift charges for various materials and other details, please refer to COM-LDLFT in lead and lift charges statement. For any item not covered in this part, the rates as provided in the data of the relevant works may be adopted in preparation of estimates.

4) The basic material inputs needed for all works are listed and incorporated in the data. The requirements are analyzed and the specifications adopted shall confirm to Standards published by the BIS.

- The labour and material rates will be communicated by the Board of Chief engineers.
- Unless otherwise specified, all material rates shall be exclusive of GST, duties, levies, transportation and handling costs up to project area.
- For sand, gravel, murum, stones, course aggregates etc, the rates are to be fixed for delivery at Quarry, adding loading charges by machinery / manual means and idle hire charges of machinery (as per table under chapter "conveyance or lead and lift charges"), as applicable.
- For steel, AC sheets, GI sheets, Hume pipes, wood and stone slabs, the rates are to be taken prevailing at major commercial centre near project area. The lead charges, as applicable are to be added in preparing estimates.
- The specifications of the aggregates for sizes and gradation and its adoption shall be as per IS 383.

6) The labour component in the data is mentioned for unit work.

- No allowance towards labour importation and labour amenities added extra as they are included in the recommended overheads.

- On Labour Component: Certain additional allowances are added extra to the wages of labour (i.e. only on labour component in the work item) in the form of percentage, as recommended by the Government/Board of Chief Engineers due to statutory and other provisions.
- However, If more than one area allowances, such as those for (1) Municipalities Agency / Tribal areas (3) Industrial areas are applicable for a particular situation, only the maximum out of the allowable percentages is to be allowed.

7) HIRE CHARGES OF MACHINERY:

The machinery and /or group of machinery for items of works and their output has been worked based on the availability of machinery generally in the market and working in the field successfully, duly considering cycle time, idle time, operator efficiency, type of work etc.

- The hire charge of a machinery / equipment is worked out based on the guidelines published by CWC and BIS codes.
- For the other machinery not covered by the list, the R&B and other users may adopt hire charges as recommended by the MORTH.

8) Lead Charges

- The high level committee has recommended to adopt, for conveyance by head load, a minimum lead of 50 meters and additional lead up to 150 meters in the intervals of 50 meters. Beyond 150 meters lead, only machinery rates are to be adopted.
- The basic work item rates provided in the Standard Data include 50 m or 1 km as initial lead and no lead charges shall be allowed where the source of material is within the initial lead specified in item rate. Additional lead charges shall be allowed for the lead exceeding initial lead specified in the item rate. The Guidelines may be followed regarding adding Lead charges as given against each chapter.
- The lead charges per unit quantity for conveyance of the materials are worked out, and included in the schedule of rates in increment of 50 m for head load and in increment of 1 km for mechanical mode.
- The rates for lead charges by head load up to 150 meters and by machinery up to 5 km, shall be cumulative and inclusive of lead charges for preceding lead. For lead beyond 5 km, the lead charges shall be worked out on per km basis.

9) Loading and Unloading charges for Materials

The following features are considered:

1. Loading and unloading charges are not payable for conveyance by head load.
2. Loading and unloading charges are not payable for conveyance by mechanical means, for disposal of excavated material unless specified.
3. The rates for unloading of materials except earth, sand, gravel, coarse aggregate, rubble, size stone and cut stone, are inclusive of stacking wherever applicable.

10) LIFT CHARGES:

- The data includes initial lift charges of 3 meters, for materials conveyance by head load, Additional leads in the interval of 1.0 meters are worked out, as additional labour input and incorporated in the chapter on "Lead and lifts".
- Where the conveyance / lifting of material is done by mechanical means, lift charges shall not be considered, as the cycle time of operation of the machine includes lifts involved.
- The data and rates for lift charges is cumulative and are inclusive of rates for preceding lifts also.

11) Wastage of Materials

(i) Cement: No wastage allowance is recommended towards the quantity of cement used in works, as the wastage is already included in the input and in major works, bulk quantities are used.

(ii) Steel: The wastage of steel @ 2.5% is allowed for gates and allied structures. For RCC works the wastage is @2.5% for the reinforcement rods above 36mm dia. and @ 5% for rods below 36mm dia. including overlaps, if they are not welded. If welding is adopted for the reinforcement rods even for below 36mm dia, 2.5% of wastage is only recommended.

12) Provision for rate for water: -

The Committee has recommended not to consider the water charges in the Irrigation Project works. But it may be considered in specific cases as per the site conditions.

13) In respect of RCC works the rate for cement concrete for 1 cum is worked separately for all grades based on Indian Standards. The rate for ton is calculated separately and to be added separately in the estimates of RCC works as a separate item.

14) Soil classification: The Committee recommended to allow uniform classification of soils for all Departments and data is worked out accordingly.

1. All soils
2. Marshy soil
3. Ordinary rock (not requiring blasting),
4. Hard rock
    a. Hard rock (requiring blasting)
    b. Hard rock (controlled blasting)
    c. Removable by chiselling (blasting prohibited)

15) Use of Super Plasticizers and Admixtures:

Concrete admixtures such as Air-Entraining Agent (AEA) / Water reducing agent can be used advantageously for better quality concrete. The high level committee has recommended to adopt for super plasticizers and admixtures at 0.4% on cement for concrete work as per MORTH standards for batching plants.

16) Contractor's overheads, profit and other provisions:

- High Level Committee has recommended adding 14% towards contractor overheads and profit including labour importation and amenities, insurance etc., as given below which includes various items as recommended in MORTH data**.**
- The provision for GST for works contracts at 12% or as fixed by the Government from time to time should be made separately in Part-B of the estimate. The provisions allowed in G.O.Ms.No.94, I&CAD, dt: 01.07.03, need not be added separately for the items covered in the contractor overhead charges.

The overhead charges include the following elements:

- Site accommodation, setting up plant, access road, water supply, electricity and general site arrangements.
- Office furniture, equipment and communications
- Expenditure on:
- Corporate office of contractor
- site supervision
- Documentation and "as built" drawings
- Mobilisation/ de-mobilisation of resources
- Labour camps with minimum amenities and transportation to work sites.
- Light vehicles for site supervision including administrative and managerial requirements.
- Laboratory equipment and quality control including field and laboratory testing.
- Minor T & P and survey instruments and setting outworks, including verification of line, dimensions, trial pits and bore holes, where required.
- Watch and ward.
- Traffic management during construction.
- Expenditure on safeguarding environment.
- Sundries.
- Financing Expenditure
- ~~Work insurance/ compensation~~ (Deleted as per the Government Orders G.O.Ms.No.62 I&CAD (Reforms) Department dt:11.11.2014 and consequently CP & OH component reduced to 13.615% from 14%).

17) Excise duty on Supplies: (Deleted)

18) Dewatering & Desilting:

The High level committee considering the local conditions of rainfall / seepage has recommended towards de-watering and de-silting at 3 percent on the relevant work component for which dewatering is required. It is also proposed as per CWC guidelines, to keep a condition in the agreements shall be incorporated, to fix a ceiling of 5% in extreme cases, with the specific approval of Chief Engineer/Government.

19) Computerization of Data:

- A software program is developed by the SPI Unit (Irrigation), which facilitates automatic changes and generation of unit rates, based on basic input rates of Labour, materials and capital cost of machinery.
- A soft ware tool is also developed for auto preparation of estimates based on input quantities.
- Other Departments are also advised to develop such program.

20) In each chapter additional details are incorporated for clarity.

USER GUIDELINES OF REVISED STANDARD DATA

1. Please select the item of work, as given in Index Code, and view the relevant data.
2. The common data items like, lead, lift, conveyance and manual excavation (without involving contracting agencies) is applicable to all Departments (Volume-1)
3. The departments have to adopt the relevant data from other Departments, if such works are executed by them.
4. The unit rate /hire charges, of machinery not covered in the Irrigation data, the MORTH data may be taken with the approval of Board of Chief Engineers.
5. For "Drinking water Supply works and Public Health Items (PART-IV)", the data incorporated is generally applicable only for manual means of execution. The rates deploying machinery have to be worked out by the Board of Chief Engineers and approved for adoption.

ROLE OF CENTRAL COMPETENT AGENCY FOR SCHEDULE OF RATES (BOARD OF CHIEF ENGINEERS)

a) The Board of Chief Engineers under the chairman ship of Engineer-in- chief, (Administration) I & CAD Department is the competent authority to finalise and recommend the Schedule of Rates applicable for all engineering Departments. The board has to assess and incorporate only the three basic inputs required to generate unit work item rates as below.

Basic rates of labour:

Wages of labour commonly required in execution of works has to be arrived and incorporated in the schedule of rates (**Basic Input of Labour Wages),** without adding extra towards area allowances (like municipality allowance, tribal area and ghat road allowances etc, which shall be added to the rates where applicable in the form of separate percentage as explained in the preceding paras. The rates shall be the prevailing daily rates in the State and shall not be less than the minimum wages fixed by the Government from time to time.

Materials rates:

The basic input material rates common to all departmental works are listed out and incorporated (in the chapter "Basic inputs") The material specifications adopted shall confirm to Standards published by the BIS.

The Prevailing market rates for all basic input materials shall be obtained from the major commercial centers near the project areas. Average of the rates, ignoring freak rates, shall be reckoned as the prevailing market rate.

Unless otherwise specified, all material rates shall be exclusive of GST, duties, levies, royalty, transportation and handling costs up to project area.

For sand, gravel, murrum, stones, aggregates etc, the rates are for delivery at Quarry including loading charges and idle hire charges. For steel, Cement, AC sheets, GI sheets, Hume pipes, wood and stone slabs, the rates prevailing at major commercial centre near project area has to be adopted.

Use rate of machinery:

The third parameter for incorporation in the Basic Inputs, is the use rate of machinery. To arrive at the use rate of machinery, the inputs to be incorporated are

- The list and capital cost of machinery required to be used in the construction activity,
- The rate has to be obtained from major manufacturers and outlet sources and the rate shall be the current market price inclusive of all duties and freight charges but exclusive GST.
- The prevailing fuel charges of petrol and diesel are ascertained and average rate adopted.
- Borrow rate of interest as fixed by the Government/competent authority be indicated.
- For the other machinery not covered by the list, the R&B and other users may adopt hire charges as recommended by the MORTH.

b) The Chairman, Board of Chief Engineers or competent authority appointed by the Government, based on the approved basic inputs, load the above three basic parameters in the software program. The unit rate of all works including hire charges of all machinery will be generated automatically for adoption.

He shall communicate the uniform Schedule of rates arrived from Standard Data, to all users for uniform and direct adoption in all infrastructure Departments, as applicable.

WORK ITEM RATES

FOR THE YEAR -2026-27

*** Add Leads and Lifts and Area Allowance as applicable in the estimate**

***** Unit Rates arrived without Seigniorage Charges**

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
Chapter I					
IRR-DAW		DAM AND ALLIED WORKS			
IRR-DAW-1		EXCAVATION & FOUNDATION TREATMENT WORKS:			
IRR-DAW-1-1	1	Excavation for foundation **in all kinds of soil** including boulders **upto 0.30 m** diameter for dam, spillway, intake structure and other appurtenant works and placing the excavated soil neatly in dump area or disposing off the same as directed etc., complete **with initial lead upto 1 km and all lifts.**	cum	178.67	
		Labour Component (including contractor's profit and Overheads)	cum		48.60
IRR-DAW-1-2	2	Excavation for foundation in **ordinary rock (including HDR)** without blasting including boulders **above 0.3 m upto 0.6 m** dia for dam, spillway, intake structure and other appurtenant works and placing the excavated material neatly in dump area or disposing off the same as directed etc., complete **with initial lead upto 1 km and all lifts.**	cum	235.12	
		Labour Component (including contractor's profit and Overheads)	cum		62.90
IRR-DAW-1-3	3	Excavation for foundation in **hard rock (including F&F)** requiring blasting including boulders **above 0.6 m upto 1.2 m dia.** for dam, spillway, intake structure and other appurtenant works and placing the excavated material neatly in dump area or disposing off the same as directed etc., complete **with initial lead upto 1 km and all lifts.**	cum	345.17	
		Labour Component (including contractor's profit and Overheads)	cum		111.00
IRR-DAW-1-3-A New Item2015-16-1	4	Excavation for foundation in **hard rock (including F&F rock) including boulders above 0.6 m upto 1.2 m dia. by controlled blasting** and controlling fly rock by muffling arrangements for dam, spillway, intake structure and other appurtenant works and other open foundation works and placing the excavated material neatly in dump area or disposing off the same as directed etc., **complete with initial lead upto 1 km and all leads**	cum	492.79	
		Labour Component (including contractor's profit and Overheads)			132.10
			cum		
IRR-DAW-1-4(a)	5	Excavation for foundation in **hard rock of all toughness** by blasting including boulders **above 1.2 m dia.** for dam, spillway, intake structure and other appurtenant works and placing the excavated rock neatly in dump area or stack yard including levelling as directed etc., complete **with initial lead upto 1 km and all lifts.**	cum	607.10	
		Labour Component (including contractor's profit and Overheads)	cum		213.70
IRR-DAW-1-5(b)	6	Excavation for foundation in **hard rock of all toughness** including boulders **above 1.2 m dia. by controlled blasting method** and controlling fly-rock by muffling arrangements for dam, spillway, intake structure and other appurtenant structures etc., including placing and levelling the excavated rock neatly in dump area or other place as directed etc., complete **with lead upto upto 1 km and all lifts.**	cum	895.73	
		Labour Component (including contractor's profit and Overheads)	cum		236.80

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-DAW-1-6(c)	7	Excavation for foundation **in hard rock of all toughness including boulders above 1.2 m dia. by line drilling and smooth blasting** and controlling fly-rock by muffling arrangements for dam, spillway, intake structure and other appurtenant structures etc., including dressing sides and bed to required level / profile, placing and levelling the excavated rock neatly in dump area or other place as directed etc., complete **with lead upto 1 km and all lifts.** i) For the purpose of payment 1 m width of excavation along boundary of excavation shall be treated as excavation by line drilling and smooth blasting and remaining portion shall be treated as excavation by normal / controlled blasting as the case may be. ii) The rate includes controlling fly-rock wherever required. iii) The rate under this item shall be paid only on ascertaining that the excavated face has come off neatly as per specifications or atleast 50 percent of smooth blast holes are visible for inspection and are spaced at specified interval. iv) In case, where the above criteria is not fulfilled payment shall be restricted to rate provided for excavation by normal blasting or controlled blasting as the case may be.	cum	1330.54	
		Labour Component (including contractor's profit and Overheads)	cum		618.60
IRR-DAW-1-7	8	Preparing **foundation bed for masonry or concrete** by benching, stepping, removing all loose material by wedging / chiselling and disposing off the same as directed and cleaning the surface with air and water jet etc.,complete **with initial lead upto 50 m and all lifts.**	sqm	65.61	
		Labour Component (including contractor's profit and Overheads)	sqm		57.70
IRR-DAW-1-8	9	Preparing **foundation bed for cut-off trench filling** in rock portion by removing all loose materials by wedging / chiselling and disposing off the same as directed etc., complete **with initial lead upto 50 m and all lifts.**	sqm	48.63	
		Labour Component (including contractor's profit and Overheads)	sqm		48.60
IRR-DAW-1-9	10	**Drilling 45 to 50 mm dia holes** vertical or inclined upto 10 degrees to vertical in **rock /masonry / concrete by percussion drilling** using waggon drill or any other suitable equipment including cost of all materials, machinery, labour, redrilling through partially set grout wherever required etc., complete **for drilling upto 6 m depth from surface.** The item rate for drilling through rock / masonry / concrete includes redrilling through partially set grout, if any, in the portion of the hole drilled and grouted.	Rm	274.72	
	.	Beyond 6 m upto 12 m from surface :	Rm	302.19	
		Beyond 12 m upto 18 m from surface :	Rm	332.41	
		Beyond 18 m upto 24 m from surface	Rm	365.65	
		Beyond 24 m upto 30 m from surface	Rm	402.22	
		Beyond 30 m upto 36 m from surface	Rm	442.44	
		Beyond 36 m upto 42 m from surface	Rm	486.68	
		Beyond 42 m upto 48 m from surface	Rm	535.35	
		Labour Component (including contractor's profit and Overheads)	Rm		93.60
IRR-DAW-1-10	11	**Flushing grout holes of all sizes** with water and air jets alternatively for an average period of **30 minutes** including water intake observations after flushing, cost of all materials, machinery, labour etc., complete.	Rm	74.05	
		Labour Component (including contractor's profit and Overheads)	Rm		37.70
IRR-DAW-1-11(a)	12	**Consolidation grouting with neat cement grout mix** of suitable consistency under specified pressure as directed in drilled holes by stage grouting method including cost of all materials, machinery, labour, redrilling if necessary etc.,complete **with initial lead upto 1 km and all lifts.**	tonne	11792.37	
		Labour Component (including contractor's profit and Overheads)	tonne		5989.90
IRR-DAW-1-12(b)	13	**Curtain grouting with neat cement grout mix** of suitable consistency under specified pressure as directed in drilled holes by stage grouting method including cost of all materials, machinery, labour, redrilling if necessary etc., complete **with initial lead upto 1 km and all lifts.**	tonne	13695.00	
		Labour Component (including contractor's profit and Overheads)	tonne		7737.40
IRR-DAW-1-13	14	Providing and fixing **25 mm dia 3 m long cold twisted deformed steel dowel bars** with one end driven into 45 to 50 mm diameter 1.50 m deep hole drilled in bed rock and other end provided with L-bend for embedding in concrete / masonry of over flow / non-over flow blocks and other appertenant works including cost of drilling and cleaning hole, filling hole with **cement mortar 1 : 1 proportion**, driving anchor rod, cost of all materials, machinery, labour etc., **complete with initial lead upto 1 km and all lifts.**	Each	1288.00	
		Labour Component (including contractor's profit and Overheads)	Each		218.80

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-DAW-1-14	15	**Providing and fixing 25 mm dia. 2.75 m long ribbed steel anchor rods** with one end split and driven firmly using steel wedge into 1.25 m deep 45 to 50 mm dia. hole drilled in bed rock and other end provided with L- bend for embedding in concrete / masonry for spillway and appurtenant works including drilling and cleaning hole, filling hole with thick cement slurry, driving anchor rod, cost of all materials, machinery, labour, steel wedge etc., complete **with initial lead upto 1 km and all lifts.**	Each	1209.49	
		Labour Component (including contractor's profit and Overheads)	Each		249.70
IRR-DAW-2		**REINFORCEMENT & CEMENT CONCRETE WORKS :**			
IRR-DAW-2-1A	16	Providing, fabricating and placing in position **reinforcement steel for RCC,below 36 dia rods** overlaps and wastages wherever required, tying with 1.25 mm diameter soft annealed steel wire, including cost of all materials, machinery, labour etc., complete **with initial lead upto 1 km and all lifts.**	tonne	74195.97	
		Labour Component (including contractor's profit and Overheads)	tonne		7534.00
IRR-DAW-2-1B	17	Providing, fabricating and placing in position **reinforcement steel for RCC above 36 dia with welding** and wastage at 2.5%, tying with 1.25 mm diameter soft annealed steel wire, including cost of all materials, machinery, labour etc., complete **with initial lead upto 1 km and all lifts.**	tonne	76944.22	
		Labour Component (including contractor's profit and Overheads)	tonne		9863.10
IRR-DAW-2-2	18	Providing and laying **insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for plain concrete works** with **initial lead upto 1 km and all lifts.** (**Cement content : 250 kg /cum with use of super plasticiser equla to 0.4% of cement content, CA : 0.98 cum, Blending Ratio of CA -- 40:30:20:10, FA : 0.35 cum)**)	cum	4009.23	
		Labour Component (including contractor's profit and Overheads)	cum		350.40
IRR-DAW-2-2A (new Item1 2010-11)	19	Providing and laying **insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for plain concrete works** with **initial lead upto 1 km and all lifts.** (**Cement content : 300 kg /cum with use of super plasticiser equla to 0.4% of cement content, CA : 0.90 cum, Blending Ratio of CA -- 40:30:20:10, FA : 0.4 cum)**)	cum	4161.62	
		Labour Component (including contractor's profit and Overheads)	cum		350.40
IRR-DAW-2-3	20	Providing and laying **insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for plain concrete works** with **initial lead upto 1 km and all lifts.** (**Cement content : 220 kg /cum with use of super plasticiser, CA: 0.98 cum, Blending Ratio of CA -- 40:30:20:10, FA: 0.37 cum**)	cum.	3843.11	
		Labour Component (including contractor's profit and Overheads)	cum.		350.40
IRR-DAW-2-4	21	Providing and laying **insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,**complete for RCC works** of gallery, sluice, spillway crest, spillway d / s face, energy dissipating structures, training walls, piers, abutments and such other locations **with initial lead upto 1 km and all lifts. (Cement content : 310 kg / cum with use of super plasticiser, CA : 0.90 cum, blending ratio of CA--50:30:20, FA : 0.40 cum**)	cum.	5595.16	
		Labour Component (including contractor's profit and Overheads)	cum.		700.40

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-DAW-2-4A (new Item2 2010-11)	22	Providing and laying **insitu vibrated M-25** (28 days cube compressive strength not less than 25 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,**complete for RCC works** of gallery, sluice, spillway crest, spillway d / s face, energy dissipating structures, training walls, piers, abutments and such other locations with **initial lead upto 1 km and all lifts. (Cement content : 360 kg / cum with use of super plasticiser,CA : 0.90 cum, blending ratio of CA--50:30:20, FA : 0.40 cum**)	cum.	5873.59	
		Labour Component (including contractor's profit and Overheads)	cum.		700.40
IRR-DAW-2-4B (new Item3 2010-11)	23	Providing and laying **insitu vibrated M-25** (28 days cube compressive strength not less than 25 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for **RCC works** of gallery, sluice, spillway crest, spillway d / s face, energy dissipating structures, training walls, piers, abutments and such other locations **with initial lead upto 1 km and all lifts. (Cement content : 380 kg / cum with use of super plasticiser,CA : 0.90 cum, blending ratio of CA--65:35, FA : 0.40 cum)**	cum.	5951.09	
		Labour Component (including contractor's profit and Overheads)	cum.		700.40
IRR-DAW-2-5	24	Providing and laying **insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for plain concrete works **with initial lead upto 1 km and all lifts. (Cement content : 260 kg /cum with use of super plasticiser,CA : 0.90 cum, Blending Ratio of CA -- 50:30:20, FA : 0.40 cum**)	cum.	5995.19	
		Labour Component (including contractor's profit and Overheads)	cum.		2570.80
IRR-DAW-2-6	25	Providing and laying **insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates with placing and **sinking plums of size 150 to 80 mm upto 15 percent** for gravity type structures including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **with initial lead upto 1 km and all lifts. (Cement content : 260 kg / cum of concrete with use of plums and super plasticiser,, CA : 0.77 cum, Blending Ratio of CA : 50:30:20,FA : 0.34 cum, plums of size 150 to 80 mm : 0.25 cum**)	cum.	5853.57	
		Labour Component (including contractor's profit and Overheads)	cum.		2518.30
IRR-DAW-2-7	26	Providing and laying **insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for **plain concrete works** with **initial lead upto 1 km and all lifts. (Cement content 220 kg /cum with use of super plasticiser,CA : 0.90 cum, Blending Ratio of CA : 50:30:20, FA : 0.40 cum**)	cum.	5537.71	
		Labour Component (including contractor's profit and Overheads)	cum.		2329.10
IRR-DAW-2-8	27	Providing and laying **insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for plain concrete works** with **initial lead upto 1 km and all lifts. (Cement content : 280 kg /cum with use of super plasticiser,CA : 0.80 cum, Blending Ratio of CA -- 65:35, FA : 0.44 cum**)	cum.	5699.70	
		Labour Component (including contractor's profit and Overheads)	cum.		2384.80

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-DAW-2-9	28	Providing and laying **insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete f**or RCC works** of spillway bridge, blockouts and such other similar structures with conjested reinforcement with **initial lead upto 1 km and all lifts. (Cement content : 330 kg / cum with use of super plasticiser, CA : 0.80 cum, Blending Ratio of CA -- 65:35, FA : 0.44 cum**).	cum.	8303.50	
		Labour Component (including contractor's profit and Overheads)	cum.		3366.50
IRR-DAW-2-10	29	Providing and forming **porous concrete body drain** of size 68.5 x 68.5 cm with 23 cm diameter central hole using cement and **20 mm down** approved, clean, hard, graded coarse aggregates in **1 : 3.50** proportion by volume including cost of all materials, machinery, labour, formwork, curing etc., complete **with initial lead upto 1 km and all lifts.(M15 Cement content : 400kg/cum, CA : 1cum, Blending Ratio of CA -- 65:35)**	Rm	3106.32	
		Labour Component (including contractor's profit and Overheads)	Rm		1153.90
IRR-DAW-2-11(a)	30	Providing and laying insitu **vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for **RCC solid parapet** consisting of 35 cm x 20 cm kerb, 35 cm x 35 cm x 1 m pillars spaced approximately at 3.35 m c / c, 12.5 cm thick wall 80 cm height with 12.5 cm thick and 35 cm wide coping slab for wall and 12 .5 cm thick 40 cm x 40 cm coping for pillars with top edges of kerb and coping chamferred / rounded as directed etc., complete **(excluding cost of providing and placing reinforcement steel and gate) with initial lead upto 1 km and all lifts. (Cement content 350 kg / cum with use of super plasticiser(0.4% by wt.of cement), CA : 0.80 cum, Blending Ratio of CA--65:35, FA : 0.44 cum)**	Rm	3305.39	
		Labour Component (including contractor's profit and Overheads)	Rm		1431.50
IRR-DAW-2-12(b)	31	Providing and laying **insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for **RCC ornamental parapet** consisting of 35 cm x 20 cm kerb, 35 cm x 35 cm x 1 m pillars spaced approximately at 3.5 m apart, 20 cm x 15 cm posts 80 cm height approximately 30 cm c / c with 12.5 cm thick and 35 cm wide coping slab for posts and pillars with top edges of kerb and coping chamferred or rounded as directed etc., complete (excluding cost of providing and placing reinforcement steel and gate) **with initial lead upto 1 km and all lifts. (Cement content : 350 kg / cum with use of super plasticiser, CA : 0.80 cum, Blending Ratio of CA--65:35, FA : 0.44 cum)**	Rm	3466.10	
		Labour Component (including contractor's profit and Overheads)	Rm		1517.40
IRR-DAW-2-13	32	Providing and laying **insitu M- 25** (28 days cube compressive strength not less than 25 N / sq mm) grade cement concrete using **20 mm down** size approved, clean, hard, graded aggregates for wearing coat including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position in alternate panels, levelling, compacting, finishing, curing, packing joints with asphalt mortar etc., **complete with initial lead upto 1 km and all lifts. (Cement content : 380 kg / cum with use of super plasticiser, CA : 0.80 cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**	cum	6542.36	
		Labour Component (including contractor's profit and Overheads)	cum		2909.10
IRR-DAW-2-14	33	Pre-cooling to control placement temperature of cement concrete in the range of 18 to 21 C at the concrete placement point by inundation of coarse aggregates and adding flaked ice as part of mixing water including cost of all materials, machinery, labour etc., **complete with all leads and lifts**.	cum	103.48	
		Labour Component (including contractor's profit and Overheads)	cum		27.00
IRR-DAW-2-15	34	Conveying and fixing elastomeric bearing for spillway bridge including cleaning and preparing surface, mixing and applying adhesive, fixing bearing in correct position etc., including cost of all materials except bearings, machinery, labour etc., **complete with all leads and lifts.**	Each	676.46	
		Labour Component (including contractor's profit and Overheads)	Each		619.20

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-DAW-2-16	35	Providing and constructing **150 mm dia hume pipe weep holes for concrete / masonry walls** including providing 20 x 20 x 20 cm size porous concrete block made of cement and **20 mm down** coarse aggregate in **1 : 4 proportion** including 10 cm thick sand backing at the junction of wall and soil back fill, cost of all materials, machinery, labour etc., complete **with lead upto 1 km and all lifts.**	Rm	497.30	
		Labour Component (including contractor's profit and Overheads)	Rm		133.50
IRR-DAW-2-17	36	Providing and **forming expansion joint for spillway bridge** consisting of 75 x 75 x 6 mm angles 2 numbers provided with 25 cm long 12 mm dia. anchors fixed to both flanges at 15 cm c /c and 140 x 6 mm plate welded on top of one of the angle including cost of all materials, machinery, labour, providing and fixing 38 mm thick joint filler board matching the thickness of wearing coat, painting etc., **complete with lead upto 1 km and all lifts.**	Rm	2663.21	
		Labour Component (including contractor's profit and Overheads)	Rm		617.30
IRR_DAW-3		**MASONRY & GUNITING WORKS :**			
IRR_DAW-3-1	37	Providing and constructing **un-coursed rubble stone masonry** using approved stones in **cement mortar 1 : 3 proportion** including cost of all materials, machinery, labour, scaffolding, cleaning, packing mortar, wedging stone chips, curing etc., **complete with initial lead upto 1 km and all lifts.(Cement content : 190 kg/cum of masonry, rubble stones : 0.85 cum,stone chips : 0.15 cum/cum, FA : 0.4 cum)**	cum	3725.36	
		Labour Component (including contractor's profit and Overheads)	cum		2159.50
IRR_DAW-3-2	38	Providing and constructing **un-coursed rubble stone masonry** using approved stones in **cement mortar 1 : 4 proportion** including cost of all materials, machinery, labour, scaffolding, cleaning, packing mortar, wedging stone chips, curing etc., **complete with initial lead upto 1 km and all lifts.(Cement content : 143 kg/cum of masonry, rubble stones : 0.85 cum, stone chips : 0.15 cum/cum, FA : 0.4 cum)**	cum	3500.02	
		Labour Component (including contractor's profit and Overheads)	cum		2159.50
IRR_DAW-3-3	39	Providing and constructing **coursed rubble face stone masonry** using approved rubble stones in **cement mortar 1 : 3 proportion** including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, curing etc., **with initial lead upto 1 km and all lifts.(Thickness of the CR face assumed: 0.75 m, Cement content : 178 kg/cum of masonry, rubble stones : 0.35 cum, stone chips : 0.15 cum/cum, FA : 0.375 cum, CR stones 30 x 30 x 45 cm : 9.75 No, CR stones 30 x 30 x 60 cm : 3.25 No)**	cum	4179.98	
		Labour Component (including contractor's profit and Overheads)	cum		2391.70
IRR_DAW-3-4	40	Providing and constructing **coursed rubble face stone masonry** using approved rubble stones in **cement mortar 1 : 4 proportion** including cost of all materials, machinery, labour, scaffolding,ramps, cleaning, packing mortar, wedging stone chips, curing etc., **with initial lead upto 1 km and all lifts. (Cement content : 134 kg/cum of masonry, rubble stones : 0.35 cum, stone chips : 0.15 cum/cum, FA : 0.375 cum, CR stones 30 x 30 x 45 cm : 9.75 No, CR stones 30 x 30 x 60 cm : 3.25 No)**	cum	3969.02	
		Labour Component (including contractor's profit and Overheads)	cum		2391.70
IRR_DAW-3-5	41	Providing and constructing **chisel drafted and hammer dressed face stone masonry** with approved stones in **cement mortar 1 : 3 proportion** including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, curing etc.,complete **with initial lead upto 1 km and all lifts.(Cement content : 167 kg/cum of masonry, rubble stones : 0.35 cum, stone chips : 0.15 cum/cum, FA : 0.35 cum, Dressed stones 30 x 30 x 45 cm : 10 No, Dressed stones 30 x 30 x 60 cm : 3.40 No)**	cum	4665.80	
		Labour Component (including contractor's profit and Overheads)	cum		2919.80
IRR-DAW-3-6	42	Providing and constructing **chisel drafted and hammer dressed face stone masonry** with approved stones in **cement mortar 1 : 4 proportion** including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, curing etc.,complete **with initial lead upto 1 km and all lifts.(Cement content : 125 kg/cum of masonry, rubble stones : 0.35 cum, stone chips : 0.15 cum/cum, FA : 0.35 cum, Dressed stones 30 x 30 x 45 cm : 10 No, Dressed stones 30 x 30 x 60 cm : 3.40 No**)	cum	4464.47	
		Labour Component (including contractor's profit and Overheads)	cum		2919.80

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-DAW-3-7	43	Providing **cement mortar pointing to coursed rubble face stone masonry** 50 mm deep in **CM 1 : 2 proportion** by volume including raking and cleaning joints, pressing mortar into joints, cost of all materials, labour, scaffolding, finishing, curing etc., **complete with initial lead upto 1 km and all lifts.**	sqm	195.94	
		Labour Component (including contractor's profit and Overheads)	sqm		172.70
IRR-DAW-3-8	44	Providing **cement mortar pointing to coursed rubble face stone masonry** 50 mm deep in **CM 1 : 3 proportion** by volume including raking and cleaning joints, pressing mortar into joints, cost of all materials, labour, scaffolding, finishing, curing etc., complete **with initial lead upto 1 km and all lifts.**	sqm	189.53	
		Labour Component (including contractor's profit and Overheads)	sqm		172.70
IRR_DAW-4		**CONTRACTION JOINT WORKS:**			
IRR-DAW-4-1	45	Providing **25 mm thick guniting to rock or masonry surface** in **cement mortar 1 : 3 proportion** by weight including cost of all materials, machinery, labour, raking-out and cleaning joints, scaffolding wherever required and all other ancillary operations etc., complete **with initial lead upto 1 km and all lifts.**	sqm	646.68	
		Labour Component (including contractor's profit and Overheads)	sqm		334.70
IRR-DAW-4-2	46	Providing and **constructing contraction joints** by fixing 16 SWG 60 cm wide annealed copper sheets in two lines with 8 mm dia steel dowel rods on either side at one metre interval, forming 125 x 125 mm size groove in between copper strips for filling asphalt including fixing 15 mm dia two legged G.I pipe with U - bend at bottom for circulation of steam at intervals and forming 150 mm dia formed drain behind water seals including cost of all materials, machinery, labour, filling asphalt, circulation of steam through pipes etc., **complete with all leads and lifts.**	Rm	20317.25	
		Labour Component (including contractor's profit and Overheads)	Rm		347.70
IRR-DAW-4-3	47	Providing and **constructing contraction joints** by fixing 310 mm wide central bulb type approved quality PVC water stop in two lines with 8 mm diameter steel dowel rods on either side at 1m interval, forming 125 x 125 mm size groove in between two water stops, providing & fixing 15 mm dia two legged G.I pipe with U-bend at bottom for circulation steam at interval, forming 150 mm diameter formed drain behind water seals including filling groove with asphalt, circulation of steam at intervals, cost of all materials, machinery, labour etc., **complete with all leads and lifts.**	Rm	2681.50	
		Labour Component (including contractor's profit and Overheads)	Rm		234.00
IRR-DAW-4-4	48	Providing and **constructing contraction joints** by fixing 16 SWG 60 cm wide annealed copper sheets in single line with 8 mm dia steel dowel rods on either side at 1 metre interval including cost of all materials, machinery, labour etc., complete with all leads and lifts.	Rm	9587.54	
		Labour Component (including contractor's profit and Overheads)	Rm		269.00
IRR-DAW-4-5	49	Providing and **constructing contraction joints** by fixing 23 cm wide central bulb type PVC water stop in single line supported by 10 mm dia steel dowel rods on either side at 1 metre interval including cost of all materials, machinery, labour, valcunising joints etc., **complete with all leads and lifts.**	Rm	350.18	
		Labour Component (including contractor's profit and Overheads)	Rm		217.50
IRR-DAW-5		**EARTH / ROCKFILL EMBANKMENT WORKS :**			
IRR-DAW-5-1	50	**Providing hearting embankment** using selected impervious soil from **approved borrow areas** in layers of **25 to 30 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transportation, spreading soil in layer of specified thickness, breaking clods, sectioning, watering, compacting to density control of not **less than 95 percent** or as stipulated using **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., **complete with initial lead upto 1 km and all lifts.**	cum	195.57	
		Labour Component (including contractor's profit and Overheads)	cum		40.70
IRR-DAW-5-2	51	Providing **cut-off trench filling** using **selected impervious soil** from **approved borrow areas** in layers of **25 to 30 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transportation, spreading soil to specified thickness, breaking clods, sectioning, watering, compacting to density control of **not less than 95 percent** using **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** as stipulated etc., complete with **initial lead upto 1 km and all lifts.**	cum	210.57	
		Labour Component (including contractor's profit and Overheads)	cum		44.30

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-DAW-5-3	52	Providing **casing embankment** using **semi-pervious soil** from **approved borrow areas** in layers of **25 to 30 cm** before compaction including cost of all materials, machinery, labour, all other operations such as excavation, sorting out, transportation, spreading soil in layers of specified thickness, breaking clods, sectioning, watering, compacting to density control of **not less than 95 percent** using **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** as stipulated etc., complete with **initial lead upto 1 km and all lifts.**	cum	210.64	
		Labour Component (including contractor's profit and Overheads)	cum		44.20
IRR-DAW-5-4	53	Providing **casing embankment** using **semi-pervious soil available from excavation** in layers of **25 to 30 cm** before compaction including cost of all materials, machinery, labour, all other operations such as re-excavation, sorting out, transportation, spreading in layers of specified thickness, breaking clods, sectioning, watering, compacting to specified density control of **not less than 95 percent** using **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller as stipulated etc., complete with initial lead upto 1 km and all lifts.**	cum	178.09	
		Labour Component (including contractor's profit and Overheads)	cum		37.50
IRR-DAW-5-4-A (New Item1 - 2011-12)	54	Providing **casing embankment** using **semi-pervious soil available from excavation** in layers of **25 to 30 cm** before compaction including cost of all materials, machinery, labour, all other operations such as re-excavation, sorting out, transportation, spreading in layers of specified thickness, breaking clods, sectioning, watering, compacting to specified density control of **not less than 90 percent** using **2Tonne Roller** as stipulated etc., complete **with initial lead upto 1 km and all lifts. (For Maintenance Works)**	cum	123.84	
		Labour Component (including contractor's profit and Overheads)	cum		37.50
IRR-DAW-5-5	55	Providing **homogeneous embankment** using soil **from approved borrow area** in layers of **25 to 30 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transportation, spreading soil in layer of specified thickness, breaking clods, sectioning, watering, compacting to density control of **not less than 95 percent** or as stipulated using **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., **complete with initial lead upto 1 km and all lifts.**	cum	198.97	
		Labour Component (including contractor's profit and Overheads)	cum		41.50
IRR-DAW-5-6	56	Providing **embankment adjacent to masonry / concrete structures** and **filling trial pits** using **impervious soil from approved borrow areas** in layers of **10 to 15 cm** and compacting each layer to density control of **not less than 95 percent** using **pneumatic tampers or by vibratory earth rammers** including cost of all materials, machinery, labour, picking previous layer, spreading soil in layer, breaking clods, watering etc., complete **with initial lead upto 1 km and all lifts.**	cum	411.39	
		Labour Component (including contractor's profit and Overheads)	cum		229.60
IRR-DAW-5-7	57	Providing and **constructing rockfill embankment** with 300 mm down graded stones and quarry spalls from **approved source** including cost of all materials, machinery, labour, spreading stones and spalls in layers, hand packing, wedging, finishing the surface to required slopes etc., **complete with initial lead upto 1 km and all lifts.**	cum	647.44	
		Labour Component (including contractor's profit and Overheads)	cum		206.10
IRR-DAW-5-8	58	Providing and **constructing dry rubble rock-toe** using rubble and stone chips from **approved source** including cost of all materials, machinery, labour, hand packing rubble and stone chips, finishing top and sides to required slopes etc., complete **with initial lead upto 1 km and all lifts.**	cum	807.47	
		Labour Component (including contractor's profit and Overheads)	cum		396.60
IRR-DAW-5-9	59	Providing and **constructing dry rubble rock-toe** with rubble and stone chips from **dump yard** including cost of all materials, machinery, labour, hand packing rubble and stone chips, finishing top and sides to required slopes etc., complete **with initial lead upto 1 km and all lifts.** Note: Useful rubble and stone chips will be issued at dump yard at the issue rate for usefull rubble /stone chips. Sorting out and breaking charges included in rate analysis.	cum	717.87	
		Labour Component (including contractor's profit and Overheads)	cum		279.20

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-DAW-5-9-A (New Item1-2020-21)	60	Providing and constructing dry rock pitching for groynes/platform using un-coursed rubble stone of size 300 mm thick from quarry to site of work including cost of all materials, machinery, labour charge hand picking un-coursed rubble stone to the designed profile with all leads and all lifts etc for **Above Water level**.	cum	907.49	
		Labour Component (including contractor's profit and Overheads)	cum		279.20
IRR-DAW-5-9-B (New Item2(2020-21)	61	Providing and constructing dry rock pitching for groynes using un-coursed rubble stone of size 300 mm thick and un-coursed rubble stone chips from quarry to site of work including cost of all materials,machinery, labour charge hand picking un-coursed rubble stone and chips to the designed profile with all leads and all lifts etc for **Below Water level**.	cum	660.15	
		Labour Component (including contractor's profit and Overheads)	cum		31.80
IRR-DAW-5-10	62	Providing and **laying 30 cm diameter open jointed hume pipes with collars in rock-toe** for drainage including cost of all materials, machinery, labour etc., **complete with lead upto 1 km and all lifts.**	Rm	817.35	
		Labour Component (including contractor's profit and Overheads)	Rm		62.90
IRR-DAW-6		**FILTER & PITCHING WORKS :**			
IRR-DAW-6-1	63	Providing and **constructing 1.20 m internal diameter and average 3 m height RCC manhole** with 60 cm dia. top cover in **M-15** grade cement concrete using **20 mm down graded**, clean, hard coarse aggregate, 20 cm thick for bed / sides / top slab / 1.5 m long cut-off wall and 7.5 cm thick for cover including providing 12 mm dia reinforcement bars at 30 cm c / c bothways for bed / sides / cut-off wall / top slab / rungs and 8 mm dia bars at 15 cm c / c bothways for cover, excavation for foundation, providing 30 cm dia hume pipe outlet, cost of all materials, machinery, labour, formwork, scaffolding, batching, mixing, laying, vibrating, finishing, curing etc., **complete with lead upto 1 km and all lifts.(Cement content : 300 kg/cum , CA : 0.80 cum, Blending Ratioof CA -- 65:35,FA : 0.44 cum, superplasticizer (0.4% by wt. of cement)**	Each	61173.18	
		Labour Component (including contractor's profit and Overheads)	Each		21447.30
IRR-DAW-6-2	64	Providing and **constructing longitudinal and cross graded filter drains** using sand and 80-20 mm and 20 mm down graded aggregates **satisfying specified filter creteria** in layers as per specifications including cost of all materials, machinery, labour, laying to required slopes, compaction etc. complete **with initial lead upto 50 m and all lifts.**	cum	1076.62	
		Labour Component (including contractor's profit and Overheads)	cum		304.00
IRR-DAW-6-3	65	Providing and **constructing 1.40 m thick vertical or inclined graded filter** media consisting of **20 cm thick sand layers, 25 cm thick 20 mm down coarse aggregate layer**s and 50 cm thick 80-20 mm coarse aggregate layer using approved materials satisfying specified filter creteria as per specifications including cost of all materials, machinery, labour, laying to required slope, compaction etc., complete **with initial lead upto 50 m and all lifts.**	cum	1320.07	
		Labour Component (including contractor's profit and Overheads)	cum		304.00
IRR-DAW-6-4	66	Providing and **constructing graded filter media below and behind rock-toe** consisting of **20 cm thick sand, 25 cm thick 20 - 4.75 mm and 40 cm thick 80 - 20 mm size graded coarse aggregates** satisfying filter creteria as per specifications including cost of all materials, labour, machinery, laying to required slope, compaction etc., complete **with initial lead upto 50 m and all lifts.**	cum	1274.10	
		Labour Component (including contractor's profit and Overheads)	cum		273.10
IRR-DAW-6-4-A (New Item2 2011-12)	67	Providing and **constructing graded filter media below and behind rock-toe** consisting of **30 cm thick, 80 - 20 mm size graded coarse aggregates** satisfying filter creteria as per specifications including cost of all materials, labour, machinery, laying to required slope, compaction etc., **complete with initial lead upto 50 m and all lifts.**	cum	1576.92	
		Labour Component (including contractor's profit and Overheads)	cum		103.20
IRR-DAW-6-5	68	Providing and **laying filter media consisting of 2 layers of 250 gsm poly-propeline non-woven filter fabric and 400 mm thick 20 mm down graded coarse aggregate** for vertical / inclined and horizontal filter blanket for embankment including cost of all materials, machinery, labour etc., complete with lead upto 50 m for aggregate **and all leads for fabric and all lifts.**	sqm	1146.03	
		Labour Component (including contractor's profit and Overheads)	sqm		118.60

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-DAW-6-6	69	Providing and **constructing 45 cm thick chimney filter** using clean approved sand satisfying filter creteria including cost of all materials, machinery, labour, compacting etc., **complete with initial lead upto 50 m and all lifts.**	cum	242.23	
		Labour Component (including contractor's profit and Overheads)	cum		242.20
IRR-DAW-6-7	70	Providing and **constructing 90 cm thick transition cum filter** media behind rockfill using approved sand and 80-20 mm and 20 mm down graded aggregates satisfying the filter creteria in layers of 30 cm thickness each as per specifications including cost of all materials, machinery, labour, laying each layer to required slope, compaction etc., complete **with initial lead upto 50 m and all lifts.**	cum	1263.25	
		Labour Component (including contractor's profit and Overheads)	cum		319.50
IRR-DAW-6-8	71	Providing and **constructing 60 cm thick hand packed rough stone revetment with 65 to 75 cm long through stones** at 1.50 m c / c over a backing of 45 cm thick graded filter media consisting of sand, 10 mm and 40 mm size approved graded aggregates laid in layers of 15 cm thick each including cost of all materials, machinery, labour, laying to required slopes, wedging with chips, finishing etc. complete **with initial lead upto 50 m and all lifts.**	sqm	1194.12	
		Labour Component (including contractor's profit and Overheads)	sqm		348.30
IRR-DAW-6-9	72	Providing and **constructing 60 cm thick hand packed rough stone revetment with 65 to 75 cm long through stones** at 1.50 m c / c over a backing of 60 cm thick graded filter media consisting of sand, 10 mm and 40 mm size approved graded aggregates laid in layers of 20 cm thick each including cost of all materials, machinery, labour, laying to required slopes, wedging with chips, finishing etc. complete **with initial lead upto 50 m and all lifts.**	sqm	1399.93	
		Labour Component (including contractor's profit and Overheads)	sqm		394.70
IRR-DAW-6-10	73	Providing and **constructing 60 cm thick hand packed rough stone riprap over a backing of 45 cm thick graded filter** media consisting of sand, 10 mm and 40 mm size graded approved aggregates laid in layers of 15 cm thick each including cost of all materials, machinery, labour, laying to required slopes, wedging with stone chips etc., **complete with initial lead upto 50 m and all lifts.**	sqm	1086.59	
		Labour Component (including contractor's profit and Overheads)	sqm		268.20
IRR-DAW-6-11	74	Providing and **constructing 75 cm thick hand packed rough stone riprap over a backing of 45 cm thick graded filter** media consisting of sand, 10 mm and 40 mm size graded approved aggregates laid in layers of 15 cm thick each including cost of all materials, machinery, labour, laying to required slopes, wedging with stone chips, etc., complete **with initial lead upto 50 m and all lifts.**	sqm	1193.91	
		Labour Component (including contractor's profit and Overheads)	sqm		292.00
IRR-DAW-6-12	75	Providing and **constructing 90 cm thick hand packed rough stone riprap over a backing of 45 cm thick graded filter** media consisting of sand, 10 mm and 40 mm size graded approved aggregates laid in layers of 15 cm thick each including cost of all materials, machinery, labour, laying to required slopes, wedging with stone chips etc., **complete with initial lead upto 50 m and all lifts.**	sqm	1327.80	
		Labour Component (including contractor's profit and Overheads)	sqm		339.50
IRR-DAW-6-13	76	Providing and **laying Hariyala or other approved quality turfing sods** for the slopes of earthen embankments over 20 mm thick sand backing including cost of all materials, machinery, labour including preparing surface, spreading sand, watering for 15 days etc., **complete with initial lead upto 1 km and all lifts.**	sqm	541.96	
		Labour Component (including contractor's profit and Overheads)	sqm		134.30
Chapter II					
IRR-TAW		**TUNNEL AND ALLIED WORKS**			
IRR-TAW-1		**EXCAVATION :**			
IRR-TAW-1-1	77	**Excavation for adit by tunnelling methods in all types of rock** including cost of all materials, machinery, labour, scaling excavated surface, ventilation, lighting, drainage, removing and hauling the excavated muck outside adit upto specified dump area and all other ancillary operations etc., **complete with initial lead upto 50 m and all lifts.**	cum	2566.10	
		Labour Component (including contractor's profit and Overheads)	cum		1194.00

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-TAW-1-2	78	**Excavation for vertical / inclined shaft in all types of soft / hard rock** including cost of all materials, machinery, labour, shoring, strutting, scaling excavated surface, ventilation, lighting, drainage, removing and hauling excavated muck outside shaft upto specified dump area and all other ancillary operations etc., **complete with initial lead upto 1 km and all lifts.**	cum	3762.48	
		Labour Component (including contractor's profit and Overheads)	cum		2417.30
IRR-TAW-1-3	79	**Excavation for tunnel by tunnelling methods in rock not requiring supports** including cost of all materials,machinery, labour, scaling excavated surface, removing under-cuts, ventilation, lighting, drainage, removing and hauling the excavated muck outside tunnel upto specified dump area and all other ancillary operations etc., **complete with initial lead upto 1 km and all lifts.**	cum	2627.76	
		Labour Component (including contractor's profit and Overheads)	cum		1176.60
IRR-TAW-1-4	80	**Excavation for tunnel by tunnelling methods including excavation for supports in all types of soil / rock strata requiring supports** (excluding cost of providing supports) including cost of all other materials, machinery, labour, scaling excavated surface, ventilation, lighting, drainage, removing and hauling the excavated muck outside tunnel upto specified dump area and all other ancillary operations etc., **complete with initial lead upto 1 km and all lifts.**	cum	2710.33	
		Labour Component (including contractor's profit and Overheads)	cum		1215.30
IRR-TAW-1-5	81	**Excavation for tunnel by heading and benching tunnelling methods** including excavation for supports in all types of soil / rock strata requiring supports (excluding cost of providing supports) for roof before benching including cost of all other materials, machinery, labour, scaling excavated surface, ventilation, lighting, drainage removing and hauling excavated muck outside tunnel upto specified dump area and all other ancillary operations etc., complete **with initial lead upto 1 km and all lifts.** NOTE: Where mucking is to be carried out through shaft using winch and mucking tub system increase the basic rates for items 3, 4 & 5 by 8 percent.	cum	2803.84	
		Labour Component (including contractor's profit and Overheads)	cum		1301.20
IRR-TAW-1-6	82	**Removing and hauling muck overfallen** due to natural causes such as geological faults etc., out of tunnel including breaking large fragments by blasting if necessary and disposing off the same in specified dump area or as directed including cost of all materials, machinery, labour, ventilation, drainage, lighting and all other ancillary operations etc., complete **with initial lead upto 1 km and all lifts.**	cum	528.73	
		Labour Component (including contractor's profit and Overheads)	cum		182.40
IRR-TAW-2		**DEWATERING & GUNITING WORKS :**			
IRR-TAW-2-1	83	**Dewatering tunnel by pumping out water** collected by natural drainage inside tunnel including providing sump wherever necessary, cost of all materials, machinery, labour, drainage, lighting, ventilation and all other ancillary operations etc., complete.	Kwhr	35.05	
		Labour Component (including contractor's profit and Overheads)	Kwhr		16.90
IRR-TAW-2-2	84	**Providing 25 mm thick guniting to sides and arch** of tunnel in **cement mortar 1 : 3** proportion by weight including cost of all materials, machinery, labour, ventilation, lighting, drainage and all other ancillary operations etc., complete **with lead upto 1 km and all lifts.**	sqm	804.00	
		Labour Component (including contractor's profit and Overheads)	sqm		378.90
IRR-TAW-2-3 (new Item4 2010-11)	85	**Shortcreting in two layers (each layer+38 mm thickness) for slabs** duly fixing chain weld wire mesh 100 x 100x5 mm in between the two layers including cost and conveyance of all materials, labour charges, all heads, lifts, centering, scaffolding, machine mixing, laying concrete with shortcrete machine etc. complete as per specification and as directed by Engineer-in-Charge	sqm	1800.44	
		Labour Component (including contractor's profit and Overheads)	sqm		378.90
IRR-TAW-3		**TEMPORARY & PERMANENT SUPPORTS :**			

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-TAW-3-1	86	Providing and **fixing 25 mm diameter steel rock bolts with mechanical / wedge type anchorage** including drilling 35 mm dia holes, providing 15 cm long 20 mm thick steel tapered wedge, 10 mm thick plate washers and nuts, tightening bolt by torque wrench, cost of all materials, machinery, labour, ventilation, lighting, drainage and all other ancillary operations etc., **complete with lead upto 1 km and all lifts.**	Rm	1629.31	
		Labour Component (including contractor's profit and Overheads)	Rm		626.50
IRR-TAW-3-2	87	Providing and **fixing 25 mm diameter steel rock bolts with resin bond cement capsule anchorage** including drilling 35 mm dia holes, inserting grout capsule, driving bolt,fixing 10 mm thick plate washers and nuts and tightening the same by torque wrench after hardening of cement grout, cost of all materials, machinery, labour, ventilation, lighting, drainage and other ancillary operations etc., **complete with lead upto 1 km and all lifts.**	Rm	1549.45	
		Labour Component (including contractor's profit and Overheads)	Rm		578.20
IRR-TAW-3-3	88	Providing, fabricating and **fixing in position permanent structural steel supports as per details** including cost of all materials, machinery, labour, cutting, bending, welding, grinding, lighting, ventilation, drainage and all other ancillary operations etc., complete **with initial lead upto 1 km and all lifts.**	tonne	131659.50	
		Labour Component (including contractor's profit and Overheads)	tonne		33815.50
IRR-TAW-3-4	89	Providing, fabricating and **fixing in position temperary structural steel supports as per details** and dismantling the same before concreting including cost of all materials, machinery, labour, cutting, bending, welding, grinding, ventilation, lighting, drainage and all other ancillary operations etc.,complete **with initial lead upto 1 km and all lifts.**	tonne	34502.18	
		Labour Component (including contractor's profit and Overheads)	tonne		16995.90
IRR-TAW-3-5	90	Providing and fixing **hard variety cut jungle wood for lagging / blocking locations in tunnel** wherever required including cost of all materials, machinery, labour, fixing in position, lighting, ventilation, drainage etc complete **with all leads and lifts.**	cum	32954.69	
		Labour Component (including contractor's profit and Overheads)	cum		3107.10
IRR-TAW-4		**MASONRY WORKS :**			
IRR-TAW-4-1	91	Providing and **constructing un-coursed rubble stone masonry** with approved stones from tunnel excavated muck in **cement mortar 1 : 6** proportion for backfilling over cuts / slips on tunnel sides due to geological faults etc., including cost of all materials, machinery, labour, cleaning,scaffolding, packing mortar, wedging stone chips, curing, ventilation, lighting, drainage complete **with lead upto 1 km and all lifts.(cement content : 95 kg/cum of masonry, Rubble stones : 0.83 cum, Stone chips : 0.13 cum,FA : 0.40 cum)**	cum	3024.63	
		Labour Component (including contractor's profit and Overheads)	cum		1684.60
IRR-TAW-5		**REINFORCEMENT & CONCRETE WORKS :**			
IRR-TAW-5-1	92	Providing, fabricating and placing in position **reinforcement steel for tunnel RCC works** including cleaning, straightening, cutting, bending, hooking, lapping / welding joints wherever required, tying with 1.25 mm dia.soft annealed steel wire, including cost of all materials, labour, machinery, ventilation, lighting, drainage etc.,complete **with initial lead upto 1 km and all lifts.**	tonne	97479.38	
		Labour Component (including contractor's profit and Overheads)	tonne		21711.80
IRR-TAW-5-2	93	Providing and laying **insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates crushed from tunnel excavated muck for filling and levelling over-cuts in bed due to geological faults etc., including cost of all materials, machinery, labour, cleaning bed, batching, mixing, conveying and laying, levelling, compacting, finishing, curing, lighting, ventilation, drainage etc., **complete with initial lead upto 1 km and all lifts. (Cement content : 220 kg / cum, CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum, Superplasticizer 0.4% by wt. of cement)**	cum	6783.35	
		Labour Component (including contractor's profit and Overheads)	cum		1635.30

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-TAW-5-3	94	Providing and laying **insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sqmm) grade cement concrete using **40 mm and down size** approved clean, hard, graded aggregates crushed from tunnel muck for kerb and bed lining including cost of all materials, machinery, labour, formwork, batching, mixing, conveying upto placing point in agitator cars, placing in position, levelling, vibrating, finishing, curing, ventilation, lighting, drainage and all other ancillary operations etc., complete **with lead upto 1 km and all lifts. (Cement content 330 kg / cum for use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**	cum	8127.26	
		Labour Component (including contractor's profit and Overheads)	cum		2033.60
IRR-TAW-5-4	95	Providing and laying **insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sqmm) grade cement concrete using **40 mm and down size** approved clean, hard, graded aggregates crushed from tunnel muck for sides and arch lining including cost of all materials, machinery, labour, formwork, batching, mixing, conveying upto placing point in agitator cars, placing in position, levelling, vibrating, finishing, curing, ventilation, lighting, drainage and all other ancillary operations etc., complete **with lead upto 1 km and all lifts. (Cement content 330 kg / cum for use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**	cum	8967.26	
		Labour Component (including contractor's profit and Overheads)	cum		1659.80
IRR-TAW-6		**DRILLING & GROUTING WORKS :**			
IRR-TAW-6-1	96	**Drilling 32 mm diameter grout holes in concrete / rock by percussion drilling** using jack hammer or stooper drills as directed to specified depth for consolidation / contact grouting including cost of all materials, machinery, labour, cleaning holes, ventilation, lighting, drainage and all other ancillary operations etc., complete.	Rm	588.52	
		Labour Component (including contractor's profit and Overheads)	Rm		300.90
IRR-TAW-6-2	97	**Grouting cement slurry in grout holes under specified pressure for consolidation / contact grouting** including cost of all materials, machinery, labour, redrilling wherever necessary, ventilation,lighting, drainage and other ancillary operations etc., complete **with lead upto 1 km and all lifts.**	tonne	12069.05	
		Labour Component (including contractor's profit and Overheads)	tonne		4681.40
IRR-TAW-6-3	98	**Drilling 75 mm diameter drainage holes** vertical or inclined in rock / concrete in tunnel by **percussion drilling** using waggon drill or other suitable drilling equipment including cost of all materials, machinery, labour, ventilation, lighting, drainage etc., complete.	Rm	484.77	
		Labour Component (including contractor's profit and Overheads)	Rm		124.20
Chapter III					
IRR-CAW		**CANAL AND ALLIED WORKS**			
IRR-CAW-1		**EXCAVATION WORKS :**			
IRR-CAW-1-1	99	Excavation **in all kinds of soil** including boulders **upto 0.3 m diameter** for **canal**, seating of embankment, filter drains / catch water drains etc., including dressing bed and sides to required level and profile, cost of all materials, machinery, labour, placing the excavated soil neatly in dump area or for the formation of service road / embankment as directed etc., complete **with initial lead upto 1 km and all lifts.**	cum	143.48	
		Labour Component (including contractor's profit and Overheads)	cum		49.40
IRR-CAW-1-2	100	Excavation **in all kinds of soil** including boulders **upto 0.30 m dia** for **field channels**, seating of embankment for field channels etc., including dressing of bed and sides to required profile, cost of all materials, machinery, labour, placing the excavated stuff for formation of service road / embankment as directed etc., complete with lead upto 10 m and lift upto 3 m. (Machinery excavation and manual conveyance)	cum	80.64	
		Labour Component (including contractor's profit and Overheads)	cum		41.10
IRR-CAW-1-3	101	Excavation **in ordinary rock (including HDR) without blasting** including boulders **above 0.30 m upto 0.6 m dia. for canals**, seating of embankment, filter drain / catch water drains etc., including dressing of bed and sides to required level and profile, cost of all materials, machinery, labour, placing the excavated soft rock neatly in dump area or for formation of service road as directed etc., complete **with lead upto 1 km and all lifts.**	cum	195.69	

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
		Labour Component (including contractor's profit and Overheads)	cum		72.60
IRR-CAW-1-4	102	Excavation **in ordinary rock (including HDR) without blasting** including boulders **above 0.3 m upto 0.60 m dia. for field channels**, seating of embankment for field channels etc., including dressing of bed and sides to required profile, cost of all materials, machinery, labour, placing the excavated stuff for formation of service road as directed etc.,complete **with lead upto 10 m and lift upto 3 m.** (Machinery excavation and manual conveyance)	cum	132.05	
		Labour Component (including contractor's profit and Overheads)	cum		66.50
IRR-CAW-1-5	103	**Excavation in hard rock (including F&F rock) requiring blasting** including boulders **above 0.6 m upto 1.2 m dia. for canals**, seating of embankment, filter drain / catch water drains etc., including dressing bed and sides to required level and profile, cost of all materials, machinery, labour, placing the excavated rock in dump area or for formation of service road as directed etc., **complete with lead upto 1 km and all lifts.**	cum	301.26	
		Labour Component (including contractor's profit and Overheads)	cum		130.20
IRR-CAW-1-6 (a)	104	**Excavation in hard rock of all toughness by blasting** including boulders **above 1.2 m dia. for canals**, seating of embankment, filter drain / catch water drains etc., including levelling the bed by removing all projections by hammering / chiselling, cost of all materials, machinery, labour, placing the excavated rock neatly in approved dump area and levelling the same as directed etc., complete **with initial lead upto 1 km and all lifts.** i) The rate under this item shall be adopted for canals designed for carrying capacity of less than 15 cumecs or where the average depth excavation in hard rock is less than 3 m. ii) The rate includes levelling canal bed by hammering / chiselling all rock projections wherever required.	cum	746.97	
		Labour Component (including contractor's profit and Overheads)	cum		277.00
IRR-CAW-1-7 (b)	105	**Excavation in hard rock of all toughness** including boulders **above 1.2 m dia.** by **approved controlled blasting methods for canals**, cut-off trench of embankment, filter / catch-water drains etc., including controlling fly-rock by muffling arrangements such as placing 50 x 50 mm opening chain link mesh or waste tyres and sand bags, monitoring ground vibrations at specified locations, costof all materials, machinery, labour, placing excavated rock neatly in approved dump area or other place as directed etc., complete **with lead upto 1 km and all lifts.** i) The rate under this item shall be adopted for canals designed for carrying capacity of less than 15 cumecs or where the average depth excavation in hard rock is less than 3 m. ii) The rate under this item shall be adopted where the control of fly-rock and ground vibrations is required.	cum	889.34	
		Labour Component (including contractor's profit and Overheads)	cum		274.50
IRR-CAW-1-8(c)	106	**Excavation in hard rock of all toughness** including boulders **above 1.2 m dia. for dressing canal sides** neatly on either side to required profile by line drilling and smooth blasting including removing under-cuts by chiselling / hammering, placing the excavated rock neatly in dump area or other place as directed, cost of all materials, machinery, labour etc., complete **with lead upto 1 km and all lifts.** i) For excavation of canal below free board level combination of normal controlled blasting and line drilling and smooth blasting shall be adopted to obtain neat side slopes. For the purpose of payment 1 m width of excavation on either side shall be treated as excavation by line drilling and smooth blasting and remaining portion shall be treated as excavation by normal / controlled blasting as the case may be. ii) The rate under this item shall be adopted for canals designed for carrying capacity of less than 15 cumecs or where the average depth of excavation in hard rock is less than 3 m. iii) The rate includes controlling fly-rock wherever required. iv) The rate under this item shall be paid only on ascertaining that the excavated face has come off neatly as per specifications or atleast 50 percent of smooth blast holes are visible for inspection and are spaced at specified interval. v) In case, where the above criteria is not fulfilled payment shall be restricted to the rate provided for excavation by normal blasting or controlled blasting as the case may be.	cum	1727.30	
		Labour Component (including contractor's profit and Overheads)	cum		730.70

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-CAW-1-9(a)	107	**Excavation in hard rock by blasting** including boulders **above 1.2 m dia. for canals**, seating embankment etc., including levelling bed by removing all projections by hammering / chiselling, cost of all materials, machinery, labour, placing the excavated rock neatly in approved dump area and levelling the same as directed etc.,complete **with initial lead upto 1 km and all lifts.** i) The rate under this item shall be adopted for canals designed for carrying capacity of more than 15 cumecs or where the average depth of excavation in hard rock is more than 3 m. ii) The rate includes levelling canal bed by hammering /chiselling all rock projections wherever required.	cum	419.41	
		Labour Component (including contractor's profit and Overheads)	cum		87.10
IRR-CAW-1-10(b)	108	**Excavation in hard rock of all toughness** including boulders **above 1.2 m dia. by approved controlled blasting methods for canals, cut-off trench of embankment** etc., including controlling fly-rock by muffling arrangements such as placing 50 x 50 mm opening chain link mesh or waste tyres and sand bags, monitoring ground vibrations at specified locations, cost of all materials, machinery, labour, placing excavated rock neatly in approved dump area or other place as directed etc., complete **with lead upto 1 km and all lifts.** i) The rate under this item shall be adopted for canals designed for carrying capacity of more than 15 cumecs or where the average depth of excavation in hard rock is more than 3 m. ii) The rate under this item shall be adopted where the control of fly-rock and ground vibrations is required.	cum	589.33	
		Labour Component (including contractor's profit and Overheads)	cum		99.80
IRR-CAW-1-11(c)	109	**Excavation in hard rock of all toughness** including boulders **above 1.2 m dia. for dressing canal sides** neatly on either side to required profile by line drilling and smooth blasting including removing under-cuts by chiselling / hammering, placing the excavated rock neatly in dump area or other place as directed, cost of all materials, machinery, labour etc., complete **with lead upto 1 km and all lifts.** i) For excavation of canal below free board level combination of normal controlled blasting and line drilling and smooth blasting shall be adopted to obtain neat side slopes. For the purpose of payment 1 m width of excavation on either side shall be treated as excavation by line drilling and smooth blasting and remaining portion shall be treated as excavation by normal / controlled blasting as the case may be. ii) The rate under this item shall be adopted for canals designed for carrying capacity of more than 15 cumecs or where the average depth of excavation in hard rock is more than 3 m. iii) The rate includes controlling fly-rock wherever required. iv) The rate under this item shall be paid only on ascertaining that the excavated face has come off neatly as per specifications or atleast 50 percent of smooth blast holes are visible for inspection and are spaced at specified interval. v) In case, where the above criteria is not fulfilled payment shall be restricted to the rate provided for excavation by normal blasting or controlled blasting as the	cum	1051.97	
		Labour Component (including contractor's profit and Overheads)	cum		224.20
IRR-CAW-2		**EMBANKMENT WORKS USING BORROW AREA SOIL :**			
IRR-CAW-2-1	110	Providing **impervious hearting embankment** with selected soil from **approved borrow areas** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	282.64	
		Labour Component (including contractor's profit and Overheads)	cum		65.90
IRR-CAW-2-2	111	Providing **impervious hearting embankment** with selected soil from **approved borrow areas** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	273.26	
		Labour Component (including contractor's profit and Overheads)	cum		64.60

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-CAW-2-3	112	Providing **semi-pervious / pervious casing embankment** using soil from **approved borrow area** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sortingout, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	282.30	
		Labour Component (including contractor's profit and Overheads)	cum		65.90
IRR-CAW-2-4	113	Providing **semi-pervious / pervious casing embankment** using soil from **approved borrow area** in **layers of 25cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sortingout, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	278.43	
		Labour Component (including contractor's profit and Overheads)	cum		69.90
IRR-CAW-2-5	114	Providing **semi-pervious / pervious casing embankment** using soil from **approved borrow area** in **layers of 25cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sortingout, transporting, spreading in layer of specified thickness, breaking clods, sectioning, compacting each layer **without watering** to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	256.30	
		Labour Component (including contractor's profit and Overheads)	cum		60.00
IRR-CAW-2-6	115	Providing **hearting / casing embankment with homogeneous soil** from **approved borrow areas** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	242.80	
		Labour Component (including contractor's profit and Overheads)	cum		54.10
IRR-CAW-2-7	116	Providing **hearting / casing embankment with homogeneous soil** from **approved borrow areas** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	234.49	
		Labour Component (including contractor's profit and Overheads)	cum		53.10
IRR-CAW-2-8	117	Providing **casing embankment using homogeneous soil** from **approved borrow area** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sortingout, transporting, spreading in layer of specified thickness, breaking clods, sectioning, compacting each layer **without watering** to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	219.18	
		Labour Component (including contractor's profit and Overheads)	cum		48.70
IRR-CAW-3		**EMBANKMENT WORKS USING DUMP AREA SOIL :**			
IRR-CAW-3-1	118	Providing **impervious hearting embankment** with soil from **approved dump areas** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as re-excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to achieve density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc.,complete **with initial lead upto 1 km and all lifts.**	cum	215.41	
		Labour Component (including contractor's profit and Overheads)	cum		50.20

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-CAW-3-2	119	Providing **impervious hearting embankment** with soil from **approved dump areas** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as re-excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to achieve density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc.,complete **with initial lead upto 1 km and all lifts.**	cum	208.07	
		Labour Component (including contractor's profit and Overheads)	cum		49.50
IRR-CAW-3-3	120	Providing **semi-pervious / pervious casing embankment** using soil from **approved dump area** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as re-excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	209.14	
		Labour Component (including contractor's profit and Overheads)	cum		48.70
IRR-CAW-3-4	121	Providing **semi-pervious / pervious casing embankment** using soil from **approved dump area** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as re-excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	201.54	
		Labour Component (including contractor's profit and Overheads)	cum		47.70
IRR-CAW-3-5	122	Providing **semi-pervious / pervious casing embankment** using soil from **approved dump area** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as re-excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, compacting each layer **without watering** to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	188.04	
		Labour Component (including contractor's profit and Overheads)	cum		44.10
IRR-CAW-4		**EMBANKMENT WORKS USING EXCAVATED SOIL :**			
IRR-CAW-4-1	123	Providing **impervious hearting embankment** with soil **collected in embankment area** in heaps as part of disposal of excavated soil from canal including cost of all materials,machinery, labour, all operations such as sortingout, spreading in **layer of 25 cm** before compaction, breaking clods,sectioning, **watering** and compacting each layer to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with lead upto 1 km for water.**	cum	94.28	
		Labour Component (including contractor's profit and Overheads)	cum		20.70
IRR-CAW-4-2	124	Providing **impervious hearting embankment** with soil **collected in embankment area** in heaps as part of disposal of excavated soil from canal including cost of all materials,machinery, labour, all operations such as sortingout, spreading in **layer of 25 cm** before compaction, breaking clods,sectioning, **watering** and compacting each layer to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with lead upto 1 km for water.**	cum	87.56	
		Labour Component (including contractor's profit and Overheads)	cum		21.20
IRR-CAW-4-3	125	Providing **semi-pervious / pervious casing hearting embankment** using soil **collected in heaps in embankment area** as part of disposal of excavated soil from canal including cost of all materials, machinery, labour, all operations such as sorting-out, spreading in **layers of 25 cm** before compaction, breaking clods, sectioning, **watering** and compacting each layer to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with lead upto 1 km for water.**	cum	94.28	
		Labour Component (including contractor's profit and Overheads)	cum		20.70

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-CAW-4-4	126	Providing **semi-pervious / pervious casing embankment** using soil **collected in heaps in embankment area** as part of disposal of excavated soil from canal including cost of all materials, machinery, labour, all operations such as sorting-out, spreading in **layers of 25 cm** before compaction, breaking clods, sectioning, **watering** and compacting each layer to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., **complete with lead upto 1 km for water.**	cum	87.56	
		Labour Component (including contractor's profit and Overheads)	cum		21.20
IRR-CAW-4-5	127	Providing **semi-pervious / pervious casing embankment** using soil **collected in heaps in embankment area** as part of disposal of excavated soil from canal including cost of all materials, machinery, labour, all operations such as sorting-out, spreading in **layers of 25 cm** before compaction, breaking clods, sectioning and compacting each layer without watering to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete.	cum	71.04	
		Labour Component (including contractor's profit and Overheads)	cum		15.30
IRR-CAW-4-6	128	Providing **compacted embankment for field irrigation channels with gravely soil** from approved **borrow area** including sorting out, spreading in **layers of 15 cm** thickness, breaking clods, watering, compacting, dressing sides to required slopes etc.,complete **with lead upto 50 m and all lifts**. (manual work with water pump)	cum	597.38	
		Labour Component (including contractor's profit and Overheads)	cum		590.30
IRR-CAW-5		**FOUNDATION FILLING WORKS :**			
IRR-CAW-5-1	129	Providing **rubble and sand filling** in **layers of 22.5 to 30 cm** including cost of all materials, machinery, labour, watering, ramming etc., complete **with initial lead upto 50 m and all lifts.**	cum	790.76	
		Labour Component (including contractor's profit and Overheads)	cum		309.00
IRR-CAW-5-2	130	Providing **rubble and Murum filling in layers of 22.5 to 30 cm** including cost of all materials, machinery, labour, watering, ramming etc., complete **with initial lead upto 50 m and all lifts.**	cum	908.01	
		Labour Component (including contractor's profit and Overheads)	cum		309.00
IRR-CAW-5-3	131	Providing and **laying 25 cm thick sand blanket below embankment** including cost of all materials, machinery, labour, spreading to specified thickness etc., complete **with initial lead upto 50 m and all lifts.**	sqm	38.63	
		Labour Component (including contractor's profit and Overheads)	sqm		38.60
IRR-CAW-5-3-A (New Item 3 - 2011-12)	132	Providing and **laying sand blanket below embankment** including cost of all materials, machinery, labour, spreading to specified thickness etc., complete **with initial lead upto 50 m and all lifts.**	cum	154.52	
		Labour Component (including contractor's profit and Overheads)	cum		154.50
IRR-CAW-5-4	133	Providing and **constructing dry rubble rock-toe using rubble and stone chips** from **approved source** including cost of all materials, machinery, labour, hand packing rubble and stone chips, finishing top and sides to required slopes etc., complete **with initial lead upto 50 m and all lifts.**	cum	782.85	
		Labour Component (including contractor's profit and Overheads)	cum		215.30
IRR-CAW-5-5	134	Providing and **constructing longitudinal and cross graded filter drains** using sand and 20 mm down graded aggregates satisfying specified filter creteria in layers as per specifications including cost of all materials, machinery, labour, laying to required slopes, compaction etc., complete **with initial lead upto 50 m and all lifts.**	cum	690.22	
		Labour Component (including contractor's profit and Overheads)	cum		288.60
IRR-CAW-5-6	135	Laying **Longitudinal Drains and Transverse drains of Size 600 x600 x750 mm in Bed** and filling with 12 mm to 40 mm HG machine Crushed metal and sand in bed including excavation of drains and Cost of procuring of all materials	Rm	322.32	
		133	Rm		54.60
IRR-CAW-5-7	136	Laying and **fixing of 100 mm Dia 300 mm long precast porus CC plugs in bed and sides** using 1.181 Kgs of cement per each using 20 mm HG metal and placing in local filters of size 600x600x750 mm in size including excavation of drains and Cost of procuring of all materials	one plug	480.42	

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
		Labour Component (including contractor's profit and Overheads)	one plug		231.77
IRR-CAW-5-8	137	Providing and **constructing 0.50 m thick vertical or inclined graded filter media** consisting of 15 cm thick sand layers and 20 cm thick 20 mm down coarse aggregate layer using approved materials satisfying specified filter creteria as per specifications including cost of all materials, machinery, labour, laying to required slope, compaction etc., complete **with initial lead upto 50 m and all lifts.**	cum	981.07	
		Labour Component (including contractor's profit and Overheads)	cum		288.60
IRR-CAW-5-9	138	Providing and **constructing graded filter media below and behind rock-toe** consisting of 20 cm thick sand, 15 cm thick 20 mm down and 15 cm thick 40 mm down size graded coarse aggregates satisfying filter creteria behind rock-toe and 15 cm thick sand, 20 cm thick 20 mm down coarse aggregate and 65 cm thick 40 mm down size coarse aggregate satisfying filter creiteria below rock-toe as per specifications including cost of all materials, machinery, labour, laying to required slope, compaction etc., complete **with initial lead upto 50 m and all lifts.**	cum	1441.84	
		Labour Component (including contractor's profit and Overheads)	cum		269.30
IRR-CAW-5-10(a)	139	Providing and **laying filter media consisting of 2 layers of poly-propeline** nonwoven filter fabric and 200 mm thick 20 mm down graded coarse aggregate for embankment including cost of all materials, machinery, labour, forming toe drain etc., complete **with lead upto 50 m for aggregate and all leads for fabric and all lifts.** Using **200 gsm** filter fabric.	sqm	694.70	
		Labour Component (including contractor's profit and Overheads)	sqm		64.50
IRR-CAW-5-11(b)	140	Providing and **laying filter media consisting of 2 layers of poly-propeline** nonwoven filter fabric and 200 mm thick 20 mm down graded coarse aggregate for embankment including cost of all materials, machinery, labour, forming toe drain etc., complete **with lead upto 50 m for aggregate and all leads for fabric and all lifts.** Using **250 gsm** filter fabric.	sqm	730.49	
		Labour Component (including contractor's profit and Overheads)	sqm		64.50
IRR-CAW-6		**ROCK FILL WORKS :**			
IRR-CAW-6-1	141	Providing and **constructing rockfill casing to canal embankment** with graded stones and spalls from **approved quarry** including cost of all materials, machinery, labour, spreading stones and spalls in layers, hand packing, wedging, finishing surface to required slopes etc., complete **with initial lead upto 50 m and all lifts.**	cum	678.17	
		Labour Component (including contractor's profit and Overheads)	cum		111.60
IRR-CAW-6-2	142	Providing and **constructing rockfill casing to canal embankment** with graded stones and spalls available **in dump yard** including cost of all materials, machinery, labour, spreading stones and spalls in layers, hand packing, wedging, finishing surface to required slopes etc., complete **with initial lead upto 50 m and all lifts.** Stones and spalls available in dump yard will be issued at specified issue rate.	cum	435.71	
		Labour Component (including contractor's profit and Overheads)	cum		143.60
IRR-CAW-7		**CANAL LINING WORKS :**			
IRR-CAW-7-1	143	Providing **cohesive non-swelling (CNS) soil lining to canals** using soil from **approved borrow area** including spreading soil in **layers of thickness not more than 15 cm**, breaking clods, watering, compacting to density control of **not less than 98 percent** or as stipulated, dressing to required profile etc., complete **with initial lead upto 1 km and all lifts.**	cum	337.96	
		Labour Component (including contractor's profit and Overheads)	cum		134.90
IRR-CAW-7-2	144	Providing **cohesive non-swelling (CNS) soil lining to canals** using soil from **approved borrow area** including spreading soil in **layers of thickness not more than 15 cm**, breaking clods, watering, compacting to density control of **not less than 95 percent** or as stipulated, dressing to required profile etc., complete **with initial lead upto 1 km and all lifts.**	cum	329.80	
		Labour Component (including contractor's profit and Overheads)	cum		133.20

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-CAW-7-3	145	Providing **cohesive non-swelling (CNS) soil lining to canal** using soil **collected in heaps along the edge of canal requiring CNS soil lining** as part of the disposal of excavated soil from canal excavation in CNS soil reach including spreading in layers of thickness **not more than 15 cm**, breaking clods, watering, compacting to density control of **not less than 95 percent** or as stipulated, dressing to required profile etc., complete **with lead upto upto 50 m and all lifts.**	cum	189.05	
		Labour Component (including contractor's profit and Overheads)	cum		104.00
IRR-CAW-7-4	146	Providing and **fixing 20 x 20 x 75 cm size top surface neatly dressed canal bed level stones** including cost of all materials, labour, excavation, fixing in position to correct level etc., complete **with lead upto 50 m and all lifts.**	Each	178.52	
		Labour Component (including contractor's profit and Overheads)	Each		139.90
IRR-CAW-7-5	147	Providing, fabricating and **placing in position reinforcement steel bars** for **RCC works** including cleaning, straightening, cutting, bending, hooking, lapping, tying with 1.25 mm dia.soft annealed steel wire, welding wherever required including cost of all materials, machinery, labour etc., complete **with initial lead upto 50 and all lifts.(1.05 tonne/tonne of steel)**	kg	81.97	
		Labour Component (including contractor's profit and Overheads)	kg		15.20
IRR-CAW-7-6	148	Providing and **laying 75 mm thick in-situ M-15** (28 days cube compressive strength not less than 15 N / sqmm) grade cement concrete with **20 mm down size** approved, clean, hard, graded aggregates **for canal lining** using vibrating cylinder type mechanical paver including cost of all materials, machinery, labour, cleaning, batching, mixing, placing in position,finishing, forming contraction joints, fixing PVC joint sealing strips, curing, shifting of paver from one side to other side of canal etc., **complete with initial lead upto 1 km and all lifts. (43 Gr Cement content: (300kg /cum) 22.5 kg / sqm for use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum, equivalent concrete volume:79.2 cum including the extra quantity of concrete for curvatures and bends etc.,)**	sqm	473.30	
		Labour Component (including contractor's profit and Overheads)	sqm		59.60
IRR-CAW-7-7	149	Providing and **laying 80 mm thick in-situ M-15** (28 days cube compressive strength not less than 15 N / sqmm) grade cement concrete with **20 mm down size** approved, clean, hard, graded aggregates **for canal lining** using vibrating cylinder type mechanical paver including cost of all materials, machinery, labour, cleaning, batching, mixing, placing in position, finishing, forming contraction joints, fixing PVC joint sealing strips, curing, shifting of paver from one side to other side of canal etc., **complete with initial lead upto 1 km and all lifts. (43 Gr Cement content: (300kg /cum) 24 kg / sqm for use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum, equivalent concrete volume:84.48 cum including the extra quantity of concrete for curvatures and bends etc.,)**	sqm	489.95	
		Labour Component (including contractor's profit and Overheads)	sqm		59.60
IRR-CAW-7-8	150	Providing and **laying 100 mm thick in situ M-15** (28 days cube compressive strength not less than 15 N /Sqmm) grade cement concrete with **20 mm down size** approved, clean, hard, graded aggregates **for canal lining** using, vibrating, cylinder type mechanical paver including cost of all materials, machinery, labour, cleaning, batching, mixing, placing in position, finishing, forming contraction joints, fixing PVC joint sealing strips, curing, shifting of paver from one side to othere side of canal etc., **complete with initial lead upto 1 Km and all lifts. (43 Gr Cement content: (300kg /cum) 30 kg / sqm for use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum, equivalent concrete volume:88 cum including the extra quantity of concrete for curvatures and bends etc.,)**	sqm	591.37	
		Labour Component (including contractor's profit and Overheads)	sqm		69.30
IRR-CAW-7-9	151	**Dismantling, shifting and re-erecting mechanical concrete paver and DG set** with all accessories **across canal CD work** or other locations wherever shifting and re-erecting is necessary including aligning paver correctly for continuing canal lining work, cost of all materials, machinery, labour etc., **complete with all leads and lifts.** Note: Local shifting and re-erection of paver for LH and RH side lining included in concrete lining rates under items IRR-CAW-7-7 and IRR-CAW-7-8 and saperate rate for shifting shall not be allowed.	shifting	16044.27	
		Labour Component (including contractor's profit and Overheads)	shifting		13135.00

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-CAW-7-10	152	Providing and laying **insitu vibrated M-10** (28 days cube compressive strength not less than 10 N /sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates for bed and side lining of canal**(150mm thick)** including finishing the junction of bed and sides to required curveture, cost of all materials, machinery, labour, formwork including supports, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (43 Gr Cement content: 250 kg / cum for use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)** (Only forManually operated)	cum	6059.73	
		Labour Component (including contractor's profit and Overheads)	cum		2418.10
IRR-CAW-7-11	153	Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N/sqm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregade for bed and side lining of canal**(100 mm thick)** including, finishing the junction of bed and sides to required curveture, cost of all materials, machinery, labour, formwork including supports cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead up to 50 m and all lifts (43 Gr Cement content: 250 kg / cum for use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**	cum	6393.26	
		Labour Component (including contractor's profit and Overheads)	cum		2489.40
IRR-CAW-7-12	154	Providing and **laying 100mm thick insitu vibrated M-10** (28 days cube compressive strength-not less than 10.00 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates for bed and side lining of canal lining **using vibrating cylindertype mechanical paver** including cost of all materials mechinery labour batching mixing placing in position forming contraction joints fixing pvc joint seiling strips shifting of paver from one side of canal to other side etc.**complete with all leads & lifts. (Cement content: 250 kg / cum for use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**	sqm	579.18	
		Labour Component (including contractor's profit and Overheads)	sqm		69.30
IRR-CAW-7-13	155	Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N /sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates for bed and side lining of canal including finishing the junction of bed and sides to required curveture, cost of all materials, machinery, labour, formwork including supports, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 250 kg / cum for use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**	cum	6218.44	
		Labour Component (including contractor's profit and Overheads)	cum		2489.40
IRR-CAW-7-14	156	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N /sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates for bed and side lining(**150 mm thick**) of canal including finishing the junction of bed and sides to required curveture, cost of all materials, machinery, labour, formwork including supports, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 290 kg / cum for use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**	cum	6540.46	
		Labour Component (including contractor's profit and Overheads)	cum		2632.70
IRR-CAW-7-15	157	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N /sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates for bed and side lining(**of thickness 100 mm**) of canal including finishing the junction of bed and sides to required curveture, cost of all materials, machinery, labour, formwork including supports, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 300 kg / cum for use of super plasticiser(0.4% by wt. of cement),CA : 0.80 cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**	cum	6819.01	
		Labour Component (including contractor's profit and Overheads)	cum		2779.30

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-CAW-7-16	158	Providing and **laying 150mm thick insitu vibrated M-15** (28 days cube compressive strength-not less than 15.00 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates for bed and side lining of canal lining using vibrating cylindertype mechanical paver including cost of all materials mechinery labour batching mixing placing in position forming contractiom joints fixing pvc joint seiling strips shifting of paver from one side of canal to other side etc.**complete with all leads & lifts. (Cement content: 300 kg / cum for use of super plasticiser(0.4% by wt. of cement),CA : 0.80 cum, Blending Ratio of CA--65:35, FA : 0.44 cum)** **(Paver)**	sqm	751.65	
		Labour Component (including contractor's profit and Overheads)	sqm		69.30
IRR-CAW-7-17	159	Providing and **fixing pre-cast RCC template walls** consisting of 0.05 cum **M-15 grade** concrete using **20 mm down size** coarse aggregates and 10 kg reinforcement steel moulded as per specifications and drawing in CM 1:4 proportion including cost of all materials, machinery, labour, formwork, fabricating and placing reinforcement steel, mixing, laying, conveying and fixing in position including necessary excavation for seating, finishing joints in CM 1:4, curing etc., complete **with initial lead upto 1 km and all lifts**.	Rm	1447.47	
		Labour Component (including contractor's profit and Overheads)	Rm		548.20
IRR-CAW-7-18	160	Providing and **fixing 50 mm dia perforated GI pressure relief pipes 12.50 cm long** with one end closed with perforated GI plate and other end provided with alluminium lid hinged to pipe including cost of all materials, labour, drilling 8 mm dia holes etc., complete **with all leads and lifts.**	Each	178.63	
		Labour Component (including contractor's profit and Overheads)	Each		91.80
IRR-CAW-7-19	161	Providing and **fixing 50 mm dia perforated GI pressure relief pipes 22.50 cm long** with one end closed with perforated GI plate and other end provided with alluminium lid hinged to pipe including cost of all materials, labour, drilling 8 mm dia holes etc., **complete with all leads and lifts.**	Each	229.53	
		Labour Component (including contractor's profit and Overheads)	Each		91.80
IRR-CAW-7-20	162	Providing and **fixing 50 mm dia perforated GI pressure relief pipes 30 cm long** with one end closed with perforated GI plate and other end provided with alluminium lid hinged to pipe including cost of all materials, labour, drilling 8 mm dia holes etc., **complete with all leads and lifts.**	Each	261.14	
		Labour Component (including contractor's profit and Overheads)	Each		91.80
IRR-CAW-7-21	163	Providing and fixing **50 mm dia perforated GI pressure relief pipes 45 cm long** with one end closed with perforated GI plate and other end provided with alluminium lid hinged to pipe including cost of all materials, labour, drilling 8 mm dia holes etc., complete **with all leads and lifts.**	Each	319.60	
		Labour Component (including contractor's profit and Overheads)	Each		91.80
IRR-CAW-7-22	164	Providing and **fixing 50 mm dia perforated GI pressure relief pipes 75 cm long** with one end closed with perforated GI plate and other end provided with alluminium lid hinged to pipe including cost of all materials, labour, drilling 8 mm dia holes etc., complete **with all leads and lifts.**	Each	431.74	
		Labour Component (including contractor's profit and Overheads)	Each		91.80
IRR-CAW-7-23	165	Providing and **fixing 100 mm dia perforated PVC pipes 40 cm long for Weep holes** including cost of all materials, labour, drilling 8 mm dia holes etc. complete **with all leads and lifts.**	Each	223.11	
		Labour Component (including contractor's profit and Overheads)	Each		45.90
IRR-CAW-7-24	166	**Drilling 32 mm dia pressure relief hole** below pressure relief pipe for bed and side lining of canal laid on rock including cost of all materials, machinery, labour etc., complete **with all leads and lifts.**	Each	445.26	
		Labour Component (including contractor's profit and Overheads)	Each		181.30
IRR-CAW-7-25	167	Providing and **forming 35 x 35 x 40 cm deep filter drain** consisting of 75 mm thick 10 mm down coarse aggregate around pressure relief pipe and 75 mm thick sand around coarse aggregate filter including cost of all materials, labour, excavation of pit etc., complete **with lead upto 50 m and all lifts.**	Each	36.30	
		Labour Component (including contractor's profit and Overheads)	Each		16.00
IRR-CAW-7-26	168	Providing and **fixing 25 to 40 mm thick Shahabad / Talikota / other similar stone slabs with pointing and finishing joints** neatly in **CM 1:3** proportion for canal / field channel lining including cutting slabs to required size, mixing mortar, finishing joints neatly, curing etc., complete **with lead upto 50 m and all lifts.**	sqm	537.51	
		Labour Component (including contractor's profit and Overheads)	sqm		140.90

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-CAW-7-27	169	**Fixing PCC slabs** of various sizes in **CM 1 : 3** proportion **to the side slopes of canal** including preparing bed, flush pointing joints in **CM 1 : 3** propn, cost of all materials (excluding PCC slabs), labour, finishing, curing etc., complete with **initial lead upto 50 m and all lifts.**	sqm	147.77	
		Labour Component (including contractor's profit and Overheads)	sqm		132.00
IRR-CAW-7-28	170	**Fixing PCC lug slabs** of various sizes in **CM 1 : 3** proportion **for supporting PCC slab lining** including necessary excavation, refilling, flush pointing joints in CM 1 : 3 propn, cost of all materials (excluding PCC lug slabs), labour, finishing, curing etc., complete with **initial lead upto 50 m and all lifts.**	Rm	92.71	
		Labour Component (including contractor's profit and Overheads)	Rm		87.90
IRR-CAW-7-29	171	**Fixing 30 cm height pre-cast drops for field channels** as directed including excavation, etc., complete **with all leads and lifts.**	Each	378.18	
		Labour Component (including contractor's profit and Overheads)	Each		378.20
IRR-CAW-7-30	172	Providing and **fixing LDPE sheet for bed and sides of canal** including cost of all materials, labour, laying, joining etc., complete **with all leads and lifts.** Using **500 micron** thick LDPE sheet.	sqm	147.21	
		Labour Component (including contractor's profit and Overheads)	sqm		15.00
		If the surface on which the LDPE sheet is to be laid is too rough and undulating provide **75 mm thick sand backing** to LDPE sheet. For providing 75 mm thick Sand for backing add	sqm	18.54	
		Labour Component (including contractor's profit and Overheads)	sqm		18.50
IRR-CAW-7-31	173	Providing and **fixing LDPE sheet for bed and sides of canal** including cost of all materials, labour, laying, joining etc., complete **with all leads and lifts.** Using **750 micron** thick LDPE sheet.	sqm	207.20	
		Labour Component (including contractor's profit and Overheads)	sqm		20.00
IRR-CAW-7-32	174	Providing and **fixing LDPE sheet for bed and sides of canal** including cost of all materials, labour, laying, joining etc., complete **with all leads and lifts.** Using **1000 micron** thick LDPE sheet.	sqm	286.27	
		Labour Component (including contractor's profit and Overheads)	sqm		26.60
IRR-CAW-7-33	175	Providing and **fixing 12 mm thick 380 mm depth tarfelt expansion joint filler boards for stone masonry lining** of canal including cost of all materials, labour etc., **complete with all leads and lifts.**	Rm	219.42	
		Labour Component (including contractor's profit and Overheads)	Rm		16.00
IRR-CAW-7-34	176	Providing and **fixing 20 mm thick 100 mm depth tarfelt expansion joint filler boards for cement concrete lining** of canal including cost of all materials, labour etc., **complete with all leads and lifts.**	Rm	97.00	
		Labour Component (including contractor's profit and Overheads)	Rm		16.00
IRR-CAW-7-35	177	Providing and **fixing 20 mm thick 150 mm depth tarfelt expansion joint filler boards for cement concrete lining** of canal including cost of all materials, labour etc., complete **with all leads and lifts.**	Rm	139.96	
		Labour Component (including contractor's profit and Overheads)	Rm		16.00
IRR-CAW-7-36	178	Providing and **forming 35 mm wide and 10 mm thick construction / contraction joints for concrete lining by mastic filler** including cost of all materials, labour etc., complete **with all leads and lifts.**	Rm	33.01	
		Labour Component (including contractor's profit and Overheads)	Rm		11.90
IRR-CAW-7-37	179	**Manufacturing 550 x 550 x 55 mm size PCC lining slabs in M-15 grade** (28 days cube compressive strength not less than 15 N /sqmm) cement concrete using **20 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts. (Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement), CA : 0.80 cum, Blending Ratio of CA : 65:35, FA : 0.45cum)**	Each	120.60	
		Labour Component (including contractor's profit and Overheads)	Each		51.60

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-CAW-7-38	180	**Manufacturing 550 x 300 x 55 mm size PCC lug slabs in M-15 grade** (28 days cube compressive strength not less than 15 N / sqmm) cement concrete using **20 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete with **initial lead upto 50 m and all lifts. (Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement), CA : 0.80 cum, Blending Ratio of CA : 65:35, FA : 0.45cum)**	Each	93.78	
		Labour Component (including contractor's profit and Overheads)	Each		51.60
IRR-CAW-7-39	181	**Manufacturing 450 x 300 x 30 mm size PCC lining slabs in M-15 grade** (28 days cube compressive strength not less than 15 N / sqmm) cement concrete using **10 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts. (Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement), CA : 0.68 cum, FA : 0.43cum)**	Each	50.64	
		Labour Component (including contractor's profit and Overheads)	Each		33.90
IRR-CAW-7-40	182	**Manucturing 450 x 150 x 30 mm size PCC lug slabs in M-15 grade** (28 days cube compressive strength not less than 15 N / sqmm) cement concrete using **10 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts. (Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement),CA : 0.68 cum, FA : 0.43cum)**	Each	43.23	
		Labour Component (including contractor's profit and Overheads)	Each		33.90
IRR-CAW-7-41	183	**Manufacturing 600 x 300 x 100mm size PCC lining slabs in M-15 grade** (28 days cube compressive strength not less than 15 N/Sqmm) cement concrete using **20 mm down grades** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement), CA : 0.80 cum, FA : 0.45cum, Blending Ratio of CA--65:35)**	Each	103.40	
		Labour Component (including contractor's profit and Overheads)	Each		32.90
IRR-CAW-7-42	184	**Manucturing 400 x 400 x 30 mm size PCC lining slabs in M-15 grade** (28 days cube compressive strength not less than 15 N / sqmm)cement concrete using **10 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts. (Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement), CA : 0.68 cum, FA : 0.43cum)**	Each	52.63	
		Labour Component (including contractor's profit and Overheads)	Each		33.90
IRR-CAW-7-43	185	**Manufacturing 400 x 150 x 30 mm size PCC lug slabs in M-15 grade** (28 days cube compressive strength not less than 15 N /sqmm) cement concrete using **10 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts. (Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement), CA : 0.68 cum, FA : 0.43cum)**	Each	42.70	
		Labour Component (including contractor's profit and Overheads)	Each		33.90
IRR-CAW-7-44	186	Providing and **laying uncoursed rubble stone masonry** in **CM 1 : 5** proportion **for canal side lining** using stones and chips from **approved quarry** including cost of all materials, machinery, labour, forming weep holes at specified intervals, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Thickness of the masonry assumed: 0.3 m, rubble stones : 0.96 cum, Stone Chips : 0.15cum,Through Stones 20 x 20 x 30cm : 1/sqm)**	cum	2609.03	
		Labour Component (including contractor's profit and Overheads)	cum		1264.40
IRR-CAW-7-45	187	Providing and **laying uncoursed rubble stone masonry** in **CM 1:5** proportion **for canal side lining** using stones from **approved quarry** including cost of all materials, machinery, labour, forming weep holes at specified intervals, finishing, curing etc., complete with **initial lead upto 50m and all lifts.(with no pin headers)(Thickness of the Masonry assumed:0.3 m, rubble stones : 1.1 cum**)	cum	5304.68	
		Labour Component (including contractor's profit and Overheads)	cum		4163.90

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-CAW-7-46	188	Providing and **laying uncoursed rubble stone masonry** in **CM 1 : 5** proportion **for canal side lining** using stones and chips **from canal excavation** including cost of all materials, machinery, labour, forming weep holes at specified interval, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(rubble stones : 0.96 cum, Stone Chips : 0.15cum, Through Stones 20 x 20 x 30cm : 1/sqm)**	cum	2500.21	
		Labour Component (including contractor's profit and Overheads)	cum		1424.60
IRR-CAW-7-47	189	Providing and **laying uncoursed rubble stone masonry** in **CM 1:5** proportion **for canal side lining** using stones **from canal excavation** including cost of all materials, machinery, labour, forming weep holes at specified intervals, finishing, curing etc., complete **with initial lead upto 50m and all lifts.(with no pin headers)(rubble stones : 1.1cum, cement : 98kg, sand 0.34 cum**)	cum	5048.86	
		Labour Component (including contractor's profit and Overheads)	cum		4163.90
IRR-CAW-8		**ROCK PITCHING**			
IRR-CAW-8-1	190	Providing and **constructing 25 cm thick dry rubble stone pitching with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete **with initial lead upto 50 m and all lifts.(rubble stones : 0.23 cum/sqm, Stone Chips : 0.0375cum/sqm, Pin Headers 30cm : 2/sqm)**	sqm	303.01	
		Labour Component (including contractor's profit and Overheads)	sqm		98.30
		If 15 cm thick murum bed is to be provided below pitching add	sqm	83.67	
		Labour Component (including contractor's profit and Overheads)	sqm		30.90
IRR-CAW-8-1-A (New Item4 - 2011-12)	191	Providing and **constructing 22.5 cm thick dry rubble stone pitching with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete **with initial lead upto 50 m and all lifts.(rubble stones : 0.207 cum/sqm, Stone Chips : 0.3375cum/sqm, Pin Headers 30cm : 2/sqm) (For Maintenance Works)**	sqm	289.80	
		Labour Component (including contractor's profit and Overheads)	sqm		98.30
IRR-CAW-8-2	192	Providing and **constructing 25 cm thick dry rubble stone pitching** including cost of all materials, labour, hand packing, finishing etc., complete with **initial lead upto 50 m and all lifts.(with no pin headers)(rubble stones : 0.33 cum/sqm)**	sqm	369.31	
		Labour Component (including contractor's profit and Overheads)	sqm		236.90
IRR-CAW-8-2 - A (New Item5 - 2011-12)	193	Providing and **constructing 225 mmm thick dry rubble stone pitching** including cost of all materials, labour, hand packing, finishing etc., complete with **initial lead upto 50 m and all lifts.(with no pin headers)(rubble stones : 0.2475 cum/sqm) (For Maintenance Works)**	sqm	288.91	
		Labour Component (including contractor's profit and Overheads)	sqm		213.10
IRR-CAW-8-3	194	Providing and **constructing 30 cm thick dry rubble stone pitching with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete **with initial lead upto 50 m and all lifts.(rubble stones : 0.275 cum/sqm, Stone Chips : 0.045cum/sqm, Pin Headers 30cm : 2/sqm)**	sqm	328.93	
		Labour Component (including contractor's profit and Overheads)	sqm		98.30
IRR-CAW-8-4	195	Providing and **constructing 30 cm thick dry rubble stone pitching** including cost of all materials, labour, hand packing, finishing etc., **complete with initial lead upto 50 m and all lifts.(with no pin headers)(rubble stones : 0.33 cum/sqm)**	sqm	443.17	
		Labour Component (including contractor's profit and Overheads)	sqm		284.20
IRR-CAW-8-5	196	Providing and **constructing 45 cm thick dry rubble stone pitching with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete **with initial lead upto 50 m and all lifts.(rubble stones : 0.40 cum/sqm, Stone Chips : 0.0675cum/sqm, Pin Headers 45cm : 2/sqm)**	sqm	491.63	
		Labour Component (including contractor's profit and Overheads)	sqm		138.00
IRR-CAW-8-6	197	Providing and **constructing 45 cm thick dry rubble stone pitching** including cost of all materials, labour, hand packing, finishing etc., complete **with initial lead upto 50 m and all lifts.(with no pin headers)(rubble stones : 0.495 cum/sqm)**	sqm	664.75	
		Labour Component (including contractor's profit and Overheads)	sqm		426.30

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-CAW-8-7	198	Providing and **constructing 30 cm thick rubble stone pitching** set in **CM 1: 5 proportion with pin headers at 2 per sqm** in including cost of all materials, labour, packing chips and mortar, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(rubble stones : 0.275 cum/sqm, Stone Chips : 0.045cum/sqm, Pin Headers 30cm : 2/sqm)**	sqm	560.97	
		Labour Component (including contractor's profit and Overheads)	sqm		167.70
IRR-CAW-8-8	199	Providing and **Constructing 30 cm thick rubble stone pitching** set in **CM 1:5 Proportion** including cost of all materials,labour, packing chips and mortar ,finishing etc.,**complete(rubble stones : 0.33 cum/sqm)**	sqm	367.48	
		Labour Component (including contractor's profit and Overheads)	sqm		37.30
IRR-CAW-8-9	200	Providing and **constructing 30 cm thick dry khandki stone pitching using 20 to 25 cm size khandki stones with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete **with initial lead upto 50 m and all lifts.(Khandki stones 20- 25 cm height : 1200 Nos/sqm, Stone Chips : 0.045cum/sqm, Pin Headers 30cm : 2/sqm)**	sqm	510.03	
		Labour Component (including contractor's profit and Overheads)	sqm		98.30
IRR-CAW-8-10	201	Providing and **constructing 45 cm thick dry khandki stone pitching using 25 to 30 cm size khandki stones with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete **with initial lead upto 50 m and all lifts.(Khandki stones 25- 30 cm height : 1200 Nos/sqm, Stone Chips : 0.0675cum/sqm, Pin Headers 45cm : 2/sqm)**	sqm	497.99	
		Labour Component (including contractor's profit and Overheads)	sqm		138.00
IRR-CAW-8-11	202	Providing and **constructing 30 cm thick khandki stone pitching using 20 to 25 cm size khandki stones with pin headers at 2 per sqm** set in **CM 1 : 5** proportion with pointing joints in CM 1:3 proportion including cost of all materials, labour, packing chips and mortar, finishing, curing etc.complete **with initial lead upto 50 m and all lifts.(Khandki stones 20- 25 cm height : 1200 Nos/sqm, Stone Chips : 0.045cum/sqm, Pin Headers 30cm : 2/sqm)**	sqm	728.44	
		Labour Component (including contractor's profit and Overheads)	sqm		160.00
IRR-CAW-8-12	203	Providing and **constructing 45 cm thick khandki stone pitching using 25 to 30 cm stones with pin headers at 2 per sqm** set in **CM 1 : 5** proportion with pointing joints in CM 1 : 3 proportion including cost of all materials, labour, packing chips and mortar, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Khandki stones 25- 30 cm height : 730 Nos/sqm, Stone Chips : 0.0675cum/sqm, Pin Headers 45cm : 2/sqm)**	sqm	801.35	
		Labour Component (including contractor's profit and Overheads)	sqm		219.80
IRR-CAW-8-13	204	**Providing 10 cm thick approved type grass turfing to the side slopes of canal** icluding cost of all materials, labour, watering for minimum 15 days etc.,complete **with lead 50 m and all lifts.(FA : 2 cum/sqm)**	sqm	534.35	
		Labour Component (including contractor's profit and Overheads)	sqm		127.60
IRR-CAW-8-14	205	**Providing 10 cm thick approved type grass turfing to the side slopes of canal** icluding cost of all materials, labour, watering for minimum 15 days etc.,**complete with lead 50 m and all lifts.** **with no sand**	sqm	479.23	
		Labour Component (including contractor's profit and Overheads)	sqm		72.50
Chapter IV					
IRR-CCDW		**CANAL CROSS DRAINAGE WORKS**			
IRR-CCDW-1		**EXCAVATION & FOUNDATION TREATMENT WORKS :**			
IRR-CCDW-1-1	206	(manual means of excavation and conveyance) **Excavation in all kinds of soil** including boulders **upto 0.30 m dia. for foundations of canal cross drainage** and other appurtenant structures and placing the excavated stuff neatly in specified dump area or disposing off the same as directed etc., **complete with initial lead upto 50 m and initial lift upto 3 m.**	cum	489.68	
		Labour Component (including contractor's profit and Overheads)	cum		489.70

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-CCDW-1-2	207	Excavation for Structures- Mechanical Means (Data adopted from MORTH) **Earth work in excavation in all kinds of soils** of foundation of structures as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material. (depth upto 3 meters)	cum	134.16	
		Labour Component (including contractor's profit and Overheads)	cum		39.40
IRR-CCDW-1-3	208	(manual means of excavation and conveyance) **Excavation in ordnary rock (including HDR) without blasting** including boulders **above 0.3 m upto 0.60 m dia. for foundations of canal cross drainage** and other appurtenant structures and placing the excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete **with initial lead upto 50 m and initial lift upto 3 m.**	cum	697.03	
		Labour Component (including contractor's profit and Overheads)	cum		697.00
IRR-CCDW-1-4	209	(Data adopted from MORTH) (manual means of excavation and conveyance) **Excavation in ordnary rock (including HDR) without blasting for foundations of canal cross drainage** and other appurtenant structures and placing the excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete **with initial lead upto 50 m and initial lift upto 3 m.**	cum	169.83	
		Labour Component (including contractor's profit and Overheads)	cum		43.40
IRR-CCDW-1-5	210	(manual means of excavation after blasting and conveyance) **Excavation in hard rock requiring blasting including boulders above 0.6 m upto 1.2 m dia. for foundations of canal cross drainage** and other appurtenant structures and placing the excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete **with initial lead upto 50 m and initial lift upto 3 m.**	cum	653.12	
		Labour Component (including contractor's profit and Overheads)	cum		543.00
IRR-CCDW-1-6	211	(manual means of excavation after blasting and conveyance) **Excavation in hard rock of all toughness by blasting** including boulders **above 1.2 m dia. for foundations of canal cross drainage** and other appurtenant structures and placing the excavated rock neatly in specified dump area or stack yard as directed etc., complete **with initial lead upto 50 m and initial lift upto 3 m.**	cum	947.27	
		Labour Component (including contractor's profit and Overheads)	cum		667.80
IRR-CCDW-1-7	212	(manual means of excavation after controlled blasting and conveyance) Hard Rock (blasting prohibited) (Data adopted from MORTH) **Excavation in hard rock with blasting (blasting prohibited)prohibited for foundations of canal cross drainage** and other appurtenant structures and placing the excavated rock neatly in or stack yard as directed etc., complete with specified dump area **initial lead upto 50 m and initial lift upto 3 m.**	cum	1724.17	
		Labour Component (including contractor's profit and Overheads)	cum		670.90
IRR-CCDW-1-8	213	Providing and **fixing 25 mm dia 2.50 m long cold twisted deformed steel anchor rods** with 1.25 m length driven into 32 mm dia hole drilled in bed rock and remaining length embedded in concrete / masonry including cost of all materials, machinery, labour, drilling and cleaning hole, driving anchor rod, grouting hole with thick cement slurry etc., complete **with initial lead upto 50 m and all lifts.**	Each	1315.93	
		Labour Component (including contractor's profit and Overheads)	Each		408.60
IRR-CCDW-2		**STEEL AND CEMENT CONCRETE WORKS :**			
IRR-CCDW-2-1	214	Providing, fabricating and **placing in position reinforcement steel bars for RCC works** including cleaning, straightening, cutting, bending, hooking, lapping, welding wherever required,tying with 1.25 mm dia soft annealed steel wire, including cost of all materials, machinery, labour etc., complete **with initial lead upto 50 and all lifts.**	kg	82.68	
		Labour Component (including contractor's profit and Overheads)	kg		16.20

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-CCDW-2-2	215	Providing, fabricating and **fixing in position structural steel cutting edge** consisting of 100 x 100 x 10 mm angle and 250 x 12 mm plate for sinking 4.50 m outer diameter foundation wells foundation wells including cost of all materials, machinery, labour, bending, welding, providing anchors etc., complete **with initial lead upto 50 m and all lifts.**	kg	106.10	
		Labour Component (including contractor's profit and Overheads)	kg		19.20
IRR-CCDW-2-3	216	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N /sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates for foundation filling including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 260 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**	cum	6012.85	
		Labour Component (including contractor's profit and Overheads)	cum		2507.10
IRR-CCDW-2-4	217	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates for foundation filling including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 250 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.98cum, Blending Ratio of CA--35:30:20:15, FA : 0.35 cum)**	cum	6079.58	
		Labour Component (including contractor's profit and Overheads)	cum		2611.00
IRR-CCDW-2-5	218	Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates for foundation filling including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 220 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**	cum	5704.69	
		Labour Component (including contractor's profit and Overheads)	cum		2415.80
IRR-CCDW-2-6	219	Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates for foundation filling including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 220 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.98cum, Blending Ratio of CA--35:30:20:15, FA : 0.35 cum)**	cum	5906.45	
		Labour Component (including contractor's profit and Overheads)	cum		2594.20
IRR-CCDW-2-7	220	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for foundation filling** including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 310 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**	cum	6413.76	
		Labour Component (including contractor's profit and Overheads)	cum		2635.10
IRR-CCDW-2-8	221	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for sub-structure / super- structure works** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 320 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**	cum	6963.52	
		Labour Component (including contractor's profit and Overheads)	cum		2625.90

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-CCDW-2-9	222	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for sub-structure / super- structure works** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**	cum	6964.60	
		Labour Component (including contractor's profit and Overheads)	cum		2786.20
IRR-CCDW-2-10	223	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for sub-structure / super- structure works** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 280 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**	cum	6715.91	
		Labour Component (including contractor's profit and Overheads)	cum		2791.10
IRR-CCDW-2-11	224	Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for sub-structure / super- structure works** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 220 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**	cum	6186.74	
		Labour Component (including contractor's profit and Overheads)	cum		2594.90
IRR-CCDW-2-12	225	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for well kerb** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 350 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum**	cum	8848.54	
		Labour Component (including contractor's profit and Overheads)	cum		3360.20
IRR-CCDW-2-13	226	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for well steining** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 320 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	8015.85	
		Labour Component (including contractor's profit and Overheads)	cum		3074.30
IRR-CCDW-2-14	227	Providing and **laying insitu M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for well bottom plug** by tremie or skip box method including cost of all materials, complete **with initial lead upto 50 m and all lifts.(Cement content: 350 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**	cum	5754.33	
		Labour Component (including contractor's profit and Overheads)	cum		2445.70

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-CCDW-2-15	228	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for well top plug** including cost of all materials, machinery, labour, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 280 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)** **If water is to be brought from other place add only lead charges @ 500 ltrs / cum**	cum	5515.37	
		Labour Component (including contractor's profit and Overheads)	cum		2388.80
IRR-CCDW-2-16	229	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for well cap** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	5986.47	
		Labour Component (including contractor's profit and Overheads)	cum		2428.50
IRR-CCDW-2-17	230	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates **for piers and abutments** including cost of all materials, labour, machinery, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 250 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.98cum, Blending Ratio of CA--35:30:20:15, FA : 0.35 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	7585.55	
		Labour Component (including contractor's profit and Overheads)	cum		3218.50
IRR-CCDW-2-18	231	Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates **for piers and abutments** including cost of all materials, labour, machinery, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 220 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.98cum, Blending Ratio of CA--35:30:20:15, FA : 0.35 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	7411.86	
		Labour Component (including contractor's profit and Overheads)	cum		3200.30
IRR-CCDW-2-19	232	Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for piers and abutments** including cost of all materials, labour, machinery, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 220 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	7156.83	
		Labour Component (including contractor's profit and Overheads)	cum		2959.80

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-CCDW-2-20	233	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for cantiliver / counterfort retaining walls** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 320 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	7883.69	
		Labour Component (including contractor's profit and Overheads)	cum		3062.90
IRR-CCDW-2-21	234	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **with placing and sinking plums of size 150 to 80 mm upto 15 percent for gravity type retaining walls / piers / abutments etc.**, including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts. (Cement content: 260 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.765cum, Blending Ratio of CA--50:30:20, FA : 0.34 cum, plums of size 150 to 80 mm : 0.25cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	7106.92	
		Labour Component (including contractor's profit and Overheads)	cum		2870.90
IRR-CCDW-2-22	235	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard,graded aggregates **for cast in-situ pipes** including cost of all materials, machinery, labour, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 260 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	6634.05	
		Labour Component (including contractor's profit and Overheads)	cum		2712.40
IRR-CCDW-2-23	236	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates **for cast in-situ pipes** including cost of all materials, labour, machinery, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 250 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.98cum, Blending Ratio of CA--35:30:20:15, FA : 0.35 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	6692.48	
		Labour Component (including contractor's profit and Overheads)	cum		2814.60
IRR-CCDW-2-24	237	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for deck slab & kerb** including cost of all materials,machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	11118.70	
		Labour Component (including contractor's profit and Overheads)	cum		4014.70

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-CCDW-2-25	238	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for columns and beams** including cost of all materials, labour, machinery, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts. (Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	9601.60	
		Labour Component (including contractor's profit and Overheads)	cum		3666.90
IRR-CCDW-2-26	239	Providing and **laying insitu M- 20** (28 days cube compressive strength not less than 20 N / sqmm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for wearing coat** including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position in alternate panels, levelling, compacting, finishing, curing, packing joints with asphalt mortar etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	5880.73	
		Labour Component (including contractor's profit and Overheads)	cum		2491.80
IRR-CCDW-2-27	240	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates for troughs including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position,levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	8656.31	
		Labour Component (including contractor's profit and Overheads)	cum		3407.80
IRR-CCDW-3		**FOUNDATION WELL SINKING WORKS :**			
IRR-CCDW-3-1	241	**Sinking RCC wells vertically for foundation of piers and abutments** in **all kinds of soil, sand and soft rock** by approved well sinking method including cost of all materials, machinery, labour, kent - ledge arrangements, disposal of excavated material as disposal of excavated material as directed etc., complete **with lead upto 50 m for disposal of excavated material.(diameter of well 6.00m)** (Data adopted from MORTH)	*Rm	6142.10	
		Labour Component (including contractor's profit and Overheads)	*Rm		3319.10
		for 3 to 10 meters for each running meter	*Rm	8563.33	
		Labour Component (including contractor's profit and Overheads)	*Rm		4328.80
IRR-CCDW-3-2	242	**Filling foundation wells with sand** in **layers of 25 to 30 cm** and compacting by watering, ramming as directed including cost of all materials, machinery, labour etc., complete **with initial lead upto 50 m and all lifts.**	cum	223.44	
		Labour Component (including contractor's profit and Overheads)	cum		223.50
IRR-CCDW-4		**MASONRY WORKS :**			
IRR-CCDW-4-1	243	Providing and **constructing un-coursed rubble stone masonry** with approved stones in **CM 1 : 4** proportion **for sub-structure portions of return walls / abutments etc.,** including cost of all materials, machinery, labour, scaffolding, cleaning, packing cement mortar, wedging stone chips, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 143 kg / cum of masonry, rubble stones : 0.85cum, FA : 0.40 cum,Stone Chips : 0.15 cum)**	cum	2933.30	
		Labour Component (including contractor's profit and Overheads)	cum		1572.30

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-CCDW-4-2	244	Providing and **constructing un-coursed rubble stone masonry** with approved stones in **CM 1 : 4** proportion **for super-structure portions of return walls / abutments etc.,** including cost of all materials, machinery, labour, scaffolding, cleaning, packing cement mortar, wedging stone chips, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 143 kg / cum of masonry, rubble stones : 0.85cum, FA : 0.40 cum,Stone Chips : 0.15 cum)**	cum	3003.56	
		Labour Component (including contractor's profit and Overheads)	cum		1611.60
IRR-CCDW-4-3	245	Providing and **constructing coursed rubble masonry second sort** in **CM 1:4** proportion with stones from approved source including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, finishing, curing etc., complete **with initial lead upto 50 m and initial lift upto 3 m.(Cement content: 133 kg / cum of masonry, rubble stones : 0.45cum, FA : 0.35 cum,Stone Chips : 0.15 cum, Khandki stones 25 x 25 x 30 cm : 180 Nos, Header stones 25 x 25x 45 cm : 60 Nos)**	cum	3805.71	
		Labour Component (including contractor's profit and Overheads)	cum		1787.50
IRR-CCDW-4-4	246	Providing and **constructing coursed rubble masonry first sort** in **CM 1:4** proportion with stones from approved source including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, finishing, curing etc., complete **with initial lead upto 50 m and initial lift upto 3 m.(Cement content: 133 kg / cum of masonry, rubble stones : 0.45cum, FA : 0.35 cum,Stone Chips : 0.15 cum, Khandki stones 25 x 25 x 30 cm : 180 Nos, Header stones 25 x 25x 45 cm : 60 Nos)**	cum	4060.74	
		Labour Component (including contractor's profit and Overheads)	cum		2042.60
IRR-CCDW-4-5	247	**Providing cement mortar pointing to coursed rubble face stone masonry** in **CM 1 : 2** proportion by volume including raking and cleaning joints for 50 mm depth, pressing cement mortar into joints, cost of all materials, labour, scaffolding, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**	sqm	206.68	
		246	sqm		183.10
IRR-CCDW-4-6	248	**Providing cement mortar pointing to coursed rubble face stone masonry** in **CM 1 : 3** proportion by volume including raking and cleaning joints for 50 mm depth, pressing cement mortar into joints, cost of all materials, labour, scaffolding, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**	sqm	200.09	
		Labour Component (including contractor's profit and Overheads)	sqm		183.10
IRR-CCDW-4-7	249	**Providing 12 mm thick plastering** in **cement mortar 1:3** proportion by volume including cost of all materials, machinery, labour, scaffolding, cleaning joints, smooth finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**	sqm	293.28	
		Labour Component (including contractor's profit and Overheads)	sqm		260.40
IRR-CCDW-4-8	250	**Providing 12 mm thick plastering** in **cement mortar 1:4** proportion by volume including cost of all materials, machinery, labour, scaffolding, cleaning joints, smooth finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**	sqm	285.57	
		Labour Component (including contractor's profit and Overheads)	sqm		260.40
IRR-CCDW-4-9	251	**Providing 20 mm thick plastering** in **cement mortar 1:3** proportion by volume including cost of all materials, machinery, labour, scaffolding, cleaning joints, smooth finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**	sqm	401.63	
		Labour Component (including contractor's profit and Overheads)	sqm		346.80
IRR-CCDW-4-10	252	**Providing 20 mm thick plastering** in **cement mortar 1:4** proportion by volume including cost of all materials, machinery, labour, scaffolding, cleaning joints, smooth finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**	sqm	388.76	
		Labour Component (including contractor's profit and Overheads)	sqm		346.80
IRR-CCDW-5		**COPING & RAILING WORKS :**			
IRR-CCDW-5-1	253	Providing and **fixing 10 cm thick roughly dressed burnt stone slabs for coping** set in **CM 1: 6** proportion by volume with pointing **to joints** in CM 1 : 3 proportion by volume including cost of all materials, machinery, labour, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 7.5 kg / sqm, FA : 0.030 cum/sqm, Burnt stone slab 10 cm thick 1.05 sqm/ sqm)**	sqm	885.39	

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
		Labour Component (including contractor's profit and Overheads)	sqm		372.70
IRR-CCDW-5-2	254	Providing and **fixing 10 cm thick one line dressed burnt stone slabs for coping** set in **CM 1: 6** proportion by volume with pointing **to joints** in CM 1 : 3 proportion by volume including cost of all materials, machinery, labour, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 7.5 kg / sqm, FA : 0.030 cum/sqm, Burnt stone slab 10 cm thick 1.05 sqm/ sqm)**	sqm	1179.65	
		Labour Component (including contractor's profit and Overheads)	sqm		666.90
IRR-CCDW-5-3	255	Providing and **fixing 10 cm thick two line dressed burnt stone slabs for coping** set in **CM 1: 6** proportion by volume with pointing **to joints** in CM 1 : 3 proportion by volume including cost of all materials, machinery, labour, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 7.5 kg / sqm, FA : 0.030 cum/sqm, Burnt stone slab 10 cm thick 1.05 sqm/ sqm)**	sqm	1556.86	
		Labour Component (including contractor's profit and Overheads)	sqm		1044.10
IRR-CCDW-5-4	256	Providing and **laying insitu M-15** (28 days cube compressive strength not less than 15 N / sqmm) grade cement concrete using **20 mm down size** approved clean, hard, graded aggregates for coping slab including cost of all materials, machinery, labour, formwork, cleaning surface, batching, mixing, placing in position, levelling, compacting, finishing, curing etc., complete **with initial lead upto 50 m and initial lift upto 3 m. (Cement content: 300 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**	cum	8354.18	
		Labour Component (including contractor's profit and Overheads)	cum		3239.60
IRR-CCDW-5-5	257	Providing and **constructing protective railing** consisting of in-situ railing posts of size 15 x 15 cm at bottom, 10 x 10 cm at top and 75 cm height at 2 m centre to centre in **M-20** grade concrete using 20 mm down size graded aggregates and with each post reinforced by 4 Nos. of 8 mm dia main bars embedded in kerb concrete for a depth of 40 cm and 5 Nos. of 6 mm dia. stirrups including fixing 3 rows of 40 mm dia. GI pipes with one coat of red oxide primer and two coats of synthetic enamel paint, cost of all materials, machinery, labour, formwork, finishing, curing etc., complete **with lead upto 50 m and all lifts.**	Rm	1360.55	
		Labour Component (including contractor's profit and Overheads)	Rm		355.00
IRR-CCDW-6		**HUME PIPE LAYING & JOINTING WORKS :**			
IRR-CCDW-6-1	258	**Laying and jointing 300 mm dia. NP- 2 class or IRC standard hume pipes** in **CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 9.9 kg / joint, FA : 0.01cum/joint, Hemp Yarn : 0.091kg/joint)**	Joint	559.99	
		Labour Component (including contractor's profit and Overheads)	Joint		502.20
IRR-CCDW-6-2	259	**Laying and jointing 450 mm dia. NP- 2 class or IRC standard hume pipes in CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 17.4 kg / joint, FA : 0.022cum/joint, Hemp Yarn : 0.127kg/joint)**	Joint	601.21	
		Labour Component (including contractor's profit and Overheads)	Joint		502.20
IRR-CCDW-6-3	260	**Laying and jointing 600 mm dia. NP- 2 class or IRC standard hume pipes** in **CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 24.8 kg / joint, FA : 0.025cum/joint, Hemp Yarn : 0.22kg/joint)**	Joint	764.94	
		Labour Component (including contractor's profit and Overheads)	Joint		620.90
IRR-CCDW-6-4	261	**Laying and jointing 700 mm dia. NP- 2 class or IRC standard hume pipes** in **CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 32.1 kg / joint, FA : 0.031cum/joint, Hemp Yarn : 0.25kg/joint)**	Joint	803.75	
		Labour Component (including contractor's profit and Overheads)	Joint		620.90

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-CCDW-6-5	262	**Laying and jointing 800 mm dia. NP- 2 class or IRC standard hume pipes** in **CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 39.6 kg / joint, FA : 0.039cum/joint, Hemp Yarn : 0.31kg/joint)**	Joint	965.46	
		Labour Component (including contractor's profit and Overheads)	Joint		739.60
IRR-CCDW-6-6	263	**Laying and jointing 900 mm dia. NP- 2 class or IRC standard hume pipes** in **CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 44.6 kg / joint, FA : 0.045cum/joint, Hemp Yarn : 0.34kg/joint)**	Joint	993.24	
		Labour Component (including contractor's profit and Overheads)	Joint		739.60
IRR-CCDW-6-7	264	**Laying and jointing 1000 mm dia. NP- 2 class or IRC standard hume pipes** in **CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 49.5 kg / joint, FA : 0.05cum/joint, Hemp Yarn : 0.377kg/joint)**	Joint	1098.33	
		Labour Component (including contractor's profit and Overheads)	Joint		816.90
IRR-CCDW-6-8	265	**Laying and jointing 1100 mm dia. NP- 2 class or IRC standard hume pipes** in **CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 56.9 kg / joint, FA : 0.058cum/joint, Hemp Yarn : 0.415kg/joint)**	Joint	1138.69	
		Labour Component (including contractor's profit and Overheads)	Joint		816.90
IRR-CCDW-6-9	266	**Laying and jointing 1200 mm dia. NP- 2 class or IRC standard hume pipes** in **CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 66.8 kg / joint, FA : 0.069cum/joint, Hemp Yarn : 0.453kg/joint)**	Joint	1351.66	
		Labour Component (including contractor's profit and Overheads)	Joint		977.10
IRR-CCDW-7		**BACK FILLING & OTHER WORKS :**			
IRR-CCDW-7-1	267	**Providing rubble / boulder and sand filling behind abutment and return walls** in layers including cost of all materials, machinery, labour, watering, ramming etc., complete **with initial lead upto 50 m and initial lift upto 3 m.**	cum	925.96	
		Labour Component (including contractor's profit and Overheads)	cum		444.20
IRR-CCDW-7-2	268	**Providing and filling murrum / gravely soil (CNS soil) for foundation or around pipes** including breaking clods, spreading in layers of 10 to 15 cm, watering, **compaction by earth masters** to achieve density control of **not less than 95 percent** etc., complete **with lead upto 50 m and all lifts.**	cum	913.58	
		Labour Component (including contractor's profit and Overheads)	cum		561.80
IRR-CCDW-7-3	269	**Providing and filling murum / gravely soil (CNS soil) for foundation or above pipes** including breaking clods, spreading in layers of 10 to 15 cm, watering, **compaction by power roller** to achieve density **control of not less than 98 percent** etc., complete **with lead upto 50 m and all lifts.**	cum	602.52	
		Labour Component (including contractor's profit and Overheads)	cum		221.80
IRR-CCDW-7-4	270	Providing and **fixing one line dressed 111x35x25 cm thick IRC standard kilometre stone in cement concrete M-10** grade with **40 mm down size** aggregates including excavating pit of size 70x45x40 cm, embedding the stone by 30 cm in concrete, providing 2 coats synthetic enamel paint of approved quality and colour to exposed surfaces and lettering as directed, cost of all materials, labour, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**	Each	2101.50	
		Labour Component (including contractor's profit and Overheads)	Each		927.40

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-CCDW-7-5	271	Providing and **fixing one line dressed 65x15x10 cm thick IRC standard hectometre stone in cement concrete M-10** grade with **40 mm down size** aggregates including excavating pit of size 50x45x40 cm, embedding the stone by 30 cm in concrete, providing 2 coats synthetic enamel paint of approved quality and colour to exposed surfaces and lettering as directed, cost of all materials, labour, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**	Each	1567.93	
		Labour Component (including contractor's profit and Overheads)	Each		794.60
Chapter V					
IRR-GAW		**GATES / HOISTS AND ALLIED WORKS**			
IRR-GAW-1-1	272	**SPILLWAY RADIAL GATES** **E.M Parts and anchorages** fabrication, supply, erection, testing and **commissioning of embedded parts for radial gate** consists of sill beam, wall plates, anchor girders , yoke girders, tie flats, trunnion supports etc., including cost of all materials, machinery, labour, welding, finishing, **with leads and lifts &all accessories** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under itemsinthis chapter and add as applicable separately)	tonne	224354.14	
		Labour Component (including contractor's profit and Overheads)	tonne		86380.50
IRR-GAW-1-2	273	**RADIAL GATES** fabrication, supply, erection, testing and **commissioning of radial gate** consisting of skin plate, stiffeners, horizontal girders, radial arms, trunnion assemblies, tie beam, pulley supports, bracings, rubber seals, clamps etc., with all accessories for spillway/canals including cost of all materials, machinery, labour, seal fixing etc., **complete as per specifications and approved drawings** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under itemsinthis chapter and add as applicable separately)	tonne	203921.50	
		Labour Component (including contractor's profit and Overheads)	tonne		65888.70
IRR-GAW-1-3	274	**RADIAL GATES-ROPE DRUM HOISTS WITH HOIST BRIDGES** fabrication, supply, erection, testing and **commissioning of electrically operated rope drum hoist of adequate capacity** consisting of base frames, rope drums,connecting shaft, gear system, brake system, electric motor, wire ropes, gate position indicator, manual operation arrangement etc., with all accessories for spillway radial gate including cost of all materials, machinery, labour,, greasing, providing hand railing and approach staircase with gate to hoist platform, , **complete as per specifications and approved drawings** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under itemsinthis chapter and add as applicable separately)	tonne capacity	51912.38	
		Labour Component (including contractor's profit and Overheads)	tonne capacity		5265.30
IRR-GAW-1-4	275	**RADIAL GATES** **Walk way(cat walk)** Design, fabrication, supply, erection and **commissioning of 1 metre wide walkway connecting spillway piers / abutments** at trunnion platform level including cost of all materials, machinery, labour, cutting, etc., complete **as per specifications and approved drawings** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	Rm	154267.67	
		Labour Component (including contractor's profit and Overheads)	Rm		62644.60
IRR-GAW-2-1	276	**VERTICAL LIFT GATES-EM PARTS** Design, fabrication, supply, erection and **commissioning of embedded parts** consisting of sill beam, slide tracks, seal seats, guide rails, dogging sets for storage of stoplog elements etc., with all accessories for spillway stop log gates and other vertical lift elements including cost of all materials, machinery, labour, etc., **complete as per specifications and approved drawings** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	tonne	248977.69	
		Labour Component (including contractor's profit and Overheads)	tonne		102527.40

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-GAW-2-2	277	**vertical lift gates and stop log gate elements (SLIDING GATES)** Design, fabrication, supply, erection, testing and **commissioning of vertical lift gates and stoplog gate elements**, consisting of skin plate, horizontal and vertical girders, stiffeners, lifting pins, bronze padded slide blocks/bearings, guide shoes, rubber seals, clamps etc., with all accessories including cost of all materials, machinery, labour, seal fixing etc.,**complete as per specifications and approved drawings** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)2	tonne	210374.63	
		Labour Component (including contractor's profit and Overheads)	tonne		75710.40
IRR-GAW-2-3	278	**STOP LOGS-automatic lifting beam** fabrication, supply, erection, testing and **commissioning of automatic lifting beam** with all accessories for handling, lowering and lifting of spillway stop log gate elements including cost of all materials, machinery, labour, cutting, aligning, welding, finishing, etc., complete **as per specifications and drawings with all leads and lifts.** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	tonne	161690.73	
		Labour Component (including contractor's profit and Overheads)	tonne		38361.10
IRR-GAW-2-4	279	**MOVING GANTRY CRANE-CLASS II** fabrication, supply, erection, testing and **commissioning of adequate capacity Class- II type moving gantry crane** consisting of rail mounted gantry frame, top platform with hand railing, long / cross travel arrangements, rope drums, gear systems, electric motors, electro-magnetic brake system, cabin, control panel, wire rope, ladder, motorised cable reeling drum etc., with all accessories for operating spillway stop log gate elements and river sluice / canal sluice emergency gates including cost of all materials, machinery, labour, etc., **complete with all leads and lifts.** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	tonne capacity	296181.60	
		Labour Component (including contractor's profit and Overheads)	tonne capacity		38678.30
IRR-GAW-2-5	280	**RAIL TRACK FOR GANTRY CRANE** Design, fabrication, supply, erection and **commissioning of rail track using 45 kg / m standard rails on spillway bridge** for movement of gantry crane for handling and operating spillway stoplog gate elements / river sluice / canal sluice emergency gate including cost of all materials, machinery, labour, **complete as per specifications** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	Rm	9544.17	
		Labour Component (including contractor's profit and Overheads)	Rm		951.60
IRR-GAW-2-6	281	**VERTICAL LIFT GATES/STOP LOGS - ROLLER MOUNTED** Design, fabrication, supply, erection, testing and **commissioning of fixed wheel type vertical lift service gate** consisting of skin plate, vertical and horizontal girders, wheels, stiffeners, lifting brackets, guide rollers, ballast blocks, teflon claded rubber seals etc., with all accessories for river sluice / canal sluice vent including cost of all materials, machinery, labour,welding ,aligning finishing seal fixing etc.with all leads and lifts, **complete as per specifications and approved drawings** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	tonne	204721.63	
		Labour Component (including contractor's profit and Overheads)	tonne		71863.40

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-GAW-2-7	282	**VERTICAL LIFT GATES-ROPE DRUM HOIST UPTO 30 TON CAP. POWER OPERATED** Design, fabrication, supply, erection, testing and **commissioning of adequate capacity rope drum hoist** consisting of hoist platform, rope drum, gear system, electric motor, electro-magnetic brake system, hand operation assembly, control panel, wire rope, pulleys, ladder etc., with all accessories for operating river sluice / canal sluice service gate including cost of all materials, machinery, labour, , **complete as per specifications and drawings with all leads and lifts** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	tonne capacity	83191.78	
		Labour Component (including contractor's profit and Overheads)	tonne capacity		5026.80
IRR-GAW-2-8	283	**HOIST BRIDGE/ WITH TRESSELS** Design, fabrication, supply, erection and **commissioning of structural steel hoist bridge** consisting of columns, beams, bracings, stiffeners, ties, chequered plate covering, hand railing, ladder etc., with all accessories for supporting rope drum hoist for operating barrage gates including cost of all materials, machinery, labour, welding, finishing, etc., complete complete as per specifications and drawings **with all leads and lifts** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	tonne	176978.33	
		Labour Component (including contractor's profit and Overheads)	tonne		64900.10
IRR-GAW-2-9	284	**ROPE DRUM HOIST WITHOUT HOIST BRIDGE FOR BARRAGE GATES** Design, fabrication, supply, erection, testing and **commissioning of adequate capacity rope drum hoist** consisting of rope drum, pulleys, gear system, electric motor, electro-magnetic brake system, manual operation assembly, position indicator, control panel, wire rope etc., with all accessories for operating vertical lift roller gates for barrage including cost of all materials, machinery, labour, cutting, bending, aligning, anchoring, welding, finishing etc., **complete with all leads and lifts.** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	tonne capacity	40594.85	
		Labour Component (including contractor's profit and Overheads)	tonne capacity		2130.80
IRR-GAW-2-10	285	**SCREW GEAR HOISTS INCLUDING PLATFORM (UPTO 10 TON CAP)** Design, fabrication, supply, erection, testing and **commissioning of adequate capacity screw gear type hoist** consisting of supporting structure, platform, ladder etc., with all accessories for operating canal escape / regulator gate including cost of all materials, machinery, labour, cutting, bending, aligning, anchoring, welding,finishing etc.,**complete with all leads and lifts.** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	tonne capacity	45188.86	
		Labour Component (including contractor's profit and Overheads)	tonne capacity		9643.80
IRR-GAW-2-11	286	**MANUAL OPERATED ROPE DRUM HOISTS** Design, fabrication, supply, erection, testing and **commissioning of adequate capacity manually operated rope drum hoist** consisting of hoist platform, rope drum, gear system, brake system, wire rope, ladder etc., with all accessories for operating canal regulator radial gate including cost of all materials, machinery, labour, welding, finishing, cleaning, ., **complete with all leads and lifts** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	tonne capacity	91438.05	
		Labour Component (including contractor's profit and Overheads)	tonne capacity		12896.40

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-GAW-2-12 New Item2015-16-2	287	**OT SLUICE SHUTTERS Screw Gear Hoist Including Platform for below 5 Tons Capacity (Small Gates)** As per Guidelines of Chief Engineer, Central Designs Organization, Hyderabad Specification drawing for Krishna Delta System Fabrication, supply, erection, testing and commissioning of Embedded parts consisting of supporting structure, platform etc. with all accessories for operating canal escape/ regulator gate with all accessories including cost of all materials, machinery, labour, cutting, bending, aligning, anchoring, welding, finishing etc. complete as per Specification and approved drawings (without painting on mechanical cleaning surfaces which are added extra as per schedule of rates under items in this chapter and add as applicable separately)	Tonne	174832.89	
		Labour Component (including contractor's profit and Overheads)	Tonne		48448.80
IRR-GAW-2-13 New Item2015-16-3	288	**OT SLUICE SHUTTERS EM parts for Below 5 Tons capacity (small gates)** As per Guidelines of Chief Engineer, Central Designs Organization, Hyderabad Specification drawing for Krishna Delta System Fabrication, supply, erection, testing and commissioning of Embedded parts consisting of sil beam, slide tracks, seal seats, Guide plates etc. with all accessories including cost of all materials, machinery, labour, etc. complete as per specifications and approved drawings. (without painting on mechanical cleaning surfaces which are added extra as per schedule of rates under items in this chapter and add as applicable separately)	Tonne	117605.61	
		Labour Component (including contractor's profit and Overheads)	Tonne		40308.30
IRR-GAW-2-14 New Item2015-16-4	289	**OT SLUICE SHUTTERS for Below 5 Tons capacity (small gates)** As per Guidelines of Chief Engineer, Central Designs Organization, Hyderabad Specification drawing for Krishna Delta System Fabrication, supply, erection, testing and commissioning of Sluice Shutters consisting of skin plate, horizontal and vertical angles, stiffeners, rubber seals, clamps with all accessories for sluice shutters including cost of all materials, machinery, labour, seal fixing etc., complete as per specifications and approved drawings (without painting on mechanical cleaning surfaces which are added extra as per schedule of rates under items in this chapter and add as applicable separately)	Tonne	296195.84	
		Labour Component (including contractor's profit and Overheads)	Tonne		20660.30
IRR-GAW-3		**SAND BLASTING AND PAINTING**			
IRR-GAW-3-1	290	**Cleaning gates / hoists / embedded parts/lifting beams** etc, to expose fresh metal surface for painting **by sand blasting method** as per specifications including cost of all materials, labour, machinery, scaffolding, etc., complete **with initial lead for sand upto 1 km and all lifts.**	sqm	404.21	
		Labour Component (including contractor's profit and Overheads)	sqm		187.70
IRR-GAW-3-2	291	**painting of embedded metal parts and all types of gates**, stoplogs,etc, on sand blasted surfaces with **one coat** of inorganic zinc silicate (airless spray preferred)70+/- 5 and **two super coats** with a total thickness of 300 microns (each 150+/- 5) of solventless coaltar epoxy paint each coat 150 microns (total 300 microns) cost of all materials, labour, scaffolding etc., complete with all leads and all lifts **(Upstream surface of gates portion may be painted with solventless coaltar epoxy brown paint instead of solventless coaltar black. The rate for coaltar epoxy brown shall be adopted in data for Upstream side painting)**	sqm	757.30	
		Labour Component (including contractor's profit and Overheads)	sqm		393.30
IRR-GAW-3-3	292	**painting of Lifting beams,cat walks and other similar structures**-painting hoist machinery, on sand blasted surfaces with **two coats** of zinc phosphate primer (airless spray preferred) 40microns/coat and **twocoats** of alkyd based micaccous iron oxide paint , 65 microns/coat cost of all materials, labour, scaffolding etc., complete with all leads and all lifts	sqm	548.94	
		Labour Component (including contractor's profit and Overheads)	sqm		301.60
IRR-GAW-3-4	293	**HOISTS:STRUCTURAL COMPONENTS**-- **painting structurals on sand blasted surfaces** with **two coats** of zinc phosphate primer (airless spray preferred) 40microns/coat and **one coat** 65+/-5 of alkyd based micaccous iron oxide paint followed by **two coats** of synthetic enamel paint 25 microns/coat cost of all materials, labour, scaffolding etc., complete with all leads and all lifts	sqm	686.17	
		Labour Component (including contractor's profit and Overheads)	sqm		393.30

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-GAW-3-5	294	**HOISTS:machineryCOMPONENTS--** **painting hoist machinery, on sand blasted surfaces** with **one coats** of zinc phosphate primer (airless spray preferred) 50microns/coat and **three coats** of aluminium paint or synthetic enamel , 25 microns/coat cost of all materials, labour, scaffolding etc., complete with all leads and all lifts	sqm	644.22	
		Labour Component (including contractor's profit and Overheads)	sqm		393.30
IRR-GAW-4		**PAINTING WITHOUT SAND BLASTING**			
IRR-GAW-4-1	295	**E.M Parts OF ALL TYPES OF GATES** Surface cleaning of metal surfaces by chemical cleaners and then by hand and power tool cleaners and removing dust. After cleaning,applying primary coat with **one coat of Protective Mastic** to athickness of 70+5 microns ,followed by finishing coats **2 coats** with coal tar epoxy each coat with a DFT of 150+5 microns and total DFT of all coats including Primary coat should not be less than 350 microns with material, labour and all accessories with all leads and lifts **(in respect of Heavily rusted (30 to 40% rusted) surfaces)**	sqm	849.60	
		Labour Component (including contractor's profit and Overheads)	sqm		393.30
IRR-GAW-4-2		Deleted from the year2015-16 onwards			
IRR-GAW-4-3	296	**HOIST BRIDGES ,HOISTING EQUIPMENT AND CRANES,Etc,** Surface cleaning of metal surfaces by chemical cleaners and then by hand and power tool cleaners and removing dust. After cleaning,applying primary coat with **two coats of Zinc chromite red oxide primer** , followed by finishing coats **3 coats with synthetic enamel paint** with material, labour,and all accessories with all leads and lifts where surface cleaning by sand blasting is not feasible and based on specific recommendations of designers, it is to adopt surface preperation done manually by hand and power tool after cleaning by chemical treatment to remove grease, rust, scaling etc., and to form phasphate coating to prevent further rusting, before applying primer painting.	sqm	665.78	
		Labour Component (including contractor's profit and Overheads)	sqm		393.30
IRR-GAW-4-4	297	**WALK WAYS(CAT WALKS), LIFTING BEAMS,**etc, Surface cleaning of metal surfaces by chemical cleaners and then by hand and power tool cleaners and removing dust. After cleaning,applying primary coat with **one coat of Zinc rich epoxy primer** to a thickness of 40 microns ,followed by finishing coats **2 coats with coal tar epoxy** with material, labour, and all accessories with all leads and lifts	sqm	674.23	
		Labour Component (including contractor's profit and Overheads)	sqm		265.00
Chapter VI					
IRR-PMW		**PRELIMINARY AND MAINTENANCE WORKS**			
IRR-PMW-1		**JUNGLE CLEARANCE :**			
IRR-PMW-1-1	298	**Clearing thin jungle growth (more than 50 percent open space)** including bushes **upto 30 cm / parthenium and other weeds** including burning or disposing off the same as directed etc., complete.	sqm	2.84	
		Labour Component (including contractor's profit and Overheads)	sqm		2.80
IRR-PMW-1-2	299	**Clearing thick jungle growth (less than 50 percent open space)** including bushes **upto 30 cm / parthenium and other weeds** including burning or disposing off the same as directed etc., complete.	sqm	4.39	
		Labour Component (including contractor's profit and Overheads)	sqm		4.40
IRR-PMW-1-3	300	**Removing stumps, tree roots, roots of bamboo clusters etc., upto 1.50 m girth** including excavation, stacking the materials neatly and levelling the surface etc., complete **with initial lead upto 50 m and all lifts.**	Each	100.36	
		Labour Component (including contractor's profit and Overheads)	Each		100.30
IRR-PMW-1-4	301	**Removing stumps, tree roots, roots of bamboo cluster etc., with girth above 1.50 m and upto 3.0 m** including excavation, stacking the materials neatly and levelling the area etc., **complete with initial lead upto 50 m and all lifts.**	Each	225.81	
		Labour Component (including contractor's profit and Overheads)	Each		225.80

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-PMW-1-5	302	**Removing stumps, tree roots, roots of bamboo cluster etc., with girth above 3.0 m and upto 5.0 m** including excavation, stacking the materials neatly and levelling the area etc., complete **with initial lead upto 50 m and all lifts.**	Each	722.59	
		Labour Component (including contractor's profit and Overheads)	Each		722.60
IRR-PMW-1-6	303	Additional rate **for every 0.5 m increase in girth** of tree stump/stumps of bamboo cluster beyond 5 m	Each	129.42	
		Labour Component (including contractor's profit and Overheads)	Each		129.40
IRR-PMW-1-7	304	**Cutting and stacking bamboos** excluding removing stumps and roots etc., **complete with initial lead upto 50 m and all lifts.**	Each	29.24	
		Labour Component (including contractor's profit and Overheads)	Each		29.20
IRR-PMW-1-8	305	**Cutting and removing jauliflora bushes upto 1.5 m girth** excluding removal of stumps and including burning or disposing off the materials as directed **with initial lead upto 50 m and all lifts.**	Each	28.40	
		Labour Component (including contractor's profit and Overheads)	Each		28.40
IRR-PMW-1-9	306	**Cutting and removing jauliflora bushes above 1.5 m upto 3.0 m girth** excluding removal of stumps and including burning or disposing off the materials as directed **with initial lead upto 50 m and all lifts.**	Each	56.81	
		Labour Component (including contractor's profit and Overheads)	Each		56.80
IRR-PMW-1-10	307	**Cutting trees above 0.3 m and upto 0.6 m girth** excluding removal of stumps and including stacking the materials neatly as directed **with initial lead upto 50 m and all lifts.**	Each	188.34	
		Labour Component (including contractor's profit and Overheads)	Each		184.20
IRR-PMW-1-11	308	**Cutting trees above 0.6 m and upto 1.2 m girth** excluding removal of stumps and including stacking the materials neatly as directed **with initial lead upto 50 m and all lifts.**	Each	659.18	
		Labour Component (including contractor's profit and Overheads)	Each		644.80
IRR-PMW-1-12	309	**Cutting trees above 1.2 m and upto 1.8 m girth** excluding removal of stumps and including stacking the materials neatly as directed **with initial lead upto 50 m and all lifts.**	Each	1318.36	
		Labour Component (including contractor's profit and Overheads)	Each		1289.50
IRR-PMW-1-13	310	**Cutting trees above 1.8 m and upto 2.4 m girth** excluding removal of stumps and including stacking the materials neatly as directed **with initial lead upto 50 m and all lifts.**	Each	2636.72	
		Labour Component (including contractor's profit and Overheads)	Each		2579.10
IRR-PMW-1-14	311	**Cutting trees above 2.4 m and upto 3.0 m girth** excluding removal of stumps and including stacking the materials neatly as directed **with initial lead upto 50 m and all lifts.**	Each	4239.54	
		Labour Component (including contractor's profit and Overheads)	Each		4124.20
IRR-PMW-1-15	312	**For every 0.5 m increase in girth of tree beyond 3 m** add Additional rate for cutting tree for every 0.5 m increase in girth of tree beyond 3 m.	Each	1491.14	
		Labour Component (including contractor's profit and Overheads)	Each		1456.50
IRR-PMW-1-16	313	**Cutting and burning or disposing off Apu / Jondu from marshy areas** as directed with initial lead upto 50 m and all lifts.	sqm	10.32	
		Labour Component (including contractor's profit and Overheads)	sqm		10.30
IRR-PMW-2		**PRELIMINARY WORKS :**			
IRR-PMW-2-1	314	**Earthwork excavation for trial pits / borrow pits** and other investigation works **in all kinds of soi**l including boulders **upto 30 cm dia** and disposing off excavated soil as directed **with lead upto 10 m and lift upto 3 m.**	cum	515.81	
		Labour Component (including contractor's profit and Overheads)	cum		515.80
IRR-PMW-2-2	315	**Earthwork excavation for trial pits / borrow pits** and other investigation works **in soft rock** including disposing off the excavated rock as directed **with lead upto 10 m and lift upto 3 m.**	cum	714.64	
		Labour Component (including contractor's profit and Overheads)	cum		714.60

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-PMW-2-3	316	**Conducting geophysical investigation studies by electrical resistivity method** in stages of 5m for sub-surface details such as depth of formations, shear zones, classification of strata, depth of water table etc., including cost of all materials, equipments, labour, analysing and reporting the details of field studies conducted etc., **complete excluding cost of transportation arrangements.**	stage	556.84	
		Labour Component (including contractor's profit and Overheads)	stage		484.30
IRR-PMW-2-4	317	**Drilling 80 mm dia hole** through over-burden **using casing shoe bit** vertical or inclined upto 10 degrees to vertical as directed including cost of all materials, machinery, labour, water charges, reaming, collection of wash samples at suitable intervals, logging and lebelling, supplying honne wood core box, **fixing casing pipes (excluding cost of casing pipes) etc., complete for depth upto 30 m from surface.** 1. For driiling through over-burden beyond 30 m from surface increase the rate per Rm by 10 percent. 2. For providing HDPE or light black MS casing pipe add the cost of pipe per Rm.	Rm	1761.96	
		Labour Component (including contractor's profit and Overheads)	Rm		865.60
IRR-PMW-2-5	318	**Drilling 76 mm dia (NX) core hole in hard rock** using **diamond core bit** vertical / inclined upto 10 degree to vertical as directed including cost of all materials, machinery, labour, water charges, collection of core samples, logging and lebelling, supplying honne wood core box and redrilling in case of collapse of sides etc., **complete for depth upto 30 m from surface.** 1. For driiling in hard rock beyond 30 m upto 60 m from surface increase the rate per Rm by 25 percent. 2. For driiling in hard rock beyond 60 m upto 90 m from surface increase the rate per Rm by 40 percent.	Rm	8885.02	
		Labour Component (including contractor's profit and Overheads)	Rm		3319.70
IRR-PMW-2-5-A (New Item2015-16)-5	319	**Drilling 76 mm dia (NX)** core hole **in all types of rocks (other than Hard Rock) including Masonry/CC** (where **drilling is not possible by casing shoe)** using diamond core bit vertical / inclined upto 10 degree to vertical as directed including cost of all materials, machinery, labour, water charges, and redrilling in case of collapse of sides etc., complete for depth upto 30 m from surface **for Primary and Secondary Holes** 1. For drilling in all types of rocks (other than hard rock) including masonry/CC beyond 30 m upto 60 m from surface increase the rate per Rm by 25 percent. 2. For drilling in all types of rocks (other than hard rock) including masonry/CC beyond 60 m upto 90 m from surface increase the rate per Rm by 40 percent.	Rm	5764.65	
		Labour Component (including contractor's profit and Overheads)	Rm		1980.70
IRR-PMW-2-5-B (New Item2015-16)-6	320	**Drilling 76 mm dia (NX)** core hole **in all types of rocks (other than Hard Rock) including Masonry/CC** (where **drilling is not possible by casing shoe)** using diamond core bit vertical / inclined upto 10 degree to vertical as directed including cost of all materials, machinery, labour, water charges, collection of core samples, logging and lebelling, supplying honne wood core box and redrilling in case of collapse of sides etc., complete for depth upto 30 m from surface **for Test Holes** 1. For drilling in all types of rocks (other than hard rock) including masonry/CC beyond 30 m upto 60 m from surface increase the rate per Rm by 25 percent. 2. For drilling in all types of rocks (other than hard rock) including masonry/CC beyond 60 m upto 90 m from surface increase the rate per Rm by 40 percent.	Rm	6528.31	
		Labour Component (including contractor's profit and Overheads)	Rm		1981.90
IRR-PMW-2-6	321	**Drilling 47 mm (BX)dia core hole in hard rock** using **diamond core bit** vertical / inclined upto 10 degree to vertical as directed including cost of all materials, machinery, labour, water charges,collection of core samples,logging, lebelling, supplying honne wood core box and redrilling in case of collapse of sides etc., **complete for depth upto 30 m from surface.** 1. For drilling in hard rock beyond 30 m upto 60 m from surface increase the rate per Rm by 25 percent. 2. For drilling in hard rock beyond 60 m upto 90 m from surface increase the rate per Rm by 40 percent.	Rm	8683.09	
		Labour Component (including contractor's profit and Overheads)	Rm		3319.70

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-PMW-2-6-A (New Item2015-16)-7	322	**Drilling 47 mm (BX)dia core hole in all types of rocks (other than Hard Rock) including Masonry/CC** (where drilling is not possible by casing shoe) using diamond core bit vertical / inclined upto 10 degree to vertical as directed including cost of all materials, machinery, labour, water charges, and redrilling in case of collapse of sides etc., **complete for depth upto 30 m** 1. For drilling in all types of rocks (other than hard rock) including masonry/CC beyond 30 m upto 60 m from surface increase the rate per Rm by 25 percent. 2. For drilling in all types of rocks (other than hard rock) including masonry/CC beyond 60 m upto 90 m from surface increase the rate per Rm by 40 percent.	Rm	5478.09	
		Labour Component (including contractor's profit and Overheads)	Rm		1980.70
IRR-PMW-2-7	323	Providing and **fixing 20 x 20 x 75 cm size roughly dressed boundary / demarcation / chainage / arrow stones** including cost of all materials, labour, engraving marks, fixing in position, murum filling etc., **complete with lead upto 50 m and all lifts.**	Each	294.14	
		Labour Component (including contractor's profit and Overheads)	Each		239.30
IRR-PMW-2-8	324	Providing and **fixing 20 x 20 x 75 cm size temporary bench mark stone** in **CC 1 : 4 : 8** using **40 mm down size** graded coarse aggregate including cost of all materials, labour, dressing top surface, engraving BM data etc.,complete **with lead upto 50 m and all lifts.**	Each	864.47	
		Labour Component (including contractor's profit and Overheads)	Each		696.50
NOTE:		For providing 30 cm thick compacted murum bed in B.C soil area including additional			
		excavation for thickness of murum bedding add per	Each	4.00	
IRR-PMW-2-9	325	Providing and **fixing 20 x 20 x 75 cm size permanent bench mark stone** in **CC 1 :3 : 6** block of size 90 x 90 x 120 cm using **40 mm down size** graded coarse aggregate and providing 35 cm thick 30 cm high UCR masonry in CM 1 : 5 proportion protective wall alround the BM stone, including cost of all materials, labour, dressing top surface of stone, engraving BM data	Each	9361.94	
		Labour Component (including contractor's profit and Overheads)	Each		6209.10
IRR-PMW-3		**MAINTENANCE WORKS :**			
IRR-PMW-3-1	326	**Removing dry stone rock-toe / rivetment and filter layers below rock-toe/ rivetment** including stacking all materials separately as directed **with initial lead upto 50 m and all lifts.**	cum	410.53	
		Labour Component (including contractor's profit and Overheads)	cum		410.50
IRR-PMW-3-2	327	**Re-constructing 60 cm thick hand packed rough stone revetment** with through stones at 1.5 m c / c over a backing of 45 cm thick graded filter media consisting of sand, 10 mm and 40 mm size graded aggregates satisfying filter criteria laid in layers of 15 cm thick each using sand from approved quarry and stones and filter aggregates obtained from revetment removed for re-construction including cost of all machinery, labour, laying filter and stones to specified slopes, wedging with chips, finishing etc. complete **with initial lead upto 50 m and all lifts.**	sqm	306.87	
		Labour Component (including contractor's profit and Overheads)	sqm		306.90
IRR-PMW-3-3	328	**Re-constructing dry rubble rock-toe and filter media for rock-toe** consisting of sand 20 mm and 80 mm size graded aggregates satisfying filter criteria laid in layers of 15 cm thick each using sand from approved quarry and stones and filter aggregates obtained from rock-toe removed for re-construction including cost of all machinery, labour, laying filter and stones to specified slopes, wedging with chips, finishing etc. complete **with initial lead upto 50 m and all lifts.**	cum	439.35	
		Labour Component (including contractor's profit and Overheads)	cum		439.30
IRR-PMW-3-4	329	**Removing and resetting disturbed Yarguntla / Shahabad / Talikot / PCC / Other types of slab lining** set in **CM 1 : 3** including flush cement mortar pointing in CM 1 : 3 **with lead upto 50 m and all lifts.**	sqm	109.33	
		Labour Component (including contractor's profit and Overheads)	sqm		104.20
IRR-PMW-3-5	330	**Removing and resetting disturbed dry rubble / khandki stone pitching 25 to 45 cm thick** including packing, wedging, finishing etc., complete **with all leads and lifts.**	sqm	106.57	
		Labour Component (including contractor's profit and Overheads)	sqm		106.60
IRR-PMW-3-6	331	**Removing and refixing disturbed chainage / demarcation / hectometre / guard stones** including excavation, back filling etc., complete **with all leads and lifts.**	Each	143.91	
		Labour Component (including contractor's profit and Overheads)	Each		143.90

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-PMW-3-7	332	**Removing and refixing disturbed km stone / sign board / hecto-metre stone etc.**, including excavation, back filling with available stuff after refixing, forming base platform of size 90 x 90 x 7.5 cm including watering, ramming etc complete **with all leads and lifts.**	Each	323.80	
		Labour Component (including contractor's profit and Overheads)	Each		323.80
IRR-PMW-3-8	333	**Providing impervious hearting for breached / damaged portion of embankment** with soil from **approved borrow areas** in **layers of 10 to 15 cm** before compaction including cost of all materials, machinery, labour, all operations such as collection of soil, sorting out, spreading soil to specified thickness, breaking clods, sectioning, watering, compacting each layer to density control of **not less than 98 percent** or as stipulated by rolling or by using mechanical tampers etc., **complete with initial lead upto 1 km and all lifts.**	cum	262.81	
		Labour Component (including contractor's profit and Overheads)	cum		59.50
IRR-PMW-3-9	334	**Providing pervious/semi-pervious casing for breached / damaged portion of embankment** with soil from **approved borrow areas** in **layers of 10 to 15 cm** before compaction including cost of all materials, machinery, labour, all operations such as collection of soil, sorting out, spreading soil to specified thickness, breaking clods, sectioning, watering, compacting each layer to density control of **not less than 98 percent or as stipulated by rolling or by using mechanical tampers etc., complete with initial lead upto 1 km and all lifts.**	cum	302.10	
		Labour Component (including contractor's profit and Overheads)	cum		71.50
IRR-PMW-3-10	335	**Providing impervious hearting for breached / damaged portion of embankment** with soil from **approved dump areas** in **layers of 10 to 15 cm** before compaction including cost of all materials, machinery, labour, all operations such as collection of soil,sorting out, spreading soil to specified thickness, breaking clods, sectioning, watering, compacting each layer to density control of **not less than 98 percent** or as stipulated by rolling or by using mechanical tampers etc., complete **with initial lead upto 1 km and all lifts.**	cum	241.86	
		Labour Component (including contractor's profit and Overheads)	cum		56.90
IRR-PMW-3-11	336	**Providing pervious /semi-pervious casing for breached /damaged portion of embankment** with soil from **approved dump areas** in **layers of 10 to 15 cm** before compaction including cost of all materials, machinery, labour, all operations such as collection of soil, sorting out, spreading soil to specified thickness, breaking clods, sectioning, watering, compacting each layer to density control of **not less than 98 percent** or as stipulated by rolling or by using mechanical tampers etc., complete **with initial lead upto 1 km and all lifts.**	cum	276.68	
		Labour Component (including contractor's profit and Overheads)	cum		67.50
IRR-PMW-3-12	337	**Repairing rain cuts / resectioning canal slopes** to required lines and grades as directed using available soil including dressing, clod breaking, packing, tamping etc., complete **with all leads and lifts.**	sqm	7.23	
		Labour Component (including contractor's profit and Overheads)	sqm		7.20
IRR-PMW-3-13	338	**Cleaning drainage gallery, adits, instrumentation galleries** etc., by scrubbing / brushing including chiselling and removing leached lime deposit and disposing off all the waste material out side adits in specified location etc., **complete with all leads and lifts.**	Rm	72.59	
		Labour Component (including contractor's profit and Overheads)	Rm		62.90
IRR-PMW-3-14	339	**Cleaning dam parapet inner face and top** using oxalic acid and water by scrubbing / brushing and washing to remove all surface coatings etc., **complete .**	Rm	60.55	
		Labour Component (including contractor's profit and Overheads)	Rm		46.40
IRR-PMW-3-15		Deleted from the year2013-14 onwards			
IRR-PMW-3-16		Deleted from the year2013-14 onwards			
IRR-PMW-3-17		Deleted from the year2013-14 onwards			

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
IRR-PMW-3-18		Deleted from the year2013-14 onwards			
IRR-PMW-3-19		Deleted from the year2013-14 onwards			
IRR-PMW-3-20	340	**Excavation and removal of silt and silt mixed with sand from canal bed in dry condition** including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete **with initial lead upto 50 m and all lifts.**	cum	309.03	
		Labour Component (including contractor's profit and Overheads)	cum		309.00
IRR-PMW-3-21	341	**Excavation and removal of silt or silt mixed with sand in slussy condition from canal bed** including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with **initial lead upto 50 m and all lifts.**	cum	386.29	
		Labour Component (including contractor's profit and Overheads)	cum		386.30
IRR-PMW-3-22 (new Item5 2010-11) (for Minor Works)	342	**Providing homogeneous embankment** using soil from **approved borrow area** in **layers of 25 to 30 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transportation, spreading soil in layer of specified thickness, breaking clods, sectioning,etc.,complete with **initial lead upto 1 km and all lifts**.	cum	134.30	
		Labour Component (including contractor's profit and Overheads)	cum		27.80
IRR-PMW-3-23 (new Item6 2010-11) (for Minor Works)	343	**Providing homogeneous embankment** using soil from **approved borrow area** in **layers of 25 to 30 cm** before compaction including cost of all materials, machinery, labour, all operations such as watering, compactingto density control of **not less than 95 percent** or as stipulated **using 8T roller etc., complete with initial lead upto 1 km and all lifts.**	cum	64.67	
		Labour Component (including contractor's profit and Overheads)			13.60
IRR-PMW-3-24 (new Item7 2010-11)	344	**Providing homogeneous embankment** using soil from **approved borrow area** in **layers of 25 to 30 cm** before compaction including cost of all materials, machinery, labour, all operations such as compactingto density control of **not less than 90 percent or as stipulated using 2T roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	10.42	
		Labour Component (including contractor's profit and Overheads)	cum		2.60
(New Item 2012-13-3)		**Weed Removal by Manual Means**			
IRR-PMW-3-25(a)	345	Removal of Water Hyacinth up to 30 cm thick	Sqm	12.65	
IRR-PMW-3-25(b)	346	Removal of Water Hyacinth beyond 30 cm thick	Sqm	17.29	
IRR-PMW-3-25(c)	347	Clearing Alchi Tilla	Sqm	11.61	
IRR-PMW-3-25(d)	348	Removal of Jammu	Sqm	9.80	
IRR-PMW-3-25(e)	349	Removal of Imponea, Cornea	Sqm	11.61	
IRR-PMW-3-25(f) (new Item 2012-13-6)	350	Removal of Natchu, goobi, thooti, etc.	Sqm	3.72	
IRR-PMW-3-26 New Item2015-16-8	351	PAINTING OF SLUICES FOR MAINTENANCE WORKS Surface cleaning of metal surfaces by chemical cleaners and then by hand and power tool cleaners and removing dust. After cleaniong, applying primary coat with one coat of Zinc rich epoxy primer to a thickness of 100 microns, followed by finishing coats 2 coats with Coal tar epoxy with material, labour, and all accessories with all leads and lifts.	Sqm	574.28	
		Labour Component (including contractor's profit and Overheads)	Sqm		320.39
IRR-PMW-3-27 New Item2018-19		Lifting of water from rivers/drains to agricultural fields and where there is no element of excavation			
		a) Water lifting charges using Electrical driven pump	per hp hr	10.39	
		Other pumping arrangements including pipes, labour, pump operator etc	per hr	271.90	
		b) Water lifting charges using Diesel driven pump	per hp hr	35.25	
		Other pumping arrangements including pipes, labour, pump operator etc.,	per hr	330.07	

Chapter wise item No.	S.NO	Item description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
COM-MWRK		**New extra items-- common item for all earth works using only manual labour for all other works**			
		without involving contractors			
COM-MWRK-1	352	(Manual)**Excavation in all kinds of soil** including boulders **upto 0.30 m dia.** for foundations of canal cross drainage and other appurtenant structures and placing excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete **with initial lead upto 10 m and initial lift upto 1.5 m. (WIthout involving the contractors for specified works)** With 3 Cum per day output	cum	226.67	
COM-MWRK-2	353	(Manual)**Excavation in all kinds of soil/HDR** including boulders **upto 0.30 m dia.** for foundations of canal cross drainage and other appurtenant structures and placing excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete **with initial lead upto 10 m and initial lift upto 1.5 m. (WIthout involving the contractors for specified works)** With 2.5 Cum per day output	cum	272	
COM-MWRK-3	354	(Manual)**Excavation in soft rock (including F&F rock) without blasting**, including boulders **upto 0.30 m** dia. for foundations of canal cross drainage and other appurtenant structures and placing excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete **with initial lead upto 10 m and initial lift upto 1.5 m. (WIthout involving the contractors for specified works)** Soft rock 1.33 Cum/Day	cum	511.28	
COM-MWRK-4	355	(Manual)**Excavation in hard rock**, including boulders **upto 0.30 m dia.** for foundations of canal cross drainage and other appurtenant structures and placing excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete **with initial lead upto 10 m and initial lift upto 1.5 m. (WIthout involving the contractors for specified works)** Hard rock 0.67Cum/ day	cum	1014.93	

Abstract

LEAD, LIFT, LOADING AND UNLOADING CHARGES FOR MATERIALS FOR THE YEAR: 2026-27

COM-LDLFT

1 For total lead upto 150 m (including initial lead) lead charges by head load only shall be adopted irrespective of mode of conveyance.

2 For total lead exceeding 150 m conveyance by mechanical means only shall be adopted irrespective of mode of conveyance.

3 The rates for loading at quarry including idle hire charges of trucks and hire charges per for each kilometer and upto 5 km are cumulative and inclusive of total charges for preceding lead.

4 Unless otherwise specified lead charges for Earth / Sand / Gravel / Aggregates and Stones are for loose volume and not for compacted or in-situ volume.

5 The rates for lift charges,lead charges hire charges are cumulative and inclusive of rates for preceeding lift,load and hire charges

6 Lift charges are not payable where conveyance of materials is by mechanical means to final placing point.

7 Loading and unloading charges are not payable for conveyance by head load.

8 Loading charges are not payable for conveyance by mechanical means for disposal of excavated materials beyond initial lead of 50 m wherever specified.

9 Loading and unloading charges are not payable for conveyance by mechanical means for disposal of excavated materials beyond initial lead of 1 km wherever specified.

10 The rates for unloading of materials except earth, sand, gravel, coarse aggregate, rubble, size stone and cut stone are inclusive of stacking.

11 Hire charges are per 1KM for tippers and trucks for tranport of materials from work site to dump yard & other places are cumulative and includes previous km upto 5 kms

12 The lead & lift charges are exclusive of contractor's profit and overhead charges of 13.615%

13 The loading & unloading charges are exclusive of contractor's profit and overhead charges of 13.615%

14 During the BoCE meeting held on 10.06.2015,the BoCEs has recommended to withdraw lead charges,loading and unloading charges for Cement as per the minutes of meeting of Sub-Committee held on 29.06.2015.(The conveyance charges ,loading & unloading charges for cement are displayed for information purpose only).

15 As per the BOCE meeting held on 21.08.2019 in order to simplify the procedure of adding lead charges to the data items in the CFMS work module, the BOCE recommended to delete the contractor profit and over head charges from the calculation of Lead, Lift, Loading and Unloading charges. But at the time of preparation of estimates the contractor profit and over head charges on Lead, Lift, Loading and Unloading charges shall be added as usual.

COM-LDLFT-1 **A. (Lead) Conveyance Charges for materials by head load**
FOR THE YEAR: 2026-27

Sl No.	Total distance (Total lead includes initial lead)	Earth / Sand /Gravel / Murrum/ Lime/ Surki/ Size stone / Cut stone Rubble / Coarse aggregate Rs/Cum	Cement/Reinforce-ment steel Str steel Rs / tonne	PCC slab/ Shahbad slab / CC block/ BS slab/ Late-rite / Wood Rs / cum
1	2	3	4	5
1	Total lead upto 50 m (covered by item rate)	initial lead	initial lead	initial lead
2	Total lead upto 100 m	97.14	56.67	123.64
3	Total lead upto 150 m	194.29	113.33	247.27

Notes: 1. No loading or unloading charges are admissible for conveyance by head load.

2. For total lead exceeding 150 m conveyance charges by mechanical means only shall be adopted irrespective of mode of conveyance.

COM-LDLFT-2 **B.(Lead) Conveyance charges for machinery per kilometer for transporting materials by tippers and trucks excluding loading, unloading and idle hire charges of machinery**

(No loading and unloading charges allowed for machinery loading and unloading)

Sl No.	Distance	(Lead) charges for trucks and tippers for Earth / Sand /Gravel / Murrum/ Lime/ Surki/ per cu.meter	(Lead) charges for trucks and tippers for Rubble/Size stones/ Cut Stones/ Coarse aggregate per cu.meter	(Lead) charges for trucks and tippers for Cement/ Steel/ RCC poles/ AC & GI sheets/ Packed materials/tonne	(Lead) charges for trucks and tippers per cu.meter for PCC slabs/ Shahabad slabs/ CC & Laterite blocks/ Wood/ cum	(Lead) charges for trucks and tippers per cu.meter for water/ 1000 litres	(Lead) charges for trucks per 1000 Nos. of Bricks
1	2	3	4	5	6	7	8
1	Lead upto 1 km	40.85	39.27	24.54	57.74	24.76	65.44
2	Lead upto 2 km	57.18	54.97	34.36	80.84	34.66	91.62
3	Lead upto 3 km	76.25	73.30	45.81	107.79	46.22	122.16
4	Lead upto 4 km	92.58	89.00	55.63	130.89	56.12	148.34
5	Lead upto 5 km	108.92	104.71	65.44	153.98	66.02	174.51
6	for Every km beyond 5 km upto 30 km	16.34	15.71	9.82	23.10	9.90	26.18
7	for Every km beyond 30 km	13.62	13.09	8.18	19.25	8.25	21.81

COM-LDLFT-3 **C. LOADING AND UNLOADING CHARGES BY MANUAL MEANS (idle hire charges of trucks are not added)**

Sl No.	Description of item	Earth / Sand /Gravel Murrum/ / Surki/ Rs / cum	Rubble/ size stone/ cut stone/ Coarse aggregate,Lime in Rs/cum	cement in Rs/tonne	steel in Rs./tonne	brick work Rs/1000 No
1	2	3	4	5	6	7
1	Loading	32.24	64.47	106.38	127.51	88.65
2	Unloading	16.12	32.24	106.38	127.51	88.65

COM-LDLFT-4 **D. LOADING AND UNLOADING CHARGES BY MANUAL MEANS (including idle hire charges of trucks)**

Sl No.	Description of item	Earth / Sand /Gravel Murrum/ / Surki/ Rs / cum	Rubble/ size stone/ cut stone/ Coarse aggregate,Lime in Rs/cum	cement in Rs/tonne	steel in Rs./tonne	brick work Rs/1000 No
1	2	3	4	5	6	7
1	Loading	151.23	183.46	237.27	258.40	304.62
2	Unloading	55.62	91.73	237.27	258.40	304.62

COM-LDLFT-5 **E. LOADING AND UNLOADING CHARGES BY MECHANICAL MEANS (including idle hire charges of trucks)**

Sl No.	Description of item	Earth / Sand /Gravel Murrum/ / Surki/ Rs / cum	Rubble/ size stone/ cut stone/ Coarse aggregate,Lime in Rs/cum
1	2	3	4
1	Loading	63.67	126.31
2	Unloading	20.63	20.63

COM-LDLFT-6 **F. LIFT CHARGES FOR MATERIALS BY HEAD LOAD**

Sl No.	Total lift (Total lift includes initial lift)	Earth / Sand /Gravel Murrum/ Lime/ Surki/ Size stone / Cut stone Rubble / Coarse aggregate Rs / cum	Cement/ Reinforce-ment steel Str steel Rs / tonne	PCC slab/ Shahbad slab / CC block/ BS slab / Laterite / Wood Rs / cum
1	2	3	4	5
1	Total lift upto 3 m (covered by item rate)	Initial lift	Initial lift	Initial lift
2	For Every 1.00 Lift beyond initial lift of 3 meters	11.33	8.19	15.11

Chapter - I

DAM AND ALLIED WORKS - Standard Data

(WILL BE WITH E-N-C & TO INCORPORATE CHANGES YEARLY / AS NEEDED)

FOR THE YEAR :2026-27

Index- code
IRR-DAW **DAM AND ALLIED WORKS - DATA RATES**

Directions to add Seigniorage Charges and Additional Lead Charges

Seigniorage Charges:

1. The unit rate for work item in the Standard Data is **exclusive of Seigniorage Charges** wherever applicable.
2. The appropriate Seigniorage Charges for relevant materials are to be added in the Part-B of the estimate

Additional Lead and Lift Charges:

1. Unless otherwise specified the basic item rates (i.e., specifications) are inclusive of all lifts.
2. For concrete, masonry and reinforcement items (i.e., specifications) **wherever** initial lead of 1km is considered in the basic rate, the additional lead charges are to be added as follows:

Additional lead charges for Steel, sand, coarse aggregate, stones and stone chips shall be worked out for total lead involved and 1 km lead charges included in basic rate shall be deducted from total lead charges. No loading and unloading charges shall be allowed for any item. In case of Cement and Steel, Loading and unloading charges are already added in the work item while arriving the unit rate and hence should not be added again

Example:

Total lead for sand from approved sand quarry :			15.00	Km
Initial lead included in the basic item rate in the data (i.e., item specification) :			1.00	Km
Additional lead charges :	Lead charges for 5 km	Rs.	123.75	
	Lead charges for next 10 km	Rs.	185.65	
	Total lead charges for 15 km /cum	Rs.	309.40	
	Less 1 km initial lead charges /cum	Rs.	46.41	(-)
	Net additional lead charges / cum	Rs.	262.99	

3. The Leads for Steel shall be from the nearest market place to the Project area

4. For earth/rockfill embankments **wherever** initial lead of 1km is considered in the basic rate, the additional lead charges are to be added as

follows: Additional lead charges for Earth, Murrum etc., shall be worked out for total lead involved and 1 km lead charges included in basic rate shall be deducted from total lead charges. No loading and unloading charges shall be allowed for any item. (**same as above**)

Example:

Total lead for earth from approved borrow area :			15.00	Km
Initial lead included in the basic item rate in the data (i.e., item specificaton) :			1.00	Km
Additional lead charges :	Lead charges for 5 km	Rs.	123.75	
	Lead charges for next 10 km	Rs.	185.65	
	Total lead charges for 15 km /cum	Rs.	309.40	
	Less 1 km initial lead charges /cum	Rs.	46.41	(-)
	Net additional lead charges / cum	Rs.	262.99	

5. The initial lead up to 50 m as mentioned in some standard data items is meant for manual lead within the working area. For conveyance of materials, the lead required from quarry/Borrow area/ Dump Area to worksite shall be added to the data without deducting the 50 m initial lead charges

DAW - Work Items

IRR-DAW-1 **EXCAVATION & FOUNDATION TREATMENT WORKS:**

IRR-DAW-1-1 Excavation for foundation **in all kinds of soil** including boulders **upto 0.30 m** diameter for dam, spillway, intake structure and other appurtenant works and placing the excavated soil neatly in dump area or disposing off the same as directed etc., complete **with initial lead upto 1 km**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT **880** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
Total cost of Materials				Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Shovel 0.85 cum capacity	Hour	8.00000	1749.78	13998.24
	Fuel / Energy charges	Hour	8.00000	1587.53	12700.24
2	Dumpers 5 cum capacity 6 Nos	Hour	48.00000	641.87	30809.76
	Fuel / Energy charges	Hour	48.00000	727.38	34914.24
3	Tipper 5 cum capacity 1 No	Hour	8.00000	493.27	3946.16
	Fuel / Energy charges	Hour	8.00000	545.53	4364.24
			Total hire charges of Machinery	Rs:	**100732.88**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Shovel	Hour	8.00000	430.30	3442.40
2	Crew for Dumper	Hour	48.00000	413.09	19828.32
3	Crew for Tipper	Hour	8.00000	322.73	2581.84
4	work inspector	Day	1.00000	920.00	920.00
5	mazdoor	Day	16.00000	680.00	10880.00
			Total cost of Labour	Rs:	**37652.56**

labour component/unit qty		42.80
Add contractor's profit and overhead charges	13.615%	5.80
labour component/unit qty (including contractor's profit)		**48.60**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	100732.88
C. Cost of Labour			Rs:	37652.56
	Total		Rs:	138385.44
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	18841.18
Total cost for	880.00	cum	Rs:	**157226.62**
Rate per	**cum** (A+B+C+D)/880		Rs:	**178.67**

IRR-DAW-1-2 Excavation for foundation in **ordinary rock (including HDR)** without blasting including boulders above **0.3 m upto 0.6 m** dia for dam, spillway, intake structure and other appurtenant works and placing the excavated material neatly in dump area or disposing off the same as directed etc., complete **with initial lead upto 1 km and all lifts.**

DATA:

RATE ANALYSIS

A. MATERIALS:

UNIT : **520** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Shovel 0.85 cum capacity	Hour	8.00000	1749.78	13998.24
	Fuel / Energy charges	Hour	8.00000	1587.53	12700.24
2	Dumpers 5 cum capacity(4 Nos)	Hour	32.00000	641.87	20539.84
	Fuel / Energy charges	Hour	32.00000	727.38	23276.16
3	Tipper 5 cum capacity(1 No)	Hour	8.00000	493.27	3946.16
	Fuel / Energy charges	Hour	8.00000	545.53	4364.24
			Total hire charges of Machinery	Rs:	**78824.88**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Shovel	Hour	8.00000	430.30	3442.40
2	Crew for Dumper	Hour	32.00000	413.09	13218.88
3	Crew for Tipper	Hour	8.00000	322.73	2581.84
4	work inspector	Day	1.00000	920.00	920.00
5	Crowbarman	Day	2.50000	730.00	1825.00
6	mazdoor	Day	10.00000	680.00	6800.00
			Total cost of Labour	Rs.	**28788.12**

labour component/unit qty		55.40
Add contractor's profit and overhead charges	13.615%	7.50
labour component/unit qty (including contractor's profit)		**62.90**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	78824.88
C. Cost of Labour			Rs:	28788.12
	Total		Rs:	107613.00
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	14651.51
Total cost for	520.00	cum	Rs:	**122264.51**
Rate per	**cum** (A+B+C+D)/520		Rs:	**235.12**

IRR-DAW-1-3 Excavation for foundation in **hard rock (including F&F rock) requiring blasting** including boulders above **0.6 m upto 1.2 m** dia. for dam, spillway, intake structure and other appurtenant works and placing the excavated material neatly in dump area or disposing off the same as directed etc., complete with **initial lead upto 1 km and all lifts.**

DATA:

RATE ANALYSIS

A. MATERIALS:

UNIT : **520.00** cum.

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of 1.5 m drill rod	Rm	216.00000	23.79	5138.64
	Reconditioning charges @	10%			513.86
2	Use rate of air hose 4 Nos.	Hour	26.00000	12.00	312.00
3	Explosive small dia	kg	104.00000	75.00	7800.00
4	Electric detonators	Nos	154.00000	12.00	1848.00
5	Fuse coil	Rm	320.00000	11.00	3520.00
6	Sundries	LS	5.00000	42.00	210.00
			Total cost of Materials	Rs.	**19342.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Shovel 0.85 cum capacity	Hour	8.00000	1749.78	13998.24
	Fuel / Energy charges	Hour	8.00000	1587.53	12700.24
2	Dumpers 5 cum capacity 4 Nos.	Hour	32.00000	641.87	20539.84
	Fuel / Energy charges	Hour	32.00000	727.38	23276.16
3	Tipper 5 cum capacity 1 No	Hour	8.00000	493.27	3946.16
	Fuel / Energy charges	Hour	8.00000	545.53	4364.24
4	Air compressor 8.5 cmm (ele) 2 Nos	Hour	13.00000	177.65	2309.45
	Fuel / Energy charges	Hour	13.00000	475.86	6186.18
5	Jack hammers 4 Nos.	Hour	26.00000	19.11	496.86
	Fuel / Energy charges	Hour	26.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**87817.37**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Shovel	Hour	8.00000	430.30	3442.40
2	Crew for Dumper	Hour	32.00000	413.09	13218.88
3	Crew for Tipper	Hour	8.00000	322.73	2581.84
4	Crew for Air compressor	Hour	13.00000	302.25	3929.25
5	Crew for Jack hammer	Hour	26.00000	604.50	15717.00
6	work inspector	Day	1.00000	920.00	920.00
7	Blaster	Day	1.00000	925.00	925.00
8	Helper blaster	Day	1.00000	730.00	730.00
9	Crowbarman	Day	2.50000	730.00	1825.00
10	Stone breaker	Day	1.00000	730.00	730.00
11	mazdoor	Day	10.00000	680.00	6800.00
			Total cost of Labour	Rs.	**50819.37**

labour component/unit qty		97.70
Add contractor's profit and overhead charges	13.615%	13.30
labour component/unit qty (including contractor's profit)		**111.00**

ABSTRACT:

A. Cost of Materials			Rs:	19342.50
B. Hire charges of Machinery			Rs:	87817.37
C. Cost of Labour			Rs:	50819.37
		Total	Rs:	157979.24
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	21508.87
Total cost for	520.00	cum.	Rs:	**179488.11**
Rate per	**cum.** (A+B+C+D)/520		Rs:	**345.17**

IRR-DAW-1-3A
New Item 2015-16-1

Excavation for foundation in **hard rock (including F&F rock)** including boulders above **0.6 m upto 1.2 m** dia. **by controlled blasting and controlling fly rock by muffling arrangements** for dam, spillway, intake structure and other appurtenant works and other open foundation works and placing the excavated material neatly in dump area or disposing off the same as directed etc., complete with **initial lead upto 1 km and all leads**

DATA:

RATE ANALYSIS

A. MATERIALS:

UNIT : **520.00** cum.

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of 1.5 m drill rod	Rm	216.00000	23.79	5138.64
	Reconditioning charges @	10%			513.86
2	Use rate of air hose 4 Nos.	Hour	26.00000	12.00	312.00
3	Use rate of chain link wire mesh	Sq m	500.00000	64.62	32310.00
4	Use rate of Sand Bags	Nos.	190.00000	110.81	21053.90
5	Explosive small dia	kg	104.00000	75.00	7800.00
6	Electric delay detonators	Nos	154.00000	24.00	3696.00
7	Fuse coil	Rm	320.00000	11.00	3520.00
8	Sundries	LS	5.00000	42.00	210.00
			Total cost of Materials	Rs.	**74554.40**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Shovel 0.85 cum capacity	Hour	8.00000	1749.78	13998.24
	Fuel / Energy charges	Hour	8.00000	1587.53	12700.24
2	Angle dozer 90 hp	Hour	1.00000	1610.29	1610.29
	Fuel / Energy charges	Hour	1.00000	1110.54	1110.54
3	Dumpers 5 cum capacity 4 Nos.	Hour	32.00000	641.87	20539.84
	Fuel / Energy charges	Hour	32.00000	727.38	23276.16
4	Tipper 5 cum capacity 1 No	Hour	8.00000	493.27	3946.16
	Fuel / Energy charges	Hour	8.00000	545.53	4364.24
5	Air compressor 8.5 cmm (ele) 2 Nos	Hour	13.00000	177.65	2309.45
	Fuel / Energy charges	Hour	13.00000	475.86	6186.18
6	Jack hammers 4 Nos.	Hour	26.00000	19.11	496.86
	Fuel / Energy charges	Hour	26.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**90538.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Shovel	Hour	8.00000	430.30	3442.40
2	Crew for Angle dozer	Hour	1.00000	430.30	430.30
3	Crew for Dumper	Hour	32.00000	413.09	13218.88
4	Crew for Tipper	Hour	8.00000	322.73	2581.84
5	Crew for Air compressor	Hour	13.00000	302.25	3929.25
6	Crew for Jack hammer	Hour	26.00000	604.50	15717.00
7	work inspector	Day	3.00000	920.00	2760.00
8	Blaster	Day	1.50000	925.00	1387.50
9	Helper blaster	Day	2.00000	730.00	1460.00
10	Crowbarman	Day	2.50000	730.00	1825.00
11	Stone breaker	Day	2.00000	730.00	1460.00
12	mazdoor	Day	18.00000	680.00	12240.00
			Total cost of Labour	Rs.	**60452.17**

labour component/unit qty		116.30	
Add contractor's profit and overhead charges	13.615%	15.80	
labour component/unit qty (including contractor's profit)		**132.10**	

ABSTRACT:

A. Cost of Materials			Rs:	74554.40
B. Hire charges of Machinery			Rs:	90538.20
C. Cost of Labour			Rs:	60452.17
		Total	Rs:	225544.77
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	30707.92
Total cost for	520.00	cum.	Rs:	**256252.69**
Rate per	**cum.** (A+B+C+D)/520		Rs:	**492.79**

IRR-DAW-1-4 (a)

Excavation for foundation in **hard rock of all toughness by blasting** including boulders **above 1.2 m** dia. for dam, spillway, intake structure and other appurtenant works and placing the excavated rock neatly in dump area or stack yard including levelling as directed etc., complete with **initial lead upto 1 km and all lifts.**

DATA:

RATE ANALYSIS

UNIT

A. MATERIALS: **320.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of drill rod 1.5 m long	Rm	310.00000	31.71	9830.10
	Reconditioning charges @	10%			983.01
2	Use rate of air hose 4 Nos.	Hour	48.00000	12.00	576.00
3	Explosive small dia	kg	95.00000	75.00	7125.00
4	Ordinary detonators	Nos	10.00000	9.00	90.00
5	Electric detonators	Nos	333.00000	12.00	3996.00
6	Fuse coil	Rm	450.00000	11.00	4950.00
7	Sundries	LS	5.00000	42.00	210.00
			Total cost of Materials	Rs:	**27760.11**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Shovel 0.85 cum capacity	Hour	8.00000	1749.78	13998.24
	Fuel / Energy charges	Hour	8.00000	1587.53	12700.24
2	Dumpers 5 cum capacity 3 Nos.	Hour	24.00000	641.87	15404.88
	Fuel / Energy charges	Hour	24.00000	727.38	17457.12
3	Tipper 5 cum capacity 1 No	Hour	4.00000	493.27	1973.08
	Fuel / Energy charges	Hour	4.00000	545.53	2182.12
4	Angle dozer 90 hp	Hour	1.00000	1610.29	1610.29
	Fuel / Energy charges	Hour	1.00000	1110.54	1110.54
5	Air compressor 8.5 cmm (ele) 2 Nos.	Hour	24.00000	177.65	4263.60
	Fuel / Energy charges	Hour	24.00000	475.86	11420.64
6	Jack hammers 4 Nos.	Hour	48.00000	19.11	917.28
	Fuel / Energy charges	Hour	48.00000	0.00	0.00
			Total hire charges of Machinery	Rs.	**83038.03**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Shovel	Hour	8.00000	430.30	3442.40
2	Crew for Dumper	Hour	24.00000	413.09	9914.16
3	Crew for Tipper	Hour	4.00000	322.73	1290.92
4	Crew for Dozer	Hour	1.00000	430.30	430.30
5	Crew for Air compressor	Hour	24.00000	302.25	7254.00
6	Crew for Jack hammer	Hour	48.00000	604.50	29016.00
7	work inspector	Day	1.00000	920.00	920.00
8	Blaster	Day	1.00000	925.00	925.00
9	Helper blaster	Day	1.00000	730.00	730.00
10	Crowbarman	Day	1.00000	730.00	730.00
11	Stone breaker	Day	2.00000	730.00	1460.00
12	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs.	**60192.78**

labour component/unit qty		188.10
Add contractor's profit and overhead charges	13.615%	25.60
labour component/unit qty (including contractor's profit)		**213.70**

ABSTRACT:

A. Cost of Materials			Rs:	27760.11
B. Hire charges of Machinery			Rs:	83038.03
C. Cost of Labour			Rs:	60192.78
		Total	Rs:	170990.92
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	23280.41
Total cost for	320.00	cum	Rs:	**194271.33**
Rate per	**cum** (A+B+C+D)/320		Rs:	**607.10**

IRR-DAW-1-5 (b) Excavation for foundation in **hard rock of all toughness** including boulders **above 1.2 m dia.** by controlled blasting method and controlling fly-rock by muffling arrangements for dam, spillway, intake structure and other appurtenant structures etc., including placing and levelling the excavated rock neatly in dump area or other place as directed etc., complete with **lead upto upto 1 km and all lifts.**

DATA:

RATE ANALYSIS

UNIT : **480.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of drill rod 1.5 m length	Rm	464.00000	31.71	14713.44
	Reconditioning charges @	10%			1471.34
2	Use rate of 50 m air hose 4 Nos.	Hour	70.00000	12.00	840.00
3	Use rate of chain link wire mesh	sqm	715.00000	59.35	42435.25
4	Use rate of sand bag	Nos	580.00000	110.81	64269.80
5	Explosive small dia.	kg	149.00000	75.00	11175.00
6	Ordinary detonators	Nos	23.00000	9.00	207.00
7	Electric delay detonators	Nos	500.00000	24.00	12000.00
8	Fuse coil	Rm	700.00000	11.00	7700.00
9	Sundries	LS	10.00000	42.00	420.00
			Total cost of Materials	Rs:	**155231.83**

B. MACHINERY:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Shovel 0.85 cum capacity	Hour	12.00000	1749.78	20997.36
	Fuel / Energy charges	Hour	12.00000	1587.53	19050.36
2	Angle dozer 90 hp	Hour	2.00000	1610.29	3220.58
	Fuel / Energy charges	Hour	2.00000	1110.54	2221.08
3	Dumpers 5 cum capacity 3 Nos.	Hour	36.00000	641.87	23107.32
	Fuel / Energy charges	Hour	36.00000	727.38	26185.68
4	Tipper 5 cum capacity 1 No	Hour	4.00000	493.27	1973.08
	Fuel / Energy charges	Hour	4.00000	545.53	2182.12
5	Air compressor 8.5 cmm (ele) 2 Nos	Hour	35.00000	177.65	6217.75
	Fuel / Energy charges	Hour	35.00000	475.86	16655.10
6	Jack hammers 4 Nos.	Hour	70.00000	19.11	1337.70
	Fuel / Energy charges	Hour	70.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**123148.13**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Shovel	Hour	12.00000	430.30	5163.60
2	Crew for Angle dozer	Hour	2.00000	430.30	860.60
3	Crew for Dumper	Hour	36.00000	413.09	14871.24
4	Crew for Tipper	Hour	4.00000	322.73	1290.92
5	Crew for Air compressor	Hour	35.00000	302.25	10578.75
6	Crew for Jack hammer	Hour	70.00000	604.50	42315.00
7	work inspector	Day	4.50000	920.00	4140.00
8	Blaster	Day	1.50000	925.00	1387.50
9	Helper blaster	Day	3.00000	730.00	2190.00
10	Crowbarman	Day	2.50000	730.00	1825.00
11	Stone breaker	Day	2.50000	730.00	1825.00
13	mazdoor	Day	20.00000	680.00	13600.00
			Total cost of Labour	Rs.	**100047.61**

labour component/unit qty		208.40
Add contractor's profit and overhead charges	13.615%	28.40
labour component/unit qty (including contractor's profit)		**236.80**

ABSTRACT:

A. Cost of Materials			Rs:	155231.83
B. Hire charges of Machinery			Rs:	123148.13
C. Cost of Labour			Rs:	100047.61
		Total	Rs:	378427.57
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	51522.91
Total cost for	480.00	cum	Rs:	**429950.48**
Rate per cum	(A+B+C+D)/480		Rs:	**895.73**

IRR-DAW-1-6 (c)

Excavation for foundation in **hard rock of all toughness** including boulders **above 1.2 m dia. by line drilling and smooth blasting and controlling** fly-rock by muffling arrangements for dam, spillway, intake structure and other appurtenant structures etc., including dressing sides and bed to required level / profile, placing and levelling the excavated rock neatly in dump area or other place as directed etc., complete **with lead upto 1 km and all lifts.**

Note :

i) 1 m width of excavation along the face to be dressed shall be treated as excavation by line drilling and smooth blasting.
ii) The rate includes controlling fly-rock wherever required.
iii) The rate under this item shall be paid only on ascertaining that the surface requiring dressing has come off neatly as per specifications or atleast 50 percent of smooth blast holes are visible for inspection and are spaced at specified interval.
iv) In case, where the above criteria is not fulfilled payment shall be restricted to the rate provided for excavation by normal or controlled blasting as the case may be..

DATA: **RATE ANALYSIS**

UNIT :

A. MATERIALS: **40.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of drill rod 1.5 m length	Rm	138.00000	31.71	4375.98
	Reconditioning charges @	10%			437.60
2	Use rate of 50 m air hose 4 Nos.	Hour	22.00000	12.00	264.00
3	Explosive small dia.	kg	10.50000	75.00	787.50
4	Ordinary detonators	Nos	2.00000	9.00	18.00
5	Electric delay detonators	Nos	76.00000	24.00	1824.00
6	Fuse coil	Rm	140.00000	11.00	1540.00
7	Sundries	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs.	**9331.08**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Shovel 0.85 cum capacity	Hour	1.00000	1749.78	1749.78
	Fuel / Energy charges	Hour	1.00000	1587.53	1587.53
2	Angle dozer 90 hp	Hour	0.25000	1610.29	402.57
	Fuel / Energy charges	Hour	0.25000	1110.54	277.64
3	Dumpers 5 cum capacity 3 Nos.	Hour	3.00000	641.87	1925.61
	Fuel / Energy charges	Hour	3.00000	727.38	2182.14
4	Air compressor 8.5 cmm (ele) 2 Nos	Hour	11.00000	177.65	1954.15
	Fuel / Energy charges	Hour	11.00000	475.86	5234.46
5	Jack hammers 4 Nos.	Hour	22.00000	19.11	420.42
	Fuel / Energy charges	Hour	22.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**15734.30**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Shovel	Hour	1.00000	430.30	430.30
2	Crew for Angle dozer	Hour	0.25000	430.30	107.58
3	Crew for Dumper	Hour	3.00000	413.09	1239.27
4	Crew for Air compressor	Hour	11.00000	302.25	3324.75
5	Crew for Jack hammer	Hour	22.00000	604.50	13299.00
6	work inspector	Day	0.50000	920.00	460.00
7	Blaster	Day	0.50000	925.00	462.50
8	Helper blaster	Day	0.50000	730.00	365.00
9	Crowbarman	Day	0.50000	730.00	365.00
10	Stone breaker	Day	0.50000	730.00	365.00
11	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs.	**21778.40**

labour component/unit qty		544.50
Add contractor's profit and overhead charges	13.615%	74.10
labour component/unit qty (including contractor's profit)		**618.60**

ABSTRACT:

A. Cost of Materials			Rs:	9331.08
B. Hire charges of Machinery			Rs:	15734.30
C. Cost of Labour			Rs:	21778.40
		Total	Rs:	46843.78
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	6377.78
Total cost for	40.00	cum	Rs:	**53221.56**
Rate per cum	(A+B+C+D)/40		Rs:	**1330.54**

IRR-DAW-1-7 Preparing **foundation bed for masonry or concrete** by benching, stepping, removing all loose material by wedging / chiselling and disposing off the same as directed and cleaning the surface with air and water jet etc. complete with **initial lead upto 50 m and all lifts.**

DATA **RATE ANALYSIS**

UNIT:

A. MATERIALS: **100.00** sqm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs.	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Air compressor 8.5 cmm (ele)	Hour	1.00000	177.65	177.65
	Fuel / Energy charges	Hour	1.00000	475.86	475.86
2	Pump 5 hp (ele)	Hour	1.00000	3.27	3.27
	Fuel / Energy charges	Hour	1.00000	42.30	42.30
			Total hire charges of Machinery	Rs.	**699.08**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Air compressor	Hour	1.00000	302.25	302.25
2	Crew for Pump	Hour	1.00000	153.47	153.47
3	Stone breaker	Day	2.00000	730.00	1460.00
4	mazdoor	Day	2.50000	680.00	1700.00
5	Crowbar man	Day	2.00000	730.00	1460.00
			Total cost of Labour	Rs:	**5075.72**

labour component/unit qty 50.80
Add contractor's profit and overhead charges 13.615% 6.90
labour component/unit qty (including contractor's profit) **57.70**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	699.08
C. Cost of Labour			Rs:	5075.72
		Total	Rs:	5774.80
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	786.24
Total cost for	100.00	sqm	Rs:	**6561.04**
Rate per sqm	(A+B+C+D)/100		Rs:	**65.61**

IRR-DAW-1-8 **Preparing foundation bed for cut-off trench filling in rock portion** by removing all loose materials by wedging / chiselling and disposing off the same as directed etc., complete **with initial lead upto 50 m and all lifts.**

DATA **RATE ANALYSIS**

UNIT:

A. MATERIALS: **100.00** sqm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs.	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
	Total cost of Machinery			Rs.	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crowbar man	Day	2.00000	730.00	1460.00
2	Stone breaker	Day	2.00000	730.00	1460.00
3	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**4280.00**

labour component/unit qty 42.80
Add contractor's profit and overhead charges 13.615% 5.80
labour component/unit qty (including contractor's profit) **48.60**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	4280.00
		Total	Rs:	4280.00
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	582.72
Total cost for	100.00	sqm	Rs:	**4862.72**
Rate per sqm	(A+B+C+D)/100		Rs:	**48.63**

IRR-DAW-1-9 **Drilling 45 to 50 mm dia** holes vertical or inclined upto 10 degrees to vertical **in rock /masonry/ concrete by percussion drilling** using waggon drill or any other suitable equipment including cost of all materials, machinery, labour, redrilling through partially set grout wherever required etc., complete.
for drilling upto 6 m depth from surface.

NOTE: The item rate for drilling through rock / masonry / concrete includes redrilling through partially set grout, if any, in the portion of hole already grouted.

Data **RATE ANALYSIS**

UNIT:

A. MATERIALS: **96.00** Rm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of cross bit 50 mm dia	Rm	96.00000	78.33	7519.68
2	Use rate of 50 mm dia air hose 50 m	Hour	8.00000	18.13	145.04
3	Use rate of extension rod 4.5 m	Rm	96.00000	7.24	695.04
			Total cost of Materials	Rs.	**8359.76**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Waggon drill	Hour	8.00000	204.05	1632.40
	Fuel / Energy charges	Hour	8.00000	0.00	0.00
2	Air compressor 8.5 cmm (ele)	Hour	8.00000	177.65	1421.20
	Fuel / Energy charges	Hour	8.00000	475.86	3806.88
3	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**6944.48**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Waggon drill	Hour	8.00000	516.36	4130.88
2	Crew for Air compressor	Hour	8.00000	302.25	2418.00
3	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**7908.88**

labour component/unit qty		82.40
Add contractor's profit and overhead charges	13.615%	11.20
labour component/unit qty (including contractor's profit)		**93.60**

ABSTRACT:

A. Cost of Materials		Rs:	8359.76
B. Hire charges of Machinery		Rs:	6944.48
C. Cost of Labour		Rs:	7908.88
	Total	Rs:	23213.12
D.Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs.	3160.47
Total cost for 96.00	Rm	Rs:	**26373.59**
Rate per Rm (A+B+C+D)/96		Rs:	**274.72**

Upto 6 m from surface			274.72
Beyond 6 m upto 12 m from surface :			
Upto 6 m from surface **Rate per Rm**		Rs:	**274.72**
Add for redrilling through partially set grout / additional extension rods / reduction in rate of drilling etc @	10%	Rs:	27.47
Beyond 6 m upto 12 m from surface	Rate / Rm	Rs:	302.19
Beyond 12 m upto 18 m from surface :			
For 6 m to 12 m from surface **Rate per Rm**		Rs:	**302.19**
Add for redrilling through partially set grout / additional extension rods / reduction in rate of drilling etc @	10%	Rs:	30.22
Beyond 12 m upto 18 m from surface	Rate / Rm	Rs:	332.41
Beyond 18 m upto 24 m from surface			:
For 12 m to 18 m from surface **Rate per Rm**		Rs:	**332.41**
Add for redrilling through partially set grout / additional extension rods / reduction in rate of drilling etc @	10%	Rs:	33.24
Beyond 18 m upto 24 m from surface	Rate / Rm	Rs:	365.65
Beyond 24 m upto 30 m from surface			:
For 18 m to 24 m from surface **Rate per Rm**		Rs:	**365.65**
Add for redrilling through partially set grout / additional extension rods / reduction in rate of drilling etc @ :	10%	Rs	36.57
Beyond 24 m upto 30 m from surface	Rate / Rm	Rs:	402.22
Beyond 30 m upto 36 m from surface			:
For 24 m to 30 m from surface **Rate per Rm**		Rs:	**402.22**
Add for redrilling through partially set grout / additional extension rods / reduction in rate of drilling etc @	10%	Rs:	40.22
Beyond 30 m upto 36 m from surface	Rate / Rm	Rs:	442.44
Beyond 36 m upto 42 m from surface			:
For 30 m to 36 m from surface **Rate per Rm**		Rs:	**442.44**
Add for redrilling through partially set grout / additional extension rods / reduction in rate of drilling etc @	10%	Rs:	44.24
Beyond 36 m upto 42 m from surface	Rate / Rm	Rs:	486.68
Beyond 42 m upto 48 m from surface			
For 36 m to 42 m from surface **Rate per Rm**		Rs:	**486.68**
Add for redrilling through partially set grout / additional extension rods / reduction in rate of drilling etc @	10%	Rs:	48.67
Beyond 42 m upto 48 m from surface	Rate / Rm	Rs:	**535.35**

IRR-DAW-1-10 **Flushing grout holes of all sizes with water and air jets alternatively** for an average period of 30 minutes including water intake observations after flushing, cost of all materials, machinery, labour etc., **complete.**

DATA: **RATE ANALYSIS**

UNIT : **192.00** Rm.

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of air hose 2 Nos x 8 hrs	Hour	16.00000	12.00	192.00
2	Use rate of water hose 2 Nos x 8 hrs	Hour	16.00000	12.19	195.04
3	Sundries	LS	2.00000	42.00	84.00
	Total cost of Materials			Rs:	**471.04**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Air compressor 8.5 cmm (ele)	Hour	8.00000	177.65	1421.20
	Fuel / Energy charges	Hour	8.00000	475.86	3806.88
2	Pump 5 hp (ele)	Hour	8.00000	3.27	26.16
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
3	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**5676.64**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Air compressor	Hour	8.00000	302.25	2418.00
2	Crew for Pump	Hour	8.00000	153.47	1227.76
3	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**6365.76**

labour component/unit qty		33.20
Add contractor's profit and overhead charges	13.615%	4.50
labour component/unit qty (including contractor's profit)		**37.70**

ABSTRACT:

A. Cost of Materials			Rs:	471.04
B. Hire charges of Machinery			Rs:	5676.64
C. Cost of Labour			Rs:	6365.76
		Total	Rs:	12513.44
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	1703.7
Total cost for	192.00	Rm.	Rs:	**14217.14**
Rate per Rm.	(A+B+C+D)/192		Rs:	**74.05**

IRR-DAW-1-11 (a) **Consolidation grouting with neat cement grout** mix of suitable consistency under specified pressure as directed in drilled holes by stage grouting method including cost of all materials, machinery, labour, redrilling if necessary etc.,complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

UNIT : **1.05** tonne

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement	tonne	1.05000	4220.00	4431.00
2	Use rate of 50 m pressure hose	Hour	8.00000	12.00	96.00
3	Sundries (packer assembly etc)	LS	3.00000	42.00	126.00
			Total cost of Materials	Rs:	**4653.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Grouting equipment	Hour	8.00000	24.49	195.92
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
2	Pump 5 hp (ele)	Hour	2.00000	3.27	6.54
	Fuel / Energy charges	Hour	2.00000	42.30	84.60
3	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**709.46**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Grout pump	Hour	8.00000	483.60	3868.80
2	Crew for Pump	Hour	2.00000	153.47	306.94
3	mazdoor (cement handling)	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**5535.74**

labour component/unit qty		5272.10
Add contractor's profit and overhead charges	13.615%	717.80
labour component/unit qty (including contractor's profit)		**5989.90**

ABSTRACT:

A. Cost of Materials			Rs:	4653.00
B. Hire charges of Machinery			Rs:	709.46
C. Cost of Labour			Rs:	5535.74
		Total	Rs:	10898.20
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	1483.79
Total cost for	1.05	tonne	Rs:	**12381.99**
Rate per tonne	(A+B+C+D)/1.05		Rs:	**11792.37**

IRR-DAW-1-12 (b) **Curtain grouting with neat cement grout mix** of suitable consistency under specified pressure as directed in drilled holes by stage grouting method including cost of all materials, machinery, labour, redrilling if necessary etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

UNIT : **1.05** tonne

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement	tonne	1.05000	4220.00	4431.00
2	Use rate of 100 m pressure hose	Hour	8.00000	24	192.00
3	Use rate of 400 m GI pipe	Hour	8.00000	5.92	47.36
4	Sundries (packer assembly etc)	LS	3.00000	42.00	126.00
			Total cost of Materials	Rs:	**4796.36**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Grouting equipment	Hour	8.00000	24.49	195.92
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
2	Pump 5 hp (ele)	Hour	2.00000	3.27	6.54
	Fuel / Energy charges	Hour	2.00000	42.30	84.60
3	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**709.46**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Grout pump	Hour	8.00000	483.60	3868.80
2	Crew for Pump	Hour	2.00000	153.47	306.94
3	Pipe fitter	Day	1.00000	935.00	935.00
4	mazdoor (cement handling)	Day	3.00000	680.00	2040.00
			Total cost of Labour	Rs:	**7150.74**

labour component/unit qty		6810.20
Add contractor's profit and overhead charges	13.615%	927.20
labour component/unit qty (including contractor's profit)		**7737.40**

ABSTRACT:

A. Cost of Materials			Rs:	4796.36
B. Hire charges of Machinery			Rs:	709.46
C. Cost of Labour			Rs:	7150.74
		Total	Rs:	12656.56
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	1723.19
Total cost for	1.05	tonne	Rs:	**14379.75**
Rate per tonne	(A+B+C+D)/1.05		Rs:	**13695.00**

IRR-DAW-1-13 Providing and **fixing 25 mm dia 3 m long cold twisted deformed steel dowel bars** with one end driven into 45 to 50 mm diameter 1.50 m deep hole drilled in bed rock and other end provided with L-bend for embedding in concrete / masonry of over flow / non-over flow blocks and other appertenant works including cost of drilling and cleaning hole, filling hole with cement mortar 1 : 1 proportion, driving anchor rod, cost of all materials, machinery, labour etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

UNIT: **25** Nos.

A. MATERIALS

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of drill bit 50 mm dia	Rm	37.50000	78.33	2937.38
2	Use rate of air hose 50 m	Hour	4.00000	18.13	72.52
3	Anchor rod 25 mm dia	kg	303.22000	55.00	16677.10
4	Cement	kg	75.00000	4.22	316.50
5	Sand (screened)	cum	0.05000	128.00	6.40
			Total cost of Materials	Rs:	**20009.90**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Air compressor 8.5 cmm (ele)	Hour	4.00000	177.65	710.60
	Fuel / Energy charges	Hour	4.00000	475.86	1903.44
2	Waggon drill	Hour	4.00000	204.05	816.20
	Fuel / Energy charges	Hour	4.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**3430.24**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Air compressor	Hour	4.00000	302.25	1209.00
2	Crew for Waggon drill	Hour	4.00000	516.36	2065.44
3	Bar bender	Day	0.50000	990.00	495.00
4	Mason Cl- II	Day	0.50000	730.00	365.00
5	mazdoor	Day	1.00000	680.00	680.00
			Total cost of Labour	Rs:	**4814.44**

labour component/unit qty		192.60
Add contractor's profit and overhead charges	13.615%	26.20
labour component/unit qty (including contractor's profit)		**218.80**

ABSTRACT:

A. Cost of Materials				Rs:	20009.90
B. Hire charges of Machinery				Rs:	3430.24
C. Cost of Labour				Rs:	4814.44
			Total	Rs:	28254.58
D.Add for contractor's profit and overheads on (A+B+C)			13.615%	Rs.	3846.86
Lead Charges for 1 Km for FA	0.05	cum @	46.4117275	Rs./Cum	2.32
Lead Charges for 1Km for Steel (including Loading and Unloading Charges)	0.30	tonne @	317.622094	Rs./Tonn	96.31
Total cost for	25.00		Nos.	Rs:	**32200.07**
Rate per Each	(A+B+C+D)/25			Rs:	**1288.00**

IRR-DAW-1-14 Providing and **fixing 25 mm dia. 2.75 m long ribbed steel anchor rods** with one end split and driven firmly using steel wedge into 1.25 m deep 45 to 50 mm dia. hole drilled in bed rock and other end provided with L- bend for embedding in concrete / masonry for spillway and appurtenant works including drilling and cleaning hole, filling hole with thick cement slurry, driving anchor rod, cost of all materials, machinery, labour, steel wedge etc., complete with **initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

UNIT:

A. MATERIALS: **25.00** Nos.

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of 50 mm dia drill bit	Rm	31.25000	78.33	2447.81
2	Use rate of air hose 50 m 1 Nos.	Hour	3.00000	18.13	54.39
3	Anchor rod 25 mm dia	kg	277.92000	55.00	15285.60
4	Cement	kg	62.50000	4.22	263.75
5	Gas for splitting anchor rods	LS	5.00000	43.20	216.00
6	Steel wedges	LS	10.00000	20.00	200.00
			Total cost of Materials	Rs:	**18467.55**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Air compressor 8.5 cmm (ele)	Hour	3.00000	177.65	532.95
	Fuel / Energy charges	Hour	3.00000	475.86	1427.58
2	Waggon drill	Hour	3.00000	204.05	612.15
	Fuel / Energy charges	Hour	3.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**2572.68**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Air compressor	Hour	3.00000	302.25	906.75
2	Crew for Waggon drill	Hour	3.00000	516.36	1549.08
3	Bar bender	Day	0.50000	990.00	495.00
4	Mason Cl- II	Day	0.50000	730.00	365.00
5	Gas cutter	Day	1.00000	820.00	820.00
6	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**5495.83**

labour component/unit qty		219.80
Add contractor's profit and overhead charges	13.615%	29.90
labour component/unit qty (including contractor's profit)		**249.70**

ABSTRACT:

A. Cost of Materials				Rs:	18467.55
B. Hire charges of Machinery				Rs:	2572.68
C. Cost of Labour				Rs:	5495.83
			Total	Rs:	26536.06
D.Add for contractor's profit and overheads on (A+B+C)			13.615%	Rs.	3612.88
Lead Charges for 1Km for Steel (including Loading and Unloading Charges)	0.27792	tonne @	317.622094	Rs./Tonn	88.27
Total cost for	25.00		Nos.	Rs:	**30237.21**
Rate per Each	(A+B+C+D)/25			Rs:	**1209.49**

IRR-DAW-2 **REINFORCEMENT & CEMENT CONCRETE WORKS :**

IRR-DAW-2-1A Providing, fabricating and **placing in position reinforcement steel for RCC,below 36 dia rods** overlaps and wastages wherever required, tying with 1.25 mm diameter soft annealed steel wire, including cost of all materials, machinery, labour etc., complete with **initial lead upto 1 km and all lifts.**
overlaps and wastage as per NHAI-data
Lap jointing considered for bars upto 36 mm diameter.

DATA: **RATE ANALYSIS**

UNIT : **1.00** tonne

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Rein.Steel with 5 % wastage	tonne	1.05000	55000.00	57750.00
2	Binding wire 1.25 mm dia	kg	9.00000	70.00	630.00
			Total cost of Materials	Rs:	**58380.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Bar bender	Day	2.00000	990.00	1980.00
2	mazdoor	Day	6.84000	680.00	4651.20
			Total cost of Labour		**6631.20**

labour component/unit qty		6631.20	
Add contractor's profit and overhead charges	13.615%	902.80	
labour component/unit qty (including contractor's profit)		**7534.00**	

A.MATERIAL				58380.00
B.MACHINERY				0.00
C. LABOUR				6631.20
Total				65011.20
D.Add for contractor's profit and overheads on A+B+C			13.615%	8851.27
Lead Charges for 1Km for Steel (including Loading and Unloading Charges)	317.62	Rs/Tonne		333.5
Total cost for	1.00		tonne	**74195.97**
Rate per/ TON.=(A+B+C+D) / l				**74195.97**

IRR-DAW-2-1B Providing, fabricating and **placing in position reinforcement steel for RCC above 36 dia with welding** and wastage at 2.5%, tying with 1.25 mm diameter soft annealed steel wire, including cost of all materials, machinery, labour etc., complete with **initial lead upto 1 km and all lifts.**
overlaps and wastage as per NHAI-data
welding joints considered for bars above 36 mm diameter.

DATA: **RATE ANALYSIS**

UNIT : **1.00** tonne

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Rein.Steel with 2.5 % wastage	tonne	1.02500	55000.00	56375.00
2	Welding electrodes 5 per joint and 14 joints per ton	One	70.00000	17.00	1190.00
			Total cost of Materials	Rs:	**57565.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	welding machine	hour	10.00000	17.57	175.70
	fuel charges	hour	10.00000	101.52	1015.20
			Total hire charges of Machinery	Rs:	**1190.90**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	welder	day	2.50000	820.00	2050.00
2	Bar bender	Day	2.00000	990.00	1980.00
3	mazdoor	Day	6.84000	680.00	4651.20
			Total cost of Labour		**8681.20**

labour component/unit qty		8681.20	
Add contractor's profit and overhead charges	13.615%	1181.90	
labour component/unit qty (including contractor's profit)		**9863.10**	

ABSTRACT:

A. Cost of Materials			57565.00
B. Hire charges of Machinery			1190.90
C. Cost of Labour			8681.20
Total			67437.10
D.Add for contractor's profit and overheads on A+B+C		13.615%	9181.56
Lead Charges for 1Km for Steel (including Loading and Unloading Charges)	317.62 Rs/Tonne		325.56
Total cost for	1.00	tonne	**76944.22**
	Rate per/ TON = (A+B+C+D) / I		**76944.22**

IRR-DAW-2-2 Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for plain concrete works with initial lead upto 1 km** and **all lifts. (Cement content : 250 kg /cum with use of super plasticiser equal to 0.4% of cement content , CA : 0.98 cum, Blending Ratio of CA -- 40:30:20:10, FA : 0.35 cum)**

DATA:

RATE ANALYSIS

UNIT: **240.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	60000.00000	4.22	253200.00
	Cement for incidentals @ 3 kg / cum	kg	720.00000	4.22	3038.40
2	Coarse aggregate 80-40 mm	cum	94.08000	848.00	79779.84
	Coarse aggregate 40-20 mm	cum	70.56000	1562.00	110214.72
	Coarse aggregate 20-10 mm	cum	47.04000	1635.00	76910.40
	Coarse aggregate 10 mm below	cum	23.52000	1190.00	27988.80
3	Fine aggregate (Un-screened)	cum	84.00000	0.00	0.00
4	Super Plasticizer or AEA	kg	240.00000	64.00	15360.00
5	Use rate of shuttering	sqm	120.00000	464.69	55762.80
			Total cost of Materials	Rs:	**622254.96**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Batching plant	Hour	8.00000	603.83	4830.64
	Fuel / Energy charges	Hour	8.00000	465.28	3722.24
2	Air compressor 7 cmm (ele)	Hour	8.00000	137.00	1096.00
	Fuel / Energy charges	Hour	8.00000	380.69	3045.52
3	Tipper	Hour	32.00000	493.27	15784.64
	Fuel / Energy charges	Hour	32.00000	545.53	17456.96
4	Tower crane 5 t	Hour	16.00000	870.74	13931.84
	Fuel / Energy charges	Hour	16.00000	219.95	3519.20
5	Concrete bucket	Hour	40.00000	18.00	720.00
	Fuel / Energy charges	Hour	40.00000	0.00	0.00
6	10 hp pump (ele)	Hour	8.00000	7.29	58.32
	Fuel / Energy charges	Hour	8.00000	84.60	676.80
7	Needle vibrator 60 mm dia (ele)	Hour	16.00000	8.44	135.04
	Fuel / Energy charges	Hour	16.00000	12.68	202.88
8	Sundries	LS	10.00000	42.00	420.00
			Total hire charges of Machinery	Rs:	**65600.08**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Batching plant	Hour	8.00000	621.38	4971.04
2	Crew for Air compressor	Hour	8.00000	302.25	2418.00
3	Crew for Tipper (4)	Hour	32.00000	322.73	10327.36
4	Crew for Tower crane (2)	Hour	16.00000	344.24	5507.84
5	Crew for Pump	Hour	8.00000	153.47	1227.76
6	Crew for Needle vibrator (2)	Hour	16.00000	290.10	4641.60
7	Mason Class-I	Day	4.00000	840.00	3360.00
8	Foreman	Day	2.00000	925.00	1850.00
9	mazdoor				
	for silo (cement handling)	Day	2.00000	680.00	1360.00
	for batching plant	Day	2.00000	680.00	1360.00
	for conveyor system	Day	2.00000	680.00	1360.00
	for laying & vibrating	Day	6.00000	680.00	4080.00
	for cleaning / washing / curing	Day	2.00000	680.00	1360.00
10	Labour cost for shuttering	sqm	120.00000	251.55	30186.00
			Total cost of Labour	Rs:	**74009.60**

labour component/unit qty		308.40
Add contractor's profit and overhead charges	13.615%	42.00
labour component/unit qty (including contractor's profit)		**350.40**

ABSTRACT:

A. Cost of Materials				Rs:	622254.96
B. Hire charges of Machinery				Rs:	65600.08
C. Cost of Labour				Rs:	74009.60
			Total	Rs:	761864.64
Add for conveyor system @			3.00%		22855.94
Add for electric sub-station/ Demand charges @			2.5%		19046.62
Add for trestle bridge for tower crane track @			4.0%		30474.59
			Total	Rs:	834241.79
D.Add for contractor's profit and overheads on (A+B+C)			13.615%	Rs.	113582.02
Lead Charges for 1 Km for FA	84.00	cum @	46.41 Rs./Cum		3898.59
Lead Charges for 1 Km for CA	235.20	cum @	44.62 Rs./Cum		10493.83
Total cost for	240.00		cum	Rs:	**962216.23**
Rate per cum	(A+B+C+D)/240			Rs:	**4009.23**

IRR-DAW-2-2A New Item1-2010- Providing and laying **insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for plain concrete works** with **initial lead upto 1 km and all lifts. (Cement content : 300 kg /cum with use of 0.4% of cement content super plasticiser , CA : 0.90 cum, Blending Ratio of CA -- 40:30:20:10, FA : 0.40 cum)**

DATA:

RATE ANALYSIS

UNIT:

A. MATERIALS: **240.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	72000.00000	4.22	303840.00
	Cement for incidentals @ 3 kg / cum	kg	720.00000	4.22	3038.40
2	Coarse aggregate 80-40 mm	cum	86.40000	848.00	73267.20
	Coarse aggregate 40-20 mm	cum	64.80000	1562.00	101217.60
	Coarse aggregate 20-10 mm	cum	43.20000	1635.00	70632.00
	Coarse aggregate 10 mm below	cum	21.60000	1190.00	25704.00
3	Fine aggregate (Un-Screened)	cum	96.00000	0.00	0.00
4	Super Plasticizer or AEA	kg	288.00000	64.00	18432.00
5	Use rate of shuttering	sqm	120.00000	464.69	55762.80
			Total cost of Materials	Rs:	**651894.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Batching plant	Hour	8.00000	603.83	4830.64
	Fuel / Energy charges	Hour	8.00000	465.28	3722.24
2	Air compressor 7 cmm (ele)	Hour	8.00000	137.00	1096.00
	Fuel / Energy charges	Hour	8.00000	380.69	3045.52
3	Tipper	Hour	32.00000	493.27	15784.64
	Fuel / Energy charges	Hour	32.00000	545.53	17456.96
4	Tower crane 5 t	Hour	16.00000	870.74	13931.84
	Fuel / Energy charges	Hour	16.00000	219.95	3519.20
5	Concrete bucket	Hour	40.00000	18.00	720.00
	Fuel / Energy charges	Hour	40.00000	0.00	0.00
6	10 hp pump (ele)	Hour	8.00000	7.29	58.32
	Fuel / Energy charges	Hour	8.00000	84.60	676.80
7	Needle vibrator 60 mm dia (ele)	Hour	16.00000	8.44	135.04
	Fuel / Energy charges	Hour	16.00000	12.68	202.88
8	Sundries	LS	10.00000	42.00	420.00
			Total hire charges of Machinery	Rs:	**65600.08**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Batching plant	Hour	8.00000	621.38	4971.04
2	Crew for Air compressor	Hour	8.00000	302.25	2418.00
3	Crew for Tipper (4)	Hour	32.00000	322.73	10327.36
4	Crew for Tower crane (2)	Hour	16.00000	344.24	5507.84
5	Crew for Pump	Hour	8.00000	153.47	1227.76
6	Crew for Needle vibrator (2)	Hour	16.00000	290.10	4641.60
7	Mason Class-I	Day	4.00000	840.00	3360.00
8	Foreman	Day	2.00000	925.00	1850.00
9	mazdoor				
	for silo (cement handling)	Day	2.00000	680.00	1360.00
	for batching plant	Day	2.00000	680.00	1360.00
	for conveyor system	Day	2.00000	680.00	1360.00
	for laying & vibrating	Day	6.00000	680.00	4080.00
	for cleaning / washing / curing	Day	2.00000	680.00	1360.00
10	Labour cost for shuttering	sqm	120.00000	251.55	30186.00
			Total cost of Labour	Rs:	**74009.60**

labour component/unit qty			308.40		
Add contractor's profit and overhead charges	13.615%		42.00		
labour component/unit qty (including contractor's profit)			**350.40**		

ABSTRACT:

A. Cost of Materials					Rs:	651894.00
B. Hire charges of Machinery					Rs:	65600.08
C. Cost of Labour					Rs:	74009.60
			Total		Rs:	791503.68
Add for conveyor system @			3.00%			23745.11
Add for electric sub-station/ Demand charges @			2.5%			19787.59
Add for trestle bridge for tower crane track @			4.0%			31660.15
			Total		Rs:	866696.53
D.Add for contractor's profit and overheads on (A+B+C)			13.615%		Rs.	118000.73
Lead Charges for 1 Km for FA	96.00	cum @		46.41 Rs./Cum		4455.53
Lead Charges for 1 Km for CA	216.00	cum @		44.62 Rs./Cum		9637.19
Total cost for	240.00		cum		Rs:	**998789.98**
Rate per cum	(A+B+C+D)/240				Rs:	**4161.62**

IRR-DAW-2-3 Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than10 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for plain concrete works with initial lead upto 1 km and all lifts. (Cement content : 220 kg /cum with use of super plasticiser, CA: 0.98 cum, Blending Ratio of CA --40:30:20:10, FA: 0.37 cum)**

DATA:

RATE ANALYSIS

UNIT:

A. MATERIALS: **240.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	52800.00000	4.22	222816.00
	Cement for incidentals @ 3 kg / cum	kg	720.00000	4.22	3038.40
2	Coarse aggregate 80-40 mm	cum	94.08000	848.00	79779.84
	Coarse aggregate 40-20 mm	cum	70.56000	1562.00	110214.72
	Coarse aggregate 20-10 mm	cum	47.04000	1635.00	76910.40
	Coarse aggregate 10 mm below	cum	23.52000	1190.00	27988.80
3	Fine aggregate (Un-Screened)	cum	88.80000	0.00	0.00
4	Super Plasticizer or AEA	kg	211.20000	64.00	13516.80
5	Use rate of shuttering	sqm	120.00000	464.69	55762.80
			Total cost of Materials	Rs:	**590027.76**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Batching plant 2 x 1.5 cum	Hour	8.00000	603.83	4830.64
	Fuel / Energy charges	Hour	8.00000	465.28	3722.24
2	Air compressor 7 cmm (ele)	Hour	8.00000	137.00	1096.00
	Fuel / Energy charges	Hour	8.00000	380.69	3045.52
3	Tipper	Hour	32.00000	493.27	15784.64
	Fuel / Energy charges	Hour	32.00000	545.53	17456.96
4	Tower crane 5 t	Hour	16.00000	870.74	13931.84
	Fuel / Energy charges	Hour	16.00000	219.95	3519.20
5	Concrete bucket	Hour	40.00000	18.00	720.00
	Fuel / Energy charges	Hour	40.00000	0.00	0.00
6	10 hp pump (ele)	Hour	8.00000	7.29	58.32
	Fuel / Energy charges	Hour	8.00000	84.60	676.80
7	Needle vibrator 60 mm dia (ele)	Hour	16.00000	8.44	135.04
	Fuel / Energy charges	Hour	16.00000	12.68	202.88
8	Sundries	LS	10.00000	42.00	420.00
			Total hire charges of Machinery	Rs:	**65600.08**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Batching plant	Hour	8.00000	621.38	4971.04
2	Crew for Air compressor	Hour	8.00000	302.25	2418.00
3	Crew for Tipper (4)	Hour	32.00000	322.73	10327.36
4	Crew for Tower crane (2)	Hour	16.00000	344.24	5507.84
5	Crew for Pump	Hour	8.00000	153.47	1227.76
6	Crew for Needle vibrator (2)	Hour	16.00000	290.10	4641.60
7	Mason Class-I	Day	4.00000	840.00	3360.00
8	Foreman	Day	2.00000	925.00	1850.00
9	mazdoor				
	for silo (cement handling)	Day	2.00000	680.00	1360.00
	for batching plant	Day	2.00000	680.00	1360.00
	for conveyor system	Day	2.00000	680.00	1360.00
	for laying & vibrating	Day	6.00000	680.00	4080.00
	for cleaning / washing / curing	Day	2.00000	680.00	1360.00
10	Labour cost for shuttering	sqm	120.00000	251.55	30186.00
			Total cost of Labour	Rs:	**74009.60**

labour component/unit qty		308.40
Add contractor's profit and overhead charges	13.615%	42.00
labour component/unit qty (including contractor's profit)		**350.40**

ABSTRACT:

A. Cost of Materials			Rs:		590027.76
B. Hire charges of Machinery			Rs:		65600.08
C. Cost of Labour			Rs:		74009.60
			Total	Rs:	729637.44
Add for conveyor system @			3.00%		21889.12
Add for electric sub-station/ Demand charges @			2.5%		18240.94
Add for trestle bridge for tower crane track @			4.0%		29185.50
			Total	Rs:	798953.00
D.Add for contractor's profit and overheads on (A+B+C+other			13.615%	Rs.	108777.45
Lead Charges for 1 Km for FA	88.80	cum @		46.41 Rs./Cum	4121.36
Lead Charges for 1 Km for CA	235.20	cum @		44.62 Rs./Cum	10493.83
Total cost for	240.00		cum	Rs:	**922345.64**
Rate per cum	(A+B+C+D)/240			Rs:	**3843.11**

IRR-DAW-2-4 Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for RCC works of gallery, sluice, spillway crest, spillway** d / s face, energy dissipating structures, training walls, piers, abutments and such other locations with **initial lead upto 1 km and all lifts.**
(Cement content : 310 kg / cum with use of super plasticiser, CA : 0.90 cum, blending ratio of CA--50:30:20, FA : 0.40 cum)

DATA: **RATE ANALYSIS**

UNIT:

A. MATERIALS: **240.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	74400.00000	4.22	313968.00
2	Cement for incidentals @ 3 kg / cum	kg	720.00000	4.22	3038.40
	Coarse aggregate 40-20 mm	cum	108.00000	1562.00	168696.00
	Coarse aggregate 20-10 mm	cum	64.80000	1635.00	105948.00
	Coarse aggregate 10 mm below	cum	43.20000	1190.00	51408.00
3	Fine aggregate (Un-Screened)	cum	96.00000	0.00	0.00
4	Super Plasticizer or AEA	kg	297.60000	64.00	19046.40
5	Use rate of shuttering	sqm	360.00000	464.69	167288.40
6	Scaffolding of shuttering @	15%			25093.26
			Total cost of Materials	Rs:	**854486.46**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Batching plant 2 x 1.5 cum	Hour	8.00000	603.83	4830.64
	Fuel / Energy charges	Hour	8.00000	465.28	3722.24
2	Air compressor 7 cmm (ele)	Hour	8.00000	137.00	1096.00
	Fuel / Energy charges	Hour	8.00000	380.69	3045.52
3	Tipper	Hour	32.00000	493.27	15784.64
	Fuel / Energy charges	Hour	32.00000	545.53	17456.96
4	Tower crane 5 t	Hour	16.00000	870.74	13931.84
	Fuel / Energy charges	Hour	16.00000	219.95	3519.20
5	Concrete bucket	Hour	40.00000	18.00	720.00
	Fuel / Energy charges	Hour	40.00000	0.00	0.00
6	10 hp pump (ele)	Hour	8.00000	7.29	58.32
	Fuel / Energy charges	Hour	8.00000	84.60	676.80
7	Needle vibrator 60 mm dia (ele)	Hour	16.00000	8.44	135.04
	Fuel / Energy charges	Hour	16.00000	12.68	202.88
8	Sundries	LS	10.00000	42.00	420.00
			Total hire charges of Machinery	Rs:	**65600.08**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Batching plant	Hour	8.00000	621.38	4971.04
2	Crew for Air compressor	Hour	8.00000	302.25	2418.00
3	Crew for Tipper (4)	Hour	32.00000	322.73	10327.36
4	Crew for Tower crane (2)	Hour	16.00000	344.24	5507.84
5	Crew for Pump	Hour	8.00000	153.47	1227.76
6	Crew for Needle vibrator (2)	Hour	16.00000	290.10	4641.60
7	Mason Class-I	Day	4.00000	840.00	3360.00
8	Foreman	Day	2.00000	925.00	1850.00
9	mazdoor				0.00
	for silo (cement handling)	Day	2.00000	680.00	1360.00
	for batching plant	Day	2.00000	680.00	1360.00
	for conveyor system	Day	2.00000	680.00	1360.00
	for laying & vibrating	Day	6.00000	680.00	4080.00
	for cleaning / washing / curing	Day	2.00000	680.00	1360.00
10	Labour cost for shuttering	sqm	360.00000	251.55	90558.00
11	Labour cost for scaffolding @	15%			13583.70
			Total cost of Labour	Rs:	**147965.30**

labour component/unit qty		616.50	
Add contractor's profit and overhead charges	13.615%	83.90	
labour component/unit qty (including contractor's profit)		**700.40**	

ABSTRACT:

A. Cost of Materials				Rs:	854486.46
B. Hire charges of Machinery				Rs:	65600.08
C. Cost of Labour				Rs:	147965.30
			Total	Rs:	1068051.84
Add for aggregate conveyor system @			3.0%		32041.56
Add for electric sub-station / Demand charges @			2.50%		26701.30
Add for trestle bridge for tower crane track @			4.0%		42722.07
			Total	Rs:	1169516.77
D.Add for contractor's profit and overheads on (A+B+C+other			13.615%	Rs.	159229.71
Lead Charges for 1 Km for FA	96.00	cum @	46.41 Rs./Cum		4455.53
Lead Charges for 1 Km for CA	216.00	cum @	44.62 Rs./Cum		9637.19
Total cost for	240.00		cum	Rs:	**1342839.20**
Rate per cum	(A+B+C+D)/240			Rs:	**5595.16**

IRR-DAW-2-4A new Item2-2010-11

Providing and **laying insitu vibrated M-25** (28 days cube compressive strength not less than 25 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for **RCC works of gallery, sluice, spillway crest**, spillway d / s face, energy dissipating structures, training walls, piers, abutments and such other locations **with initial lead upto 1 km and all lifts.**
(Cement content : 360 kg / cum with use of super plasticiser, CA : 0.90 cum, blending ratio of CA--50:30:20, FA : 0.40 cum)

DATA: **RATE ANALYSIS**

UNIT: **240.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	86400.00000	4.22	364608.00
2	Cement for incidentals @ 3 kg / cum	kg	720.00000	4.22	3038.40
	Coarse aggregate 40-20 mm	cum	108.00000	1562.00	168696.00
	Coarse aggregate 20-10 mm	cum	64.80000	1635.00	105948.00
	Coarse aggregate 10 mm below	cum	43.20000	1190.00	51408.00
3	Fine aggregate (Un-Screened)	cum	96.00000	0.00	0.00
4	Super Plasticizer or AEA	kg	345.60000	64.00	22118.40
5	Use rate of shuttering	sqm	360.00000	464.69	167288.40
6	Scaffolding of shuttering @	15%			25093.26
			Total cost of Materials	Rs:	**908198.46**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Batching plant 2 x 1.5 cum	Hour	8.00000	603.83	4830.64
	Fuel / Energy charges	Hour	8.00000	465.28	3722.24
2	Air compressor 7 cmm (ele)	Hour	8.00000	137.00	1096.00
	Fuel / Energy charges	Hour	8.00000	380.69	3045.52
3	Tipper	Hour	32.00000	493.27	15784.64
	Fuel / Energy charges	Hour	32.00000	545.53	17456.96
4	Tower crane 5 t	Hour	16.00000	870.74	13931.84
	Fuel / Energy charges	Hour	16.00000	219.95	3519.20
5	Concrete bucket	Hour	40.00000	18.00	720.00
	Fuel / Energy charges	Hour	40.00000	0.00	0.00
6	10 hp pump (ele)	Hour	8.00000	7.29	58.32
	Fuel / Energy charges	Hour	8.00000	84.60	676.80
7	Needle vibrator 60 mm dia (ele)	Hour	16.00000	8.44	135.04
	Fuel / Energy charges	Hour	16.00000	12.68	202.88
8	Sundries	LS	10.00000	42.00	420.00
			Total hire charges of Machinery	Rs:	**65600.08**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Batching plant	Hour	8.00000	621.38	4971.04
2	Crew for Air compressor	Hour	8.00000	302.25	2418.00
3	Crew for Tipper (4)	Hour	32.00000	322.73	10327.36
4	Crew for Tower crane (2)	Hour	16.00000	344.24	5507.84
5	Crew for Pump	Hour	8.00000	153.47	1227.76
6	Crew for Needle vibrator (2)	Hour	16.00000	290.10	4641.60
7	Mason Class-I	Day	4.00000	840.00	3360.00
8	Foreman	Day	2.00000	925.00	1850.00
9	mazdoor				
	for silo (cement handling)	Day	2.00000	680.00	1360.00
	for batching plant	Day	2.00000	680.00	1360.00
	for conveyor system	Day	2.00000	680.00	1360.00
	for laying & vibrating	Day	6.00000	680.00	4080.00
	for cleaning / washing / curing	Day	2.00000	680.00	1360.00
10	Labour cost for shuttering	sqm	360.00000	251.55	90558.00
11	Labour cost for scaffolding @	15%			13583.70
			Total cost of Labour	Rs:	**147965.30**

labour component/unit qty		616.50	
Add contractor's profit and overhead charges	13.615%	83.90	
labour component/unit qty (including contractor's profit)		**700.40**	

ABSTRACT:

A. Cost of Materials				Rs:	908198.46
B. Hire charges of Machinery				Rs:	65600.08
C. Cost of Labour				Rs:	147965.30
			Total	Rs:	1121763.84
Add for aggregate conveyor system @			3.0%		33652.92
Add for electric sub-station / Demand charges @			2.50%		28044.10
Add for trestle bridge for tower crane track @			4.0%		44870.55
			Total	Rs:	1228331.41
D.Add for contractor's profit and overheads on (A+B+C+other			13.615%	Rs.	167237.32
Lead Charges for 1 Km for FA	96.00	cum @	46.41 Rs./Cum		4455.53
Lead Charges for 1 Km for CA	216.00	cum @	44.62 Rs./Cum		9637.19
Total cost for	240.00		cum	Rs:	**1409661.45**
Rate per cum	(A+B+C+D)/240			Rs:	**5873.59**

IRR-DAW-2-4B new Item3-2010-11 Providing and **laying insitu vibrated M-25** (28 days cube compressive strength not less than 25 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for **RCC works of gallery, sluice, spillway crest, spillway d / s** face, energy dissipating structures, training walls, piers, abutments and such other locations **with initial lead upto 1 km and all lifts.**
(Cement content : 380 kg / cum with use of super plasticiser, CA : 0.90 cum, blending ratio of CA--65:35, FA : 0.40 cum)

DATA: **RATE ANALYSIS**

UNIT:

A. MATERIALS: **240.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	91200.00000	4.22	384864.00
2	Cement for incidentals @ 3 kg / cum	kg	720.00000	4.22	3038.40
	Coarse aggregate 20-10 mm	cum	140.40000	1635.00	229554.00
	Coarse aggregate 10 mm below	cum	75.60000	1190.00	89964.00
3	Fine aggregate (Un-Screened)	cum	96.00000	0.00	0.00
4	Super Plasticizer or AEA	kg	364.80000	64.00	23347.20
5	Use rate of shuttering	sqm	360.00000	464.69	167288.40
6	Scaffolding of shuttering @	15%			25093.26
			Total cost of Materials	Rs:	**923149.26**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Batching plant 2 x 1.5 cum	Hour	8.00000	603.83	4830.64
	Fuel / Energy charges	Hour	8.00000	465.28	3722.24
2	Air compressor 7 cmm (ele)	Hour	8.00000	137.00	1096.00
	Fuel / Energy charges	Hour	8.00000	380.69	3045.52
3	Tipper	Hour	32.00000	493.27	15784.64
	Fuel / Energy charges	Hour	32.00000	545.53	17456.96
4	Tower crane 5 t	Hour	16.00000	870.74	13931.84
	Fuel / Energy charges	Hour	16.00000	219.95	3519.20
5	Concrete bucket	Hour	40.00000	18.00	720.00
	Fuel / Energy charges	Hour	40.00000	0.00	0.00
6	10 hp pump (ele)	Hour	8.00000	7.29	58.32
	Fuel / Energy charges	Hour	8.00000	84.60	676.80
7	Needle vibrator 60 mm dia (ele)	Hour	16.00000	8.44	135.04
	Fuel / Energy charges	Hour	16.00000	12.68	202.88
8	Sundries	LS	10.00000	42.00	420.00
			Total hire charges of Machinery	Rs:	**65600.08**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Batching plant	Hour	8.00000	621.38	4971.04
2	Crew for Air compressor	Hour	8.00000	302.25	2418.00
3	Crew for Tipper (4)	Hour	32.00000	322.73	10327.36
4	Crew for Tower crane (2)	Hour	16.00000	344.24	5507.84
5	Crew for Pump	Hour	8.00000	153.47	1227.76
6	Crew for Needle vibrator (2)	Hour	16.00000	290.10	4641.60
7	Mason Class-I	Day	4.00000	840.00	3360.00
8	Foreman	Day	2.00000	925.00	1850.00
9	mazdoor				
	for silo (cement handling)	Day	2.00000	680.00	1360.00
	for batching plant	Day	2.00000	680.00	1360.00
	for conveyor system	Day	2.00000	680.00	1360.00
	for laying & vibrating	Day	6.00000	680.00	4080.00
	for cleaning / washing / curing	Day	2.00000	680.00	1360.00
10	Labour cost for shuttering	sqm	360.00000	251.55	90558.00
11	Labour cost for scaffolding @	15%			13583.70
			Total cost of Labour	Rs:	**147965.30**

labour component/unit qty		616.50
Add contractor's profit and overhead charges	13.615%	83.90
labour component/unit qty (including contractor's profit)		**700.40**

ABSTRACT:

A. Cost of Materials				Rs:	923149.26
B. Hire charges of Machinery				Rs:	65600.08
C. Cost of Labour				Rs:	147965.30
		Total		Rs:	1136714.64
Add for aggregate conveyor system @		3.0%			34101.44
Add for electric sub-station / Demand charges @		2.50%			28417.87
Add for trestle bridge for tower crane track @		4.0%			45468.59
		Total		Rs:	1244702.54
D.Add for contractor's profit and overheads on (A+B+C+other		13.615%		Rs.	169466.25
Lead Charges for 1 Km for FA	96.00 cum @		46.41 Rs./Cum		4455.53
Lead Charges for 1 Km for CA	216.00 cum @		44.62 Rs./Cum		9637.19
Total cost for	240.00		cum	Rs:	**1428261.51**
Rate per cum	(A+B+C+D)/240			Rs:	**5951.09**

IRR-DAW-2-5 Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for plain concrete works with initial lead upto 1 km and all lifts. (Cement content : 260 kg / cum with use of super plasticiser, CA : 0.90 cum, Blending Ratio of CA -- 50:30:20, FA : 0.40 cum)**

DATA: **RATE ANALYSIS**

UNIT : **14.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	3640.00000	4.22	15360.80
	Cement for incidentals @ 3 kg	kg	42.00000	4.22	177.24
2	Coarse aggregate 40-20 mm	cum	6.30000	1562.00	9840.60
	Coarse aggregate 20-10 mm	cum	3.78000	1635.00	6180.30
	Coarse aggregate 10 mm below	cum	2.52000	1190.00	2998.80
3	Fine aggregate (Un-Screened)	cum	5.60000	0.00	0.00
4	Super plasticizer	kg	14.56000	64.00	931.84
5	Use rate of shuttering	sqm	14.00000	309.79	4337.06
6	Use rate of scaffolding @	15%			650.56
			Total cost of Materials	Rs:	**40477.20**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.00000	54.10	432.80
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
2	10 hp pump (ele)	Hour	1.00000	7.29	7.29
	Fuel / Energy charges	Hour	1.00000	84.60	84.60
3	Needle vibrator 40 mm dia (ele)	Hour	8.00000	8.10	64.80
	Fuel / Energy charges	Hour	8.00000	8.46	67.68
			Total hire charges of Machinery	Rs:	**995.57**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	1.00000	153.47	153.47
3	Crew for Needle vibrator	Hour	8.00000	290.10	2320.80
4	Mason Class-I	Day	1.00000	840.00	840.00
5	mazdoor				
	for batching cement (cement handling	Day	2.00000	680.00	1360.00
	for batching other materials	Day	9.00000	680.00	6120.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	3.00000	680.00	2040.00
	for conveying concrete	Day	14.00000	680.00	9520.00
	for cleaning / washing / curing	Day	1.00000	680.00	680.00
6	Labour cost of shuttering	sqm	14.00000	167.70	2347.80
7	Labour cost of scaffolding @	15%			352.17
			Total cost of Labour	Rs:	**31678.24**

labour component/unit qty		2262.70
Add contractor's profit and overhead charges	13.615%	308.10
labour component/unit qty (including contractor's profit)		**2570.80**

ABSTRACT:

A. Cost of Materials					Rs:	40477.20
B. Hire charges of Machinery					Rs:	995.57
C. Cost of Labour					Rs:	31678.24
		Total			Rs:	73151.01
D.Add for contractor's profit and overheads on (A+B+C)			13.615%		Rs.	9959.51
Lead Charges for 1 Km for FA	5.60	cum @		46.41 Rs./Cum		259.91
Lead Charges for 1 Km for CA	12.60	cum @		44.62 Rs./Cum		562.17
Total cost for	14.00		cum		Rs:	**83932.60**
Rate per cum	(A+B+C+D)/14				Rs:	**5995.19**

IRR-DAW-2-6 Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **with placing and sinking plums of size 150 to 80 mm upto 15 percent for gravity type structures** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **with initial lead upto 1 km and all lifts. (Cement content : 260 kg / cum of concrete with use of plums and super plasticiser of 0.4% of cement quantity, CA : 0.77 cum, Blending Ratio of CA : 50:30:20,FA : 0.34 cum, plums of size 150 to 80 mm : 0.25 cum)**

DATA:

RATE ANALYSIS

A. MATERIALS: UNIT: **16.45** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	4277.00000	4.22	18048.94
	Cement for incidentals @ 3 kg / cum	kg	49.35000	4.22	208.26
2	Coarse aggregate 40-20 mm	cum	6.33000	1562.00	9887.46
	Coarse aggregate 20-10 mm	cum	3.80000	1635.00	6213.00
	Coarse aggregate 10 mm below	cum	2.53000	1190.00	3010.70
3	Plums of size 150 to 80 mm	cum	4.11250	498.00	2048.03
4	Fine aggregate (Un-Screened)	cum	5.59300	0.00	0.00
5	Super Plasticizer	kg	17.10800	64.00	1094.91
6	Use rate of shuttering for 40 uses	sqm	16.45000	309.79	5096.05
7	Scaffolding of shuttering @	15%			764.41
			Total cost of Materials	Rs:	**46371.76**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.00000	54.10	432.80
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
2	10 hp pump (ele)	Hour	1.00000	7.29	7.29
	Fuel / Energy charges	Hour	1.00000	84.60	84.60
3	Needle vibrator 60 mm dia (ele)	Hour	8.00000	8.44	67.52
	Fuel / Energy charges	Hour	8.00000	12.68	101.44
			Total hire charges of Machinery	Rs:	**1032.05**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	1.00000	153.47	153.47
3	Crew for Needle vibrator	Hour	8.00000	290.10	2320.80
4	Mason Class-I	Day	1.00000	840.00	840.00
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor				
	for batching cement (cement handling	Day	2.00000	680.00	1360.00
	for batching other materials	Day	9.00000	680.00	6120.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for loading plums	Day	1.00000	680.00	680.00
	for laying concrete and plums	Day	4.00000	680.00	2720.00
	for conveying concrete	Day	13.98601	680.00	9510.49
	for conveying plums	Day	3.00000	680.00	2040.00
	for cleaning / washing / curing	Day	1.00000	680.00	680.00
7	Labour for shuttering	sqm	16.45000	167.70	2758.67
8	Labour for scaffolding @	15%			413.80
			Total cost of Labour	Rs:	**36461.23**

labour component/unit qty		2216.50
Add contractor's profit and overhead charges	13.615%	301.80
labour component/unit qty (including contractor's profit)		**2518.30**

ABSTRACT:

A. Cost of Materials					Rs:	46371.76
B. Hire charges of Machinery					Rs:	1032.05
C. Cost of Labour					Rs:	36461.23
			Total		Rs:	83865.04
D.Add for contractor's profit and overheads on (A+B+C)			13.615%		Rs.	11418.23
Lead Charges for 1 Km for FA	5.59	cum @		46.41 Rs./Cum		259.58
Lead Charges for 1 Km for CA and Plums	16.77	cum @		44.62 Rs./Cum		748.33
Total cost for	16.45		cum		Rs:	**96291.18**
Rate per cum	(A+B+C+D)/16.45				Rs:	**5853.57**

IRR-DAW-2-7 Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for plain concrete works with initial lead upto 1 km and all lifts. (Cement content 220 kg / cum with use of super plasticiser, CA : 0.90 cum, Blending Ratio of CA : 50:30:20, FA : 0.40 cum)**

DATA: **RATE ANALYSIS**

UNIT: **16.53** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	3636.60000	4.22	15346.45
	Cement for incidentals @ 3 kg/ cum	kg	49.59000	4.22	209.27
2	Coarse aggregate 40-20 mm	cum	7.43850	1562.00	11618.94
	Coarse aggregate 20-10 mm	cum	4.46310	1635.00	7297.17
	Coarse aggregate 10 mm below	cum	2.97540	1190.00	3540.73
3	Fine aggregate (Un-Screened)	cum	6.61200	0.00	0.00
4	Super plasticizer	kg	14.54640	64.00	930.97
5	Use rate of shuttering	sqm	16.53000	309.79	5120.83
6	Use rate of scaffolding @	15%			768.12
			Total cost of Materials	Rs:	**44832.48**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.00000	54.10	432.80
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
2	10 hp pump (ele)	Hour	1.00000	7.29	7.29
	Fuel / Energy charges	Hour	1.00000	84.60	84.60
3	Needle vibrator 40 mm dia (ele)	Hour	8.00000	8.10	64.80
	Fuel / Energy charges	Hour	8.00000	8.46	67.68
			Total hire charges of Machinery	Rs:	**995.57**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	1.00000	153.47	153.47
3	Crew for Needle vibrator	Hour	8.00000	290.10	2320.80
4	Mason Class-I	Day	1.00000	840.00	840.00
5	mazdoor				
	for batching cement (cement handling	Day	2.00000	680.00	1360.00
	for batching other materials	Day	9.00000	680.00	6120.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	3.00000	680.00	2040.00
	for conveying concrete	Day	16.53000	680.00	11240.40
	for cleaning / washing / curing	Day	1.00000	680.00	680.00
6	Labour cost of shuttering	sqm	16.53000	167.70	2772.08
7	Labour cost of scaffolding @	15%			415.81
			Total cost of Labour	Rs:	**33886.56**

labour component/unit qty		2050.00
Add contractor's profit and overhead charges	13.615%	279.10
labour component/unit qty (including contractor's profit)		**2329.10**

ABSTRACT:

A. Cost of Materials					Rs:	44832.48
B. Hire charges of Machinery					Rs:	995.57
C. Cost of Labour					Rs:	33886.56
		Total			Rs:	79714.61
D.Add for contractor's profit and overheads on (A+B+C)			13.615%		Rs.	10853.14
Lead Charges for 1 Km for FA	6.61	cum @		46.41 Rs./Cum		306.87
Lead Charges for 1 Km for CA	14.88	cum @		44.62 Rs./Cum		663.76
Total cost for	16.53		cum		Rs:	**91538.38**
Rate per cum	(A+B+C+D)/16.53				Rs:	**5537.71**

IRR-DAW-2-8 Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for plain concrete works with initial lead upto 1 km and all lifts. (Cement content : 280 kg / cum with use of super plasticiser, CA : 0.80 cum, Blending Ratio of CA -- 65:35, FA : 0.44 cum)**

DATA:

RATE ANALYSIS

UNIT:

A. MATERIALS: **15.87** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	4443.60000	4.22	18751.99
	Cement for incidentals @ 3 kg/ cum	kg	47.61000	4.22	200.91
2	Coarse aggregate 20-10 mm	cum	8.25240	1635.00	13492.67
	Coarse aggregate 10 mm below	cum	4.44360	1190.00	5287.88
3	Fine aggregate (Un-Screened)	cum	6.98280	0.00	0.00
4	Super plasticiser	kg	17.77440	64.00	1137.56
5	Use rate of shuttering	sqm	15.87000	309.79	4916.37
6	Use rate of scaffolding @	15%			737.46
			Total cost of Materials	Rs:	**44524.84**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.00000	54.10	432.80
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
2	10 hp pump (ele)	Hour	1.00000	7.29	7.29
	Fuel / Energy charges	Hour	1.00000	84.60	84.60
3	Needle vibrator 40 mm dia (ele)	Hour	8.00000	8.10	64.80
	Fuel / Energy charges	Hour	8.00000	8.46	67.68
			Total hire charges of Machinery	Rs:	**995.57**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	1.00000	153.47	153.47
3	Crew for Needle vibrator	Hour	8.00000	290.10	2320.80
4	Mason Class-I	Day	1.00000	840.00	840.00
5	mazdoor				
	for batching cement (cement handling	Day	2.00000	680.00	1360.00
	for batching other materials	Day	9.00000	680.00	6120.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	3.00000	680.00	2040.00
	for conveying concrete	Day	15.87000	680.00	10791.60
	for cleaning / washing / curing	Day	1.00000	680.00	680.00
6	Labour cost of shuttering	sqm	15.87000	167.70	2661.40
7	Labour cost of scaffolding @	15%			399.21
			Total cost of Labour	Rs:	**33310.48**

labour component/unit qty		2099.00	
Add contractor's profit and overhead charges	13.615%	285.80	
labour component/unit qty (including contractor's profit)		**2384.80**	

ABSTRACT:

A. Cost of Materials					Rs:	44524.84
B. Hire charges of Machinery					Rs:	995.57
C. Cost of Labour					Rs:	33310.48
		Total			Rs:	78830.89
D.Add for contractor's profit and overheads on (A+B+C)			13.615%		Rs.	10732.83
Lead Charges for 1 Km for FA	6.98	cum @		46.41 Rs./Cum		324.08
Lead Charges for 1 Km for CA	12.70	cum @		44.62 Rs./Cum		566.45
Total cost for	15.87		cum		Rs:	**90454.25**
Rate per cum	(A+B+C+D)/15.87				Rs:	**5699.70**

IRR-DAW-2-9 Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm** down size approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for RCC works of spillway bridge, blockouts** and such other similar structures with conjested reinforcement **with initial lead upto 1 km and all lifts. (Cement content : 330 kg / cum with use of super plasticiser, CA : 0.80 cum, Blending Ratio of CA -- 65:35, FA : 0.44 cum)**

DATA: **RATE ANALYSIS**

UNIT: **13.47** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	4445.10000	4.22	18758.32
	Cement for incidentals @ 3 kg/ cum	kg	40.41000	4.22	170.53
2	Coarse aggregate 20-10 mm	cum	7.00440	1635.00	11452.19
	Coarse aggregate 10 mm below	cum	3.77160	1190.00	4488.20
3	Fine aggregate (Un-Screened)	cum	5.92680	0.00	0.00
4	Super plasticiser	ltr	17.78040	64.00	1137.95
5	Use rate of shuttering	sqm	33.67500	309.79	10432.18
6	Scaffolding of shuttering @	100%			10432.18
			Total cost of Materials	Rs:	**56871.55**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele	Hour	8.00000	54.10	432.80
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
2	10 hp pump (ele)	Hour	1.00000	7.29	7.29
	Fuel / Energy charges	Hour	1.00000	84.60	84.60
3	Needle vibrator 40 mm dia (ele)	Hour	8.00000	8.10	64.80
	Fuel / Energy charges	Hour	8.00000	8.46	67.68
			Total hire charges of Machinery	Rs:	**995.57**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	1.00000	153.47	153.47
3	Crew for Needle vibrator	Hour	8.00000	290.10	2320.80
4	Mason Class-I	Day	1.00000	840.00	840.00
	mazdoor				
	for batching cement (cement handling)	Day	2.00000	680.00	1360.00
	for batching other materials	Day	9.00000	680.00	6120.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	3.00000	680.00	2040.00
	for conveying concrete	Day	13.47000	680.00	9159.60
5	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
6	Labour cost of shuttering	sqm	33.67500	167.70	5647.30
7	Labour cost of scaffolding @	100%			5647.30
			Total cost of Labour	Rs:	**39912.47**

labour component/unit qty		2963.10
Add contractor's profit and overhead charges	13.615%	403.40
labour component/unit qty (including contractor's profit)		**3366.50**

ABSTRACT:

A. Cost of Materials					Rs:	56871.55
B. Hire charges of Machinery					Rs:	995.57
C. Cost of Labour					Rs:	39912.47
			Total		Rs:	97779.59
D.Add for contractor's profit and overheads on (A+B+C)				13.615%	Rs.	13312.69
Lead Charges for 1 Km for FA	5.93	cum @		46.41 Rs./Cum		275.07
Lead Charges for 1 Km for CA	10.78	cum @		44.62 Rs./Cum		480.79
Total cost for	13.47			cum	Rs:	**111848.14**
Rate per cum	(A+B+C+D)/13.47				Rs:	**8303.50**

IRR-DAW-2-10 Providing and **forming porous concrete body drain of size 68.5 x 68.5 cm** with 23 cm diameter central hole using cement and 20 mm down approved, clean, hard, graded coarse aggregates in 1 : 3.50 proportion by volume including cost of all materials, machinery, labour, formwork, curing etc., complete **with initial lead upto 1 km and all lifts.**
(M15 Cement content : 400kg/cum, CA : 1cum,
Blending Ratio of CA -- 65:35)

DATA: **RATE ANALYSIS**

UNIT: **20.00** Rm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement	kg	3424.00000	4.22	14449.28
2	Coarse aggregate 20-10 mm	cum	5.56400	1635.00	9097.14
3	Coarse aggregate 10-4.75 mm	cum	2.99600	1190.00	3565.24
4	Use rate of shuttering	sqm	76.00000	80.33	6105.08
			Total cost of Materials	Rs:	**33216.74**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.00000	54.10	432.80
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
2	10 hp pump (ele)	Hour	0.50000	7.29	3.65
	Fuel / Energy charges	Hour	0.50000	84.60	42.30
			Total hire charges of Machinery	Rs:	**817.15**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	153.47	76.74
3	Mason Class-I	Day	1.00000	840.00	840.00
4	mazdoor				
	for batching cement (cement handling	Day	2.00000	680.00	1360.00
	for batching other materials	Day	6.00000	680.00	4080.00
	for loading mortar pans	Day	2.00000	680.00	1360.00
	for laying & packing concrete	Day	2.00000	680.00	1360.00
	for conveying concrete	Day	8.56000	680.00	5820.80
5	Fitter shuttering	Day	3.00000	730.00	2190.00
			Total cost of Labour	Rs:	**20311.54**

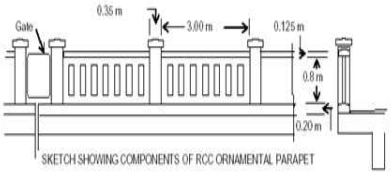
labour component/unit qty		1015.60
Add contractor's profit and overhead charges	13.615%	138.30
labour component/unit qty (including contractor's profit)		**1153.90**

ABSTRACT:

A. Cost of Materials				Rs:	33216.74
B. Hire charges of Machinery				Rs:	817.15
C. Cost of Labour				Rs:	20311.54
		Total		Rs:	54345.43
D.Add for contractor's profit and overheads on (A+B+C)			13.615%	Rs.	7399.13
Lead Charges for 1 Km for CA	8.56	cum @	44.62 Rs./Cum		381.92
Total cost for	20.00		Rm	Rs:	**62126.48**
Rate per Rm	(A+B+C+D)/20			Rs:	**3106.32**

IRR-DAW-2-11 (a) Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for **RCC solid parapet consisting of 35 cm x 20 cm kerb**, 35 cm x 35 cm x 1 m pillars spaced approximately at 3.35 m c / c, 12.5 cm thick wall 80 cm height with 12.5 cm thick and 35 cm wide coping slab for wall and 12 .5 cm thick 40 cm x 40 cm coping for pillars with top edges of kerb and coping chamferred / rounded as directed etc., **complete (excluding cost of providing and placing reinforcement steel and gate) with initial lead upto 1 km and all lifts. (Cement content 350 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80 cum, Blending Ratio of CA--65:35, FA : 0.44 cum)**

DATA: Consider one spillway bridge span of 18 m.
Consider solid parapet for rate analysis for one span.
Consider 0.9 wide opening for approach to pier top hoist platform on d / s side.



SKETCH SHOWING COMPONENTS OF RCC ORNAMENTAL PARAPET

DATA: **RATE ANALYSIS**

UNIT: **36.00** Rm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement mix	kg	3034.50000	4.22	12805.59
	Cement for incidentals @ 5 kg / cum	kg	43.35000	4.22	182.94
2	Coarse aggregate 20-10 mm	cum	4.51000	1635.00	7373.85
	Coarse aggregate 10-4.75 mm	cum	2.43000	1190.00	2891.70
3	Fine aggregate (Un-Screened)	cum	3.81000	0.00	0.00
4	Super plasticiser	kg	12.74490	64.00	815.67
5	Use rate of shuttering	sqm	95.00000	309.79	29430.05
6	Scaffolding of shuttering @	15%			4414.51
7	Sundries	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**57998.31**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.00000	54.10	432.80
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
2	Needle vibrator 40 mm (ele)	Hour	8.00000	8.10	64.80
	Fuel / Energy charges	Hour	8.00000	8.46	67.68
3	10 hp pump (ele)	Hour	0.50000	7.29	3.65
	Fuel / Energy charges	Hour	0.50000	84.60	42.30
			Total hire charges of Machinery	Rs:	**949.63**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	153.47	76.74
3	Crew for Vibrator	Hour	8.00000	290.10	2320.80
4	Mason Class-I	Day	2.00000	840.00	1680.00
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor				
	for batching cement (cement handling)	Day	2.00000	680.00	1360.00
	for batching other materials	Day	9.00000	680.00	6120.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying & packing concrete	Day	2.00000	680.00	1360.00
	for conveying concrete	Day	8.67000	680.00	5895.60
	for curing & miscellaneous	Day	2.00000	680.00	1360.00
7	Labour for shuttering	sqm	95.00000	167.70	15931.50
8	Labour for scaffolding @	15%			2389.73
			Total cost of Labour	Rs:	**45358.37**

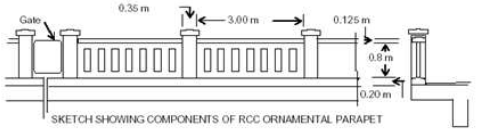
labour component/unit qty		1260.00
Add contractor's profit and overhead charges	13.615%	171.50
labour component/unit qty (including contractor's profit)		**1431.50**

ABSTRACT:

A. Cost of Materials				Rs:	57998.31
B. Hire charges of Machinery				Rs:	949.63
C. Cost of Labour				Rs:	45358.37
		Total		Rs:	104306.31
D.Add for contractor's profit and overheads on (A+B+C)			13.615%	Rs.	14201.3
Lead Charges for 1 Km for FA	3.81	cum @	46.41 Rs./Cum		176.83
Lead Charges for 1 Km for CA	6.94	cum @	44.62 Rs./Cum		309.64
Total cost for	36.00		Rm	Rs:	**118994.08**
Rate per Rm	(A+B+C+D)/36			Rs:	**3305.39**

IRR-DAW-2-12 (b) Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for **RCC ornamental parapet consisting of 35 cm x 20 cm kerb**, 35 cm x 35 cm x 1 m pillars spaced approximately at 3.5 m apart, 20 cm x 15 cm posts 80 cm height approximately 30 cm c / c with 12.5 cm thick and 35 cm wide coping slab for posts and pillars with top edges of kerb and coping chamferred or rounded as directed etc., **complete (excluding cost of providing and placing reinforcement steel and gate) with initial lead upto 1 km and all lifts. (Cement content : 350 kg / cum with use of super plasticiser(0.4% by wt. of cement, CA : 0.80 cum, Blending Ratio of CA--65:35, FA : 0.44 cum)**

DATA: Consider one spillway bridge span of 18 m.
Consider solid parapet for rate analysis for one span.
Consider 0.9 wide opening for approach to pier top hoist platform on d / s side.



SKETCH SHOWING COMPONENTS OF RCC ORNAMENTAL PARAPET

DATA: **RATE ANALYSIS**

UNIT: **36.00** Rm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement mix	kg	2450.00000	4.22	10339.00
	Cenent for incidentals @ 5 kg / cum	kg	35.00000	4.22	147.70
2	Coarse aggregate 20-10 mm	cum	3.64000	1635.00	5951.40
	Coarse aggregate 10-4.75 mm	cum	1.96000	1190.00	2332.40
3	Fine aggregate (Un-Screened)	cum	3.08000	0.00	0.00
4	Super plasticiser	kg	9.80000	64.00	627.20
5	Use rate of shuttering	sqm	115.00000	309.79	35625.85
6	Scaffolding of shuttering @	15%			5343.88
7	Sundries	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**60451.43**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele	Hour	8.00000	54.10	432.80
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
2	Needle vibrator 40 mm (ele)	Hour	8.00000	8.10	64.80
	Fuel / Energy charges	Hour	8.00000	8.46	67.68
3	10 hp pump (ele)	Hour	0.50000	7.29	3.65
	Fuel / Energy charges	Hour	0.50000	84.60	42.30
			Total hire charges of Machinery	Rs:	**949.63**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	153.47	76.74
3	Crew for Vibrator	Hour	8.00000	290.10	2320.80
4	Mason Class-I	Day	2.00000	840.00	1680.00
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor				
	for batching cement (cement handling)	Day	2.00000	680.00	1360.00
	for batching other materials	Day	9.00000	680.00	6120.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying & packing concrete	Day	2.00000	680.00	1360.00
	for conveying concrete	Day	7.00000	680.00	4760.00
	for curing & miscellaneous	Day	2.00000	680.00	1360.00
7	Labour for shuttering	sqm	115.00000	167.70	19285.50
8	Labour for scaffolding @	15%			2892.83
			Total cost of Labour	Rs:	**48079.87**

labour component/unit qty		1335.60
Add contractor's profit and overhead charges	13.615%	181.80
labour component/unit qty (including contractor's profit)		**1517.40**

ABSTRACT:

A. Cost of Materials					Rs:	60451.43
B. Hire charges of Machinery					Rs:	949.63
C. Cost of Labour					Rs:	48079.87
		Total			Rs:	109480.93
D.Add for contractor's profit and overheads on (A+B+C)			13.615%		Rs.	14905.83
Lead Charges for 1 Km for FA	3.08	cum @		46.41 Rs./Cum		142.95
Lead Charges for 1 Km for CA	5.60	cum @		44.62 Rs./Cum		249.85
Total cost for	36.00		Rm		Rs:	**124779.56**
Rate per Rm	(A+B+C+D)/36				Rs:	**3466.10**

IRR-DAW-2-13 Providing and **laying insitu M- 25** (28 days cube compressive strength not less than 25 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates for wearing coat including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position in alternate panels, levelling, compacting, finishing, curing, packing joints with asphalt mortar etc., **complete with initial lead upto 1 km and all lifts.**
(Cement content : 380 kg / cum with use of super plasticiser(0.4% by wt. of cement, CA : 0.80 cum, Blending Ratio of CA--65:35, FA : 0.45 cum)

DATA: **RATE ANALYSIS**

UNIT: **11.70** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	4446.00000	4.22	18762.12
	Cement for incidentals @ 5 kg / cum	kg	58.50000	4.22	246.87
2	Coarse aggregate 20-10 mm	cum	6.08400	1635.00	9947.34
	Coarse aggregate 10 mm below	cum	3.27600	1190.00	3898.44
3	Fine aggregate (Un-Screened)	cum	5.26500	0.00	0.00
4	Super Plasticizer	kg	17.78400	64.00	1138.18
5	Use rate of shuttering	sqm	5.85000	309.79	1812.27
6	Sundries (asphalt mortar etc)	LS	5.00000	42.00	210.00
			Total cost of Materials	Rs:	**36015.22**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300/200 ltr (ele)	Hour	8.00000	54.10	432.80
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
2	10 hp pump (ele)	Hour	0.50000	7.29	3.65
	Fuel / Energy charges	Hour	0.50000	84.60	42.30
			Total hire charges of Machinery	Rs:	**817.15**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	153.47	76.74
3	Mason Class-I	Day	3.00000	840.00	2520.00
4	work inspector	Day	1.00000	920.00	920.00
5	mazdoor				
	for batching cement (cement handling)	Day	2.00000	680.00	1360.00
	for batching materials	Day	9.00000	680.00	6120.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying & compacting	Day	5.00000	680.00	3400.00
	for conveying concrete	Day	11.70000	680.00	7956.00
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
6	Labour cost for shuttering	sqm	5.85000	167.70	981.05
			Total cost of Labour	Rs:	**29957.79**

labour component/unit qty		2560.50	
Add contractor's profit and overhead charges	13.615%	348.60	
labour component/unit qty (including contractor's profit)		**2909.10**	

ABSTRACT:

A. Cost of Materials					Rs:	36015.22
B. Hire charges of Machinery					Rs:	817.15
C. Cost of Labour					Rs:	29957.79
		Total			Rs:	66790.16
D.Add for contractor's profit and overheads on (A+B+C)			13.615%		Rs.	9093.48
Lead Charges for 1 Km for FA	5.27	cum @		46.41 Rs./Cum		244.36
Lead Charges for 1 Km for CA	9.36	cum @		44.62 Rs./Cum		417.61
Total cost for	11.70		cum		Rs:	**76545.61**
Rate per cum	(A+B+C+D)/11.70				Rs:	**6542.36**

IRR-DAW-2-14 **Pre-cooling to control placement temperature of cement concrete** in the range of 18 to 21 C at the concrete placement point by inundation of coarse aggregates and adding flaked ice as part of mixing water including cost of all materials, machinery, labour etc., **complete with all leads and lifts.**

DATA: **RATE ANALYSIS**

UNIT: **500** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sundries (amonia gas etc)	LS	3.00000	42.00	126.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**126.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Ice maker unit consisting of:	Hour	24.00000	190.00	4560.00
	Compressor 125 hp - 1 No				
	Condenser with 30 hp motor - 1 No.				
	Ice makers 10 t / day each - 3 Nos.				
	Pump 2 hp for ice cutting - 3 Nos.				
	Pump 2 hp for pumping water-3 Nos.				
	Screw conveyor with 15 hp motor -1				
	Ice elevator with 5 hp motor - 1 No.				
2	Fuel / Energy charges for system	Hour	24.00000	1205.50	28932.00
			Total hire charges of Machinery	Rs:	**33492.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Ice maker unit	Hour	24.00000	241.80	5803.20
2	mazdoor				
	for Ice chamber (2 x 3)	Day	6.00000	680.00	4080.00
	for miscellaneous works (1 x 3)	Day	3.00000	680.00	2040.00
			Total cost of Labour	Rs:	**11923.20**

labour component/unit qty		23.80
Add contractor's profit and overhead charges	13.615%	3.20
labour component/unit qty (including contractor's profit)		**27.00**

ABSTRACT:

A. Cost of Materials			Rs:	126.00
B. Hire charges of Machinery			Rs:	33492.00
C. Cost of Labour			Rs:	11923.20
		Total	Rs:	45541.20
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	6200.43
Total cost for	500.00	cum	Rs:	**51741.63**
Rate per cum	(A+B+C+D)/500		Rs:	**103.48**

IRR-DAW-2-15 Conveying and **fixing elastomeric bearing for spillway bridge** including cleaning and preparing surface, mixing and applying adhesive, fixing bearing in correct position etc., including cost of all materials except bearings, machinery, labour etc., complete **with all leads and lifts.**

DATA: **RATE ANALYSIS**

UNIT: **6.00** Nos.

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Synthetic adhesive (Resin + Hardener)	kg	0.60000	364.00	218.40
2	Sundries	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**302.40**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Marker / Erector	Day	1.00000	990.00	990.00
2	work inspector	Day	1.00000	920.00	920.00
3	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**3270.00**

labour component/unit qty		545.00
Add contractor's profit and overhead charges	13.615%	74.20
labour component/unit qty (including contractor's profit)		**619.20**

ABSTRACT:

A. Cost of Materials			Rs:	302.40
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	3270.00
		Total	Rs:	3572.40
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	486.38
Total cost for	6.00	Nos.	Rs:	**4058.78**
Rate per Each	(A+B+C+D)/6		Rs:	**676.46**

IRR-DAW-2-16 Providing and **constructing 150 mm dia hume pipe weep holes for concrete / masonry walls** including providing 20 x 20 x 20 cm size porous concrete block made of cement and 20 mm down coarse aggregate in 1 : 4 proportion including 10 cm thick sand backing at the junction of wall and soil back fill, cost of all materials, machinery, labour etc., complete **with lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

UNIT: **3.00** Rm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	150 mm dia hume pipe	Rm	2.90000	322.00	933.80
2	Cement	kg	3.00000	4.22	12.66
3	20 - 10 mm coarse aggregate	cum	0.00800	1635.00	13.08
4	Sand for filling	cum	0.02000	0.00	0.00
			Total cost of Materials	Rs:	**959.54**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Mason Class-II	Day	0.25000	730.00	182.50
2	mazdoor	Day	0.25000	680.00	170.00
			Total cost of Labour	Rs:	**352.50**

labour component/unit qty		117.50
Add contractor's profit and overhead charges	13.615%	16.00
labour component/unit qty (including contractor's profit)		**133.50**

ABSTRACT:

A. Cost of Materials				Rs:	959.54
B. Hire charges of Machinery				Rs:	0.00
C. Cost of Labour				Rs:	352.50
		Total		Rs:	1312.04
D.Add for contractor's profit and overheads on (A+B+C)			13.615%	Rs.	178.63
Lead Charges for 1 Km for FA	0.02	cum @	46.41 Rs./Cum		0.92823455
Lead Charges for 1 Km for CA	0.01	cum @	44.62 Rs./Cum		0.36
Total cost for	3.00	Rm		Rs:	**1491.96**
Rate per Rm	(A+B+C+D)/3			Rs:	**497.30**

IRR-DAW-2-17 Providing and **forming expansion joint for spillway bridge** consisting of 75 x 75 x 6 mm angles 2 numbers provided with 25 cm long 12 mm dia. anchors fixed to both flanges at 15 cm c /c and 140 x 6 mm plate welded on top of one of the angle including cost of all materials, machinery, labour, providing and fixing 38 mm thick joint filler board matching the thickness of wearing coat, painting etc., complete **with lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

UNIT: **7.50** Rm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Structural steel plate	kg	50.70000	61.00	3092.70
2	Structural steel angle	kg	104.50000	56.00	5852.00
3	12 dia steel anchors	kg	27.40000	55.00	1507.00
4	Welding electrodes	Nos	70.00000	17.00	1190.00
5	Joint filler board 19 mm thick	sqm	1.00000	713.00	713.00
6	Sundries (cutting gas / paint etc)	LS	1.50000	42.00	63.00
			Total cost of Materials	Rs:	**12417.70**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Welding set	Hour	8.00000	17.57	140.56
	Fuel / Energy charges	Hour	8.00000	101.52	812.16
2	Sundries (cutting torch/ welding guns etc)	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**1036.72**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Marker / Fabricator / Erector	Day	1.50000	990.00	1485.00
2	Gas cutter / Welder	Day	1.50000	820.00	1230.00
3	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**4075.00**

labour component/unit qty		543.30	
Add contractor's profit and overhead charges	13.615%	74.00	
labour component/unit qty (including contractor's profit)		**617.30**	

ABSTRACT:

A. Cost of Materials				Rs:	12417.70
B. Hire charges of Machinery				Rs:	1036.72
C. Cost of Labour				Rs:	4075.00
			Total	Rs:	17529.42
D.Add for contractor's profit and overheads on (A+B+C)			13.615%	Rs.	2386.63
Lead Charges for 1Km for Steel (including Loading and Unloading Charges)	0.18		tonne @	317.62 Rs./Tonne	58
Total cost for	7.50		Rm	Rs:	**19974.05**
Rate per Rm	(A+B+C+D)/7.50			Rs:	**2663.21**

IRR_DAW-3 **MASONRY & GUNITING WORKS :**

IRR-DAW-3-1 Providing and **constructing un-coursed rubble stone masonry** using approved stones **in cement mortar 1 : 3** proportion including cost of all materials, machinery, labour, scaffolding, cleaning, packing mortar, wedging stone chips, curing etc., complete **with initial lead upto 1 km and all lifts. (Cement content : 190 kg/cum of masonry, rubble stones : 0.85 cum, stone chips : 0.15 cum/cum, FA : 0.4 cum)**

DATA: **RATE ANALYSIS**

UNIT:

A. MATERIALS: **25.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mortar	kg	4750.00000	4.22	20045.00
2	Rubble stones	cum	21.25000	424.00	9010.00
3	Stone chips	cum	3.75000	498.00	1867.50
4	Sand (Screened)	cum	10.00000	128.00	1280.00
			Total cost of Materials	Rs:	**32202.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.00000	54.10	432.80
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
2	10 hp pump (ele)	Hour	1.00000	7.29	7.29
	Fuel / Energy charges	Hour	1.00000	84.60	84.60
			Total hire charges of Machinery	Rs:	**863.09**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	1.00000	153.47	153.47
3	work inspector	Day	1.00000	920.00	920.00
4	Mason Class-I	Day	2.50000	840.00	2100.00
5	Mason Class-II	Day	4.00000	730.00	2920.00
6	Chavali	Day	16.00000	730.00	11680.00
7	mazdoor				
	for batching cement (cement handling)	Day	2.00000	680.00	1360.00
	for batching sand	Day	6.00000	680.00	4080.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying & packing mortar	Day	10.00000	680.00	6800.00
	for loading chips	Day	1.00000	680.00	680.00
	for washing rubble / finishing / curing	Day	4.00000	680.00	2720.00
	for conveying mortar / chips	Day	12.00000	680.00	8160.00
			Total cost of Labour	Rs:	**47517.47**

labour component/unit qty		1900.70	
Add contractor's profit and overhead charges	13.615%	258.80	
labour component/unit qty (including contractor's profit)		**2159.50**	

ABSTRACT:

A. Cost of Materials			Rs:	32202.50
B. Hire charges of Machinery			Rs:	863.09
C. Cost of Labour			Rs:	47517.47
		Total	Rs:	80583.06
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	10971.38
Lead Charges for 1 Km for FA	10.00	cum @	46.41 Rs./Cum	464.12
Lead Charges for 1 Km for Stones/Stone Chips	25.00	cum @	44.62 Rs./Cum	1115.42
Total cost for	25.00	cum	Rs:	**93133.98**
Rate per cum	(A+B+C+D)/25		Rs:	**3725.36**

IRR-DAW-3-2 Providing and constructing **un-coursed rubble stone masonry** using approved stones in **cement mortar 1 : 4** proportion including cost of all materials, machinery, labour, scaffolding, cleaning, packing mortar, wedging stone chips, curing etc., complete **with initial lead upto 1 km and all lifts.**
(Cement content : 143 kg/cum of masonry, rubble stones : 0.85 cum, stone chips : 0.15 cum/cum, FA : 0.4 cum)
For 1 cum masonry :-

DATA: **RATE ANALYSIS**

UNIT: **25.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mortar	kg	3575.00000	4.22	15086.50
2	Rubble stones	cum	21.25000	424.00	9010.00
3	Stone chips	cum	3.75000	498.00	1867.50
4	Sand (Screened)	cum	10.00000	128.00	1280.00
			Total cost of Materials	Rs:	**27244.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr(ele)	Hour	8.00000	54.10	432.80
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
2	10 hp pump	Hour	1.00000	7.29	7.29
	Fuel / Energy charges	Hour	1.00000	84.60	84.60
			Total hire charges of Machinery	Rs:	**863.09**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	1.00000	153.47	153.47
3	work inspector	Day	1.00000	920.00	920.00
4	Mason Class-I	Day	2.50000	840.00	2100.00
5	Mason Class-II	Day	4.00000	730.00	2920.00
6	Chavali	Day	16.00000	730.00	11680.00
7	mazdoor				
	for batching cement (cement handling)	Day	2.00000	680.00	1360.00
	for batching sand	Day	6.00000	680.00	4080.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying & packing mortar	Day	10.00000	680.00	6800.00
	for loading chips	Day	1.00000	680.00	680.00
	for washing rubble / finishing / curing	Day	4.00000	680.00	2720.00
	for conveying mortar / chips	Day	12.00000	680.00	8160.00
			Total cost of Labour	Rs:	**47517.47**

labour component/unit qty		1900.70	
Add contractor's profit and overhead charges	13.615%	258.80	
labour component/unit qty (including contractor's profit)		**2159.50**	

ABSTRACT:

A. Cost of Materials			Rs:	27244.00
B. Hire charges of Machinery			Rs:	863.09
C. Cost of Labour			Rs:	47517.47
		Total	Rs:	75624.56
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	10296.28
Lead Charges for 1 Km for FA	10.00	cum @	46.41 Rs./Cum	464.12
Lead Charges for 1 Km for Stones/Stone Chips	25.00	cum @	44.62 Rs./Cum	1115.42
Total cost for	25.00	cum	Rs:	**87500.38**
Rate per cum	(A+B+C+D)/25		Rs:	**3500.02**

IRR-DAW-3-3 Providing and **constructing coursed rubble face stone masonry** using approved rubble stones **in cement mortar 1 : 3** proportion including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, curing etc., **with initial lead upto 1 km and all lifts.**

(Thickness of the CR face assumed: 0.75 m,Cement content : 178 kg/cum of masonry, rubble stones : 0.35 cum, stone chips : 0.15 cum/cum, FA : 0.375 cum, CR stones 30 x 30 x 45 cm : 9.75 No, CR stones 30 x 30 x 60 cm : 3.25 No)

DATA: **RATE ANALYSIS**

UNIT:

A. MATERIALS: **25.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mortar	kg	4450.00000	4.22	18779.00
2	Coursed rubble stone 30 x 30 x 45 cm	Nos	244.00000	34.00	8296.00
3	Coursed rubble stone 30 x 30 x 60 cm	Nos	82.00000	39.00	3198.00
4	Rubble stones	cum	8.75000	424.00	3710.00
5	Stone chips	cum	3.75000	498.00	1867.50
6	Sand (Screened)	cum	9.37500	128.00	1200.00
	Total cost of Materials			Rs:	**37050.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.00000	54.10	432.80
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
2	10 hp pump (ele)	Hour	1.00000	7.29	7.29
	Fuel / Energy charges	Hour	1.00000	84.60	84.60
			Total hire charges of Machinery	Rs:	**863.09**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	1.00000	153.47	153.47
3	work inspector	Day	1.00000	920.00	920.00
4	Stone chiseller Cl -II	Day	7.00000	730.00	5110.00
5	Mason Class-I	Day	2.50000	840.00	2100.00
6	Mason Class-II	Day	4.00000	730.00	2920.00
7	Chavali	Day	16.00000	730.00	11680.00
8	mazdoor				
	for batching cement (cement handling)	Day	2.00000	680.00	1360.00
	for batching sand	Day	6.00000	680.00	4080.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying & packing mortar	Day	10.00000	680.00	6800.00
	for loading chips	Day	1.00000	680.00	680.00
	for washing rubble / finishing / curing	Day	4.00000	680.00	2720.00
	for conveying mortar / chips	Day	12.00000	680.00	8160.00
			Total cost of Labour	Rs:	**52627.47**

labour component/unit qty		2105.10
Add contractor's profit and overhead charges	13.615%	286.60
labour component/unit qty (including contractor's profit)		**2391.70**

ABSTRACT:

A. Cost of Materials			Rs:	37050.50
B. Hire charges of Machinery			Rs:	863.09
C. Cost of Labour			Rs:	52627.47
		Total	Rs:	90541.06
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	12327.17
Lead Charges for 1 Km for FA	9.38	cum @	46.41 Rs./Cum	435.11
Lead Charges for 1 Km for Stones/Stone Chips	26.81	cum @	44.62 Rs./Cum	1196.17
Total cost for	25.00	cum	Rs:	**104499.51**
Rate per cum	(A+B+C+D)/25		Rs:	**4179.98**

IRR-DAW-3-4 Providing and **constructing coursed rubble face stone masonry** using approved rubble stones in **cement mortar 1 : 4** proportion including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, curing etc., **with initial lead upto 1 km and all lifts.**

(Cement content : 134 kg/cum of masonry, rubble stones : 0.35 cum, stone chips : 0.15 cum/cum, FA : 0.375 cum, CR stones 30 x 30 x 45 cm : 9.75 No, CR stones 30 x 30 x 60 cm : 3.25 No)

DATA: **RATE ANALYSIS**

UNIT: **25.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mortar	kg	3350.00000	4.22	14137.00
2	Coursed rubble stone 30 x 30 x 45 cm	Nos	244.00000	34.00	8296.00
3	Coursed rubble stone 30 x 30 x 60 cm	Nos	82.00000	39.00	3198.00
4	Rubble stones	cum	8.75000	424.00	3710.00
5	Stone chips	cum	3.75000	498.00	1867.50
6	Sand (Screened)	cum	9.37500	128.00	1200.00
			Total cost of Materials	Rs:	**32408.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.00000	54.10	432.80
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
2	10 hp pump (ele)	Hour	1.00000	7.29	7.29
	Fuel / Energy charges	Hour	1.00000	84.60	84.60
			Total hire charges of Machinery	Rs:	**863.09**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	1.00000	153.47	153.47
3	work inspector	Day	1.00000	920.00	920.00
4	Stone chiseller Cl -II	Day	7.00000	730.00	5110.00
5	Mason Class-I	Day	2.50000	840.00	2100.00
6	Mason Class-II	Day	4.00000	730.00	2920.00
7	Chavali	Day	16.00000	730.00	11680.00
8	mazdoor				
	for batching cement (cement handling)	Day	2.00000	680.00	1360.00
	for batching sand	Day	6.00000	680.00	4080.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying & packing mortar	Day	10.00000	680.00	6800.00
	for loading chips	Day	1.00000	680.00	680.00
	for washing rubble / finishing / curing	Day	4.00000	680.00	2720.00
	for conveying mortar / chips	Day	12.00000	680.00	8160.00
			Total cost of Labour	Rs:	**52627.47**

labour component/unit qty		2105.10	
Add contractor's profit and overhead charges	13.615%	286.60	
labour component/unit qty (including contractor's profit)		**2391.70**	

ABSTRACT:

A. Cost of Materials				Rs:	32408.50
B. Hire charges of Machinery				Rs:	863.09
C. Cost of Labour				Rs:	52627.47
		Total		Rs:	85899.06
D.Add for contractor's profit and overheads on (A+B+C)			13.615%	Rs.	11695.16
Lead Charges for 1 Km for FA	9.375		cum @	46.41 Rs./Cum	435.11
Lead Charges for 1 Km for Stones/Stone Chips	26.810		cum @	44.62 Rs./Cum	1196.17
Total cost for	25.00		cum	Rs:	**99225.50**
Rate per cum	(A+B+C+D)/25			Rs:	**3969.02**

IRR-DAW-3-5 Providing and **constructing chisel drafted and hammer dressed face stone masonry** with approved stones in **cement mortar 1 : 3** proportion including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, curing etc.,complete with **initial lead upto 1 km and all lifts.**
(Cement content : 167 kg/cum of masonry, rubble stones : 0.35 cum, stone chips : 0.15 cum/cum, FA : 0.35 cum,
Dressed stones 30 x 30 x 45 cm : 10 No, Dressed stones 30 x 30 x 60 cm : 3.40 No)

DATA: **RATE ANALYSIS**

UNIT: **25.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mortar	kg	4175.00000	4.22	17618.50
2	Coursed rubble stone 30 x 30 x 45 cm	Nos	250.00000	34.00	8500.00
3	Coursed rubble stone 30 x 30 x 60 cm	Nos	85.00000	39.00	3315.00
4	Rubble stones	cum	8.75000	424.00	3710.00
5	Stone chips	cum	3.75000	498.00	1867.50
6	Sand (Screened)	cum	8.75000	128.00	1120.00
			Total cost of Materials	Rs:	**36131.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.00000	54.10	432.80
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
2	10 hp pump (ele)	Hour	1.00000	7.29	7.29
	Fuel / Energy charges	Hour	1.00000	84.60	84.60
			Total hire charges of Machinery	Rs:	**863.09**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	1.00000	153.47	153.47
3	work inspector	Day	1.00000	920.00	920.00
4	Stone chiseller Cl -I	Day	14.00000	830.00	11620.00
5	Stone chiseller Cl -II	Day	7.00000	730.00	5110.00
6	Mason Class-I	Day	2.50000	840.00	2100.00
7	Mason Class-II	Day	4.00000	730.00	2920.00
8	Chavali	Day	16.00000	730.00	11680.00
9	mazdoor				
	for batching cement (cement handling)	Day	2.00000	680.00	1360.00
	for batching sand	Day	6.00000	680.00	4080.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying & packing mortar	Day	10.00000	680.00	6800.00
	for loading chips	Day	1.00000	680.00	680.00
	for washing rubble / finishing / curing	Day	4.00000	680.00	2720.00
	for conveying mortar / chips	Day	12.00000	680.00	8160.00
			Total cost of Labour	Rs:	**64247.47**

labour component/unit qty		2569.90	
Add contractor's profit and overhead charges	13.615%	349.90	
labour component/unit qty (including contractor's profit)		**2919.80**	

ABSTRACT:

A. Cost of Materials				Rs:	36131.00
B. Hire charges of Machinery				Rs:	863.09
C. Cost of Labour				Rs:	64247.47
		Total		Rs:	101241.56
D.Add for contractor's profit and overheads on (A+B+C)			13.615%	Rs.	13784.04
Lead Charges for 1 Km for FA	8.750		cum @	46.41 Rs./Cum	406.1
Lead Charges for 1 Km for Stones/Stone Chips	27.215		cum @	44.62 Rs./Cum	1214.24
Total cost for	25.00		cum	Rs:	**116645.94**
Rate per cum	(A+B+C+D)/25			Rs:	**4665.80**

IRR-DAW-3-6 Providing and **constructing chisel drafted and hammer dressed face stone masonry** with approved stones in **cement mortar 1 : 4** proportion including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, curing etc.,complete with **initial lead upto 1 km and all lifts.**
(Cement content : 125 kg/cum of masonry, rubble stones : 0.35 cum, stone chips : 0.15 cum/cum, FA : 0.35 cum,
Dressed stones 30 x 30 x 45 cm : 10 No, Dressed stones 30 x 30 x 60 cm : 3.40 No)

DATA: **RATE ANALYSIS**

UNIT:

A. MATERIALS: **25.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mortar	kg	3125.00000	4.22	13187.50
2	Coursed rubble stone 30 x 30 x 45 cm	Nos	250.00000	34.00	8500.00
3	Coursed rubble stone 30 x 30 x 60 cm	Nos	85.00000	39.00	3315.00
4	Rubble stones	cum	8.75000	424.00	3710.00
5	Stone chips	cum	3.75000	498.00	1867.50
6	Sand (Screened)	cum	8.75000	128.00	1120.00
			Total cost of Materials	Rs:	**31700.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.00000	54.10	432.80
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
2	10 hp pump (ele)	Hour	1.00000	7.29	7.29
	Fuel / Energy charges	Hour	1.00000	84.60	84.60
			Total hire charges of Machinery	Rs:	**863.09**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	1.00000	153.47	153.47
3	work inspector	Day	1.00000	920.00	920.00
4	Stone chiseller Cl -I	Day	14.00000	830.00	11620.00
5	Stone chiseller Cl -II	Day	7.00000	730.00	5110.00
6	Mason Class-I	Day	2.50000	840.00	2100.00
7	Mason Class-II	Day	4.00000	730.00	2920.00
8	Chavali	Day	16.00000	730.00	11680.00
9	mazdoor				
	for batching cement (cement handling	Day	2.00000	680.00	1360.00
	for batching sand	Day	6.00000	680.00	4080.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying & packing mortar	Day	10.00000	680.00	6800.00
	for loading chips	Day	1.00000	680.00	680.00
	for washing rubble / finishing / curing	Day	4.00000	680.00	2720.00
	for conveying mortar / chips	Day	12.00000	680.00	8160.00
	Total cost of Labour			Rs:	**64247.47**

labour component/unit qty		2569.90
Add contractor's profit and overhead charges	13.615%	349.90
labour component/unit qty (including contractor's profit)		**2919.80**

ABSTRACT:

A. Cost of Materials			Rs:	31700.00
B. Hire charges of Machinery			Rs:	863.09
C. Cost of Labour			Rs:	64247.47
		Total	Rs:	96810.56
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	13180.76
Lead Charges for 1 Km for FA	8.750	cum @	46.41 Rs./Cum	406.1
Lead Charges for 1 Km for Stones/Stone Chips	27.215	cum @	44.62 Rs./Cum	1214.24
Total cost for	25.00	cum	Rs:	**111611.66**
Rate per cum	(A+B+C+D)/25		Rs:	**4464.47**

IRR-DAW-3-7 Providing **cement mortar pointing to coursed rubble face stone masonry** 50 mm deep in **CM 1 : 2** proportion by volume including raking and cleaning joints, pressing mortar into joints, cost of all materials, labour, scaffolding, finishing, curing etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

UNIT: **100.00** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement	kg	455.44600	4.22	1921.98
2	Sand (Screened)	cum	0.73500	128.00	94.08
			Total cost of Materials	Rs:	**2016.06**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
	(Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Mason Class-I	Day	10.00000	840.00	8400.00
2	mazdoor	Day	10.00000	680.00	6800.00
			Total cost of Labour	Rs:	**15200.00**

labour component/unit qty		152.00
Add contractor's profit and overhead charges	13.615%	20.70
labour component/unit qty (including contractor's profit)		**172.70**

ABSTRACT:

A. Cost of Materials			Rs:	2016.06
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	15200.00
		Total	Rs:	17216.06
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	2343.97
Lead Charges for 1 Km for FA	0.735	cum @	46.41 Rs./Cum	34.11
Total cost for	100.00	sqm	Rs:	**19594.14**
Rate per sqm	(A+B+C+D)/100		Rs:	**195.94**

IRR-DAW-3-8 Providing **cement mortar pointing to coursed rubble face stone masonry** 50 mm deep in **CM 1 : 3** proportion by volume including raking and cleaning joints, pressing mortar into joints, cost of all materials, labour, scaffolding, finishing, curing etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

UNIT:

A. MATERIALS: **100.00** sqm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement	kg	321.80000	4.22	1358.00
2	Sand (Screened)	cum	0.73500	128.00	94.08
			Total cost of Materials	Rs:	**1452.08**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
	Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Mason Class-I	Day	10.00000	840.00	8400.00
2	mazdoor	Day	10.00000	680.00	6800.00
			Total cost of Labour	Rs:	**15200.00**

labour component/unit qty		152.00
Add contractor's profit and overhead charges	13.615%	20.70
labour component/unit qty (including contractor's profit)		**172.70**

ABSTRACT:

A. Cost of Materials			Rs:	1452.08
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	15200.00
		Total	Rs:	16652.08
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	2267.18
Lead Charges for 1 Km for FA	0.74	cum @	46.41 Rs./Cum	34.11
Total cost for	100.00	sqm	Rs:	**18953.37**
Rate per sqm	(A+B+C+D)/100		Rs:	**189.53**

IRR_DAW-4 **CONTRACTION JOINT WORKS:**

IRR-DAW-4-1 Providing **25 mm thick guniting to rock or masonry surface in cement mortar 1 : 3** proportion by weight including cost of all materials, machinery, labour, raking-out and cleaning joints, scaffolding wherever required and all other ancillary operations etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

UNIT :

A. MATERIALS: **36.00** sqm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement	kg	609.90000	4.22	2573.78
2	Sand (Screened)	cum	1.09000	128.00	139.52
3	Use rate of grout hose 25 m	Hour	8.00000	6.00	48.00
4	Use rate of water hose 25 m	Hour	8.00000	6.09	48.72
5	Use rate of guniting nozzle	Hour	8.00000	3.96	31.68
6	Sundries	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**2925.70**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Guniting equipment	Hour	8.00000	126.54	1012.32
	Fuel / Energy charges	Hour	8.00000	0.00	0.00
2	Air compressor 8.5 cmm (ele)	Hour	8.00000	177.65	1421.20
	Fuel / Energy charges	Hour	8.00000	475.86	3806.88
3	Pump 10 hp (ele)	Hour	1.00000	7.29	7.29
	Fuel / Energy charges	Hour	1.00000	84.60	84.60
4	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**6416.29**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Guniting equipment	Hour	8.00000	403.00	3224.00
2	Crew for Air compressor	Hour	8.00000	302.25	2418.00
3	Crew for pump	Hour	1.00000	153.47	153.47
4	Mason Cl II	Day	1.00000	730.00	730.00
5	mazdoor				
	for cement handling	Day	2.00000	680.00	1360.00
	for sand	Day	2.00000	680.00	1360.00
	mazdoor for other works	Day	2.00000	680.00	1360.00
	Total cost of Labour			Rs:	**10605.47**

labour component/unit qty		294.60
Add contractor's profit and overhead charges	13.615%	40.10
labour component/unit qty (including contractor's profit)		**334.70**

ABSTRACT:

A. Cost of Materials			Rs:	2925.70
B. Hire charges of Machinery			Rs:	6416.29
C. Cost of Labour			Rs:	10605.47
		Total	Rs:	19947.46
Add for scaffolding	3%			498.69
		Total	Rs:	20446.15
D.Add for contractor's profit and overheads on (A+B+C+other		13.615%	Rs.	2783.74
Lead Charges for 1 Km for FA	1.09	cum @	46.41 Rs./Cum	50.59
Total cost for	36.00	sqm	Rs:	**23280.48**
Rate per sqm	(A+B+C+D)/36		Rs:	**646.68**

IRR-DAW-4-2 Providing and **constructing contraction joints by fixing 16 SWG 60 cm wide annealed copper sheets** in two lines with 8 mm dia steel dowel rods on either side at one metre interval, forming 125 x 125 mm size groove in between copper strips for filling asphalt including fixing 15 mm dia two legged G.I pipe with U - bend at bottom for circulation of steam at intervals and forming 150 mm dia formed drain behind water seals including cost of all materials, machinery, labour, filling asphalt, circulation of steam through pipes etc., complete with all leads and lifts. consider 12 m height of contraction joint for analysis.

DATA: **RATE ANALYSIS**

UNIT: **12.00** Rm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Copper sheet 16 SWG	kg	215.00000	910.00	195650.00
2	Reinforcement steel 8 mm dia	kg	30.00000	55.00	1650.00
3	GI pipe 15 mm dia	Rm	24.00000	88.00	2112.00
4	Asphalt	kg	192.00000	53.00	10176.00
5	Elbows / Nipple / Plugs etc.,	LS	5.00000	20.00	100.00
6	Soldering materials	LS	40.00000	20.00	800.00
			Total cost of Materials	Rs:	**210488.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Steam circulation arrangement	LS	8.00000	20.00	160.00
	Fuel charges (gas for heating)	LS	10.00000	27.00	270.00
			Total hire charges of Machinery	Rs:	**430.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Welder	Day	1.00000	820.00	820.00
2	Tinsmith	Day	1.00000	790.00	790.00
3	Bar bender	Day	0.50000	990.00	495.00
4	Pipe fitter	Day	0.50000	935.00	467.50
5	Mason Class-I	Day	0.50000	840.00	420.00
6	mazdoor	Day	1.00000	680.00	680.00
			Total cost of Labour	Rs:	**3672.50**

labour component/unit qty		306.00
Add contractor's profit and overhead charges	13.615%	41.70
labour component/unit qty (including contractor's profit)		**347.70**

ABSTRACT:

A. Cost of Materials			Rs:	210488.00
B. Hire charges of Machinery			Rs:	430.00
C. Cost of Labour			Rs:	3672.50
		Total	Rs:	214590.50
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	29216.5
Total cost for	12.00 Rm		Rs:	**243807.00**
Rate per Rm	(A+B+C+D)/12		Rs:	**20317.25**

IRR-DAW-4-3 Providing and **constructing contraction joints by fixing 310 mm wide central bulb type approved quality PVC water stop** in two lines with 8 mm diameter steel dowel rods on either side at 1m interval, forming 125 x 125 mm size groove in between two water stops, providing & fixing 15 mm dia two legged G.I pipe with U-bend at bottom for circulation steam at interval, forming 150 mm diameter formed drain behind water seals including filling groove with asphalt, circulation of steam at intervals, cost of all materials, machinery, labour etc.**, complete with all leads and lifts.**

DATA: **RATE ANALYSIS**

UNIT: **12.00** Rm.

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	PVC water stops 310 mm wide	Rm	24.50000	437.00	10706.50
2	Reinforcement steel 8 mm dia	kg	30.00000	55.00	1650.00
3	GI pipe 15 mm dia	Rm	24.00000	88.00	2112.00
4	Asphalt	kg	192.00000	53.00	10176.00
5	Elbows / Nipple / Plugs etc.,	LS	5.00000	20.00	100.00
6	Vulcanizing materials	LS	25.00000	27.00	675.00
			Total cost of Materials	Rs:	**25419.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Steam circulation arrangement	LS	8.00000	20.00	160.00
	Fuel charges (gas for heating)	LS	10.00000	27.00	270.00
			Total hire charges of Machinery	Rs:	**430.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Welder	Day	0.50000	820.00	410.00
2	Bar bender	Day	0.50000	990.00	495.00
3	Pipe fitter	Day	0.50000	935.00	467.50
4	Mason Class-I	Day	0.50000	840.00	420.00
5	mazdoor	Day	1.00000	680.00	680.00
			Total cost of Labour	Rs:	**2472.50**

labour component/unit qty		206.00
Add contractor's profit and overhead charges	13.615%	28.00
labour component/unit qty (including contractor's profit)		**234.00**

ABSTRACT:

A. Cost of Materials			Rs:	25419.50
B. Hire charges of Machinery			Rs:	430.00
C. Cost of Labour			Rs:	2472.50
		Total	Rs:	28322.00
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	3856.04
Total cost for	12.00 Rm.		Rs:	**32178.04**
Rate per Rm.	(A+B+C+D)/12		Rs:	**2681.50**

IRR-DAW-4-4 Providing and **constructing contraction joints by fixing 16 SWG 60 cm wide annealed copper sheets** in single line with 8 mm dia steel dowel rods on either side at 1 metre interval including cost of all materials, machinery, labour etc., **complete with all leads and lifts.**

DATA: **RATE ANALYSIS**

UNIT: **8.7** Rm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Copper sheet 16 SWG	kg	77.00000	910.00	70070.00
2	Reinforcement steel 8 mm dia	kg	15.00000	55.00	825.00
3	Soldering materials	LS	10.00000	20.00	200.00
			Total cost of Materials	Rs:	**71095.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sundries such as soldering gun etc.,	LS	3.00000	42.00	126.00
	Fuel charges (gas)	LS	5.00000	27.00	135.00
			Total hire charges of Machinery	Rs:	**261.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Welder	Day	0.50000	820.00	410.00
2	Tinsmith	Day	0.50000	790.00	395.00
3	Bar bender	Day	0.50000	990.00	495.00
4	Mason Class-I	Day	0.50000	840.00	420.00
5	mazdoor	Day	0.50000	680.00	340.00
			Total cost of Labour	Rs:	**2060.00**

labour component/unit qty		236.80
Add contractor's profit and overhead charges	13.615%	32.20
labour component/unit qty (including contractor's profit)		**269.00**

ABSTRACT:

A. Cost of Materials		Rs:	71095.00
B. Hire charges of Machinery		Rs:	261.00
C. Cost of Labour		Rs:	2060.00
	Total	Rs:	73416.00
D.Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs.	9995.59
Total cost for 8.70 Rm		Rs:	**83411.59**
Rate per Rm (A+B+C+D)/8.70		Rs:	**9587.54**

IRR-DAW-4-5 Providing and **constructing contraction joints by fixing 23 cm wide central bulb type PVC water stop in single line** supported by 10 mm dia steel dowel rods on either side at 1 metre interval including cost of all materials, machinery, labour, valcunising joints etc., complete **with all leads and lifts.**

DATA: **RATE ANALYSIS**

UNIT: **8.70** Rm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	PVC water seal 23 cm wide	Rm	9.00000	42.00	378.00
2	Reinforcement steel 10 mm dia	kg	10.00000	55.00	550.00
3	Vulcanising materials	LS	2.00000	27.00	54.00
			Total cost of Materials	Rs:	**982.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sundries such as heater etc.,	LS	0.50000	42.00	21.00
2	Fuel charges for heating	LS	0.50000	27.00	13.50
	Total hire charges of Machinery				**34.50**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Welder	Day	0.50000	820.00	410.00
2	Bar bender	Day	0.50000	990.00	495.00
3	Mason Class-I	Day	0.50000	840.00	420.00
4	mazdoor	Day	0.50000	680.00	340.00
			Total cost of Labour	Rs:	**1665.00**

labour component/unit qty		191.40
Add contractor's profit and overhead charges	13.615%	26.10
labour component/unit qty (including contractor's profit)		**217.50**

ABSTRACT:

A. Cost of Materials		Rs:	982.00
B. Hire charges of Machinery		Rs:	34.50
C. Cost of Labour		Rs:	1665.00
	Total	Rs:	2681.50
D.Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs.	365.09
Total cost for 8.70 Rm		Rs:	**3046.59**
Rate per Rm (A+B+C+D)/8.70		Rs:	**350.18**

IRR_DAW-5 **EARTH / ROCKFILL EMBANKMENT WORKS :**

IRR-DAW-5-1 Providing **hearting embankment** using selected **impervious soil** from **approved borrow areas** in **layers of 25 to 30 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transportation, spreading soil in layer of specified thickness, breaking clods, sectioning, **watering**, compacting to density control of **not less than 95 percent** or as stipulated using **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

UNIT

A. MATERIALS: **825.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Angle dozer 90 hp	Hour	5.50000	1610.29	8856.60
	Fuel / Energy charges	Hour	5.50000	1110.54	6107.97
2	Shovel 0.85 cum capacity	Hour	8.00000	1749.78	13998.24
	Fuel / Energy charges	Hour	8.00000	1587.53	12700.24
3	Tippers 5.00 cum capacity 5 Nos.	Hour	40.00000	493.27	19730.80
	Fuel / Energy charges	Hour	40.00000	545.53	21821.20
4	Pump 5 hp (ele)	Hour	4.00000	3.27	13.08
	Fuel / Energy charges	Hour	4.00000	42.30	169.20
5	Water tanker 8000 ltr	Hour	8.00000	458.01	3664.08
	Fuel / Energy charges	Hour	8.00000	545.53	4364.24
6	Vibratory Roller 8 tonne	Hour	6.50000	1344.20	8737.30
	Fuel / Energy charges	Hour	6.50000	1876.16	12195.04
7	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**112441.99**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Dozer	Hour	5.50000	430.30	2366.65
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	40.00000	322.73	12909.20
4	Crew for Pump	Hour	4.00000	153.47	613.88
5	Crew for Water tanker	Hour	8.00000	316.88	2535.04
6	Crew for Roller	Hour	6.50000	483.60	3143.40
7	work inspector	Day	2.00000	920.00	1840.00
8	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**29570.57**

labour component/unit qty		35.80
Add contractor's profit and overhead charges	13.615%	4.90
labour component/unit qty (including contractor's profit)		**40.70**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	112441.99
C. Cost of Labour			Rs:	29570.57
		Total	Rs:	142012.56
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	19335.01
Total cost for	825.00 cum		Rs:	**161347.57**
Rate per cum	(A+B+C+D)/825		Rs:	**195.57**

IRR-DAW-5-2 **Providing cut-off trench filling** using selected **impervious soil** from **approved borrow areas** in **layers of 25 to 30 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transportation, spreading soil to specified thickness, breaking clods, sectioning, **watering**, compacting to density control of **not less than 95 percent** using **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** as stipulated etc., **complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

UNIT :

A. MATERIALS: **825.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Angle dozer 90 hp	Hour	5.50000	1610.29	8856.60
	Fuel / Energy charges	Hour	5.50000	1110.54	6107.97
2	Shovel 0.85 cum capacity	Hour	8.00000	1749.78	13998.24
	Fuel / Energy charges	Hour	8.00000	1587.53	12700.24
3	Tippers 5.00 cum capacity 6 Nos.	Hour	48.00000	493.27	23676.96
	Fuel / Energy charges	Hour	48.00000	545.53	26185.44
4	Pump 5 hp (ele)	Hour	4.00000	3.27	13.08
	Fuel / Energy charges	Hour	4.00000	42.30	169.20
5	Water tanker 8000 ltr	Hour	8.00000	458.01	3664.08
	Fuel / Energy charges	Hour	8.00000	545.53	4364.24
6	Vibratory Roller 8 tonne	Hour	6.50000	1344.20	8737.30
	Fuel / Energy charges	Hour	6.50000	1876.16	12195.04
7	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**120752.39**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Dozer	Hour	5.50000	430.30	2366.65
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	48.00000	322.73	15491.04
4	Crew for Pump	Hour	4.00000	153.47	613.88
5	Crew for Water tanker	Hour	8.00000	316.88	2535.04
6	Crew for Roller	Hour	6.50000	483.60	3143.40
7	work inspector	Day	2.00000	920.00	1840.00
8	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**32152.41**

labour component/unit qty		39.00
Add contractor's profit and overhead charges	13.615%	5.30
labour component/unit qty (including contractor's profit)		**44.30**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	120752.39
C. Cost of Labour			Rs:	32152.41
		Total	Rs:	152904.80
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	20817.99
Total cost for	825.00 cum		Rs:	**173722.79**
Rate per cum	(A+B+C+D)/825		Rs:	**210.57**

IRR-DAW-5-3 **Providing casing embankment** using **semi-pervious soil** from **approved borrow areas** in **layers of 25 to 30 cm** before compaction including cost of all materials, machinery, labour, all other operations such as excavation, sorting out, transportation, spreading soil in layers of specified thickness, breaking clods, sectioning, **watering**, compacting to density control of **not less than 95 percent** using **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** as stipulated etc., **complete with initial lead upto 1 km and all lifts.**

DATA:

RATE ANALYSIS

UNIT : **630** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Angle dozer 90 hp	Hour	4.00000	1610.29	6441.16
	Fuel / Energy charges	Hour	4.00000	1110.54	4442.16
2	Shovel 0.85 cum	Hour	8.00000	1749.78	13998.24
	Fuel / Energy charges	Hour	8.00000	1587.53	12700.24
3	Tipper 5 cum	Hour	32.00000	493.27	15784.64
	Fuel / Energy charges	Hour	32.00000	545.53	17456.96
4	Pump 5 hp (ele)	Hour	3.00000	3.27	9.81
	Fuel / Energy charges	Hour	3.00000	42.30	126.90
5	Water tanker 8000 ltr	Hour	5.00000	458.01	2290.05
	Fuel / Energy charges	Hour	5.00000	545.53	2727.65
6	Vibratory Roller 8 tonne	Hour	5.00000	1344.20	6721.00
	Fuel / Energy charges	Hour	5.00000	1876.16	9380.80
7	Sundries	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**92289.61**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Dozer	Hour	4.00000	430.30	1721.20
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	32.00000	322.73	10327.36
4	Crew for Pump	Hour	3.00000	153.47	460.41
5	Crew for Water tanker	Hour	5.00000	316.88	1584.40
6	Crew for Roller	Hour	5.00000	483.60	2418.00
7	work inspector	Day	2.00000	920.00	1840.00
8	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**24513.77**

labour component/unit qty		38.90
Add contractor's profit and overhead charges	13.615%	5.30
labour component/unit qty (including contractor's profit)		**44.20**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	92289.61
C. Cost of Labour			Rs:	24513.77
		Total	Rs:	116803.38
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	15902.78
Total cost for	630.00 cum		Rs:	**132706.16**
Rate per cum	(A+B+C+D)/630		Rs:	**210.64**

IRR-DAW-5-4 Providing **casing embankment** using **semi-pervious soil** available from excavation in **layers of 25 to 30 cm** before compaction including cost of all materials, machinery, labour, all other operations such as re-excavation, sorting out, transportation, spreading in layers of specified thickness, breaking clods, sectioning, **watering**, compacting to specified density control of **not less than 95 percent** using **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** as **stipulated etc.,complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

UNIT :

A. MATERIALS: **970.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Angle dozer 90 hp	Hour	4.60000	1610.29	7407.33
	Fuel / Energy charges	Hour	4.60000	1110.54	5108.48
2	Shovel 0.85 cum	Hour	8.00000	1749.78	13998.24
	Fuel / Energy charges	Hour	8.00000	1587.53	12700.24
3	Tipper 5 cum	Hour	48.00000	493.27	23676.96
	Fuel / Energy charges	Hour	48.00000	545.53	26185.44
4	Pump 5 hp (ele)	Hour	4.00000	3.27	13.08
	Fuel / Energy charges	Hour	4.00000	42.30	169.20
5	Water tanker 8000 ltr	Hour	8.00000	458.01	3664.08
	Fuel / Energy charges	Hour	8.00000	545.53	4364.24
6	Vibratory Roller 8 tonne	Hour	7.00000	1344.20	9409.40
	Fuel / Energy charges	Hour	7.00000	1876.16	13133.12
7	Sundries	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**120039.81**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Dozer	Hour	4.60000	430.30	1979.38
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	48.00000	322.73	15491.04
4	Crew for Pump	Hour	4.00000	153.47	613.88
5	Crew for Water tanker	Hour	8.00000	316.88	2535.04
6	Crew for Roller	Hour	7.00000	483.60	3385.20
7	work inspector	Day	2.00000	920.00	1840.00
8	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**32006.94**

labour component/unit qty		33.00
Add contractor's profit and overhead charges	13.615%	4.50
labour component/unit qty (including contractor's profit)		**37.50**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	120039.81
C. Cost of Labour			Rs:	32006.94
		Total	Rs:	152046.75
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	20701.17
Total cost for	970.00 cum		Rs:	**172747.92**
Rate per cum	(A+B+C+D)/970		Rs:	**178.09**

IRR-DAW-5-4-A 12) **Providing casing embankment** using **semi-pervious soil** available **from excavation in layers of 25 to 30 cm** before compaction including cost of all materials, machinery, labour, all other operations such as re-excavation, sorting out, transportation, spreading in layers of specified thickness, breaking clods, sectioning, **watering**, compacting to specified density control of **not less than 90 percent using** 2 Tonne Roller **as stipulated etc.,complete with initial lead upto 1 km and all lifts. (For Maintenance Works)**

DATA: **RATE ANALYSIS**

UNIT :

A. MATERIALS: **970.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
Total cost of Materials				Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Angle dozer 90 hp	Hour	4.60000	1610.29	7407.33
	Fuel / Energy charges	Hour	4.60000	1110.54	5108.48
2	Shovel 0.85 cum	Hour	8.00000	1749.78	13998.24
	Fuel / Energy charges	Hour	8.00000	1587.53	12700.24
3	Tipper 5 cum	Hour	48.00000	493.27	23676.96
	Fuel / Energy charges	Hour	48.00000	545.53	26185.44
4	Pump 5 hp (ele)	Hour	4.00000	3.27	13.08
	Fuel / Energy charges	Hour	4.00000	42.30	169.20
5	Water tanker 8000 ltr	Hour	8.00000	458.01	3664.08
	Fuel / Energy charges	Hour	8.00000	545.53	4364.24
6	Vibratory Roller 8 tonne	Hour	7.00000	1344.20	9409.40
	Fuel / Energy charges	Hour	7.00000	1876.16	13133.12
7	Sundries	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**120039.81**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Dozer	Hour	4.60000	430.30	1979.38
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	48.00000	322.73	15491.04
4	Crew for Pump	Hour	4.00000	153.47	613.88
5	Crew for Water tanker	Hour	8.00000	316.88	2535.04
6	Crew for Roller	Hour	7.00000	483.60	3385.20
7	work inspector	Day	2.00000	920.00	1840.00
8	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**32006.94**

labour component/unit qty		33.00
Add contractor's profit and overhead charges	13.615%	4.50
labour component/unit qty (including contractor's profit)		**37.50**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	120039.81
C. Cost of Labour			Rs:	32006.94
		Total	Rs:	152046.75
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	20701.17
Total cost for	970.00 cum		Rs:	**172747.92**
Rate per cum	(A+B+C+D)/970		Rs:	178.09
Deduct Rate for Proctar's density Control of 95% using 8T roller as per IRR-PMW-3-23				64.67
Add Rate for Proctor's Density control of 90% using 2T Roller as per IRR-PMW-3-24				10.42
Rate per cum			Rs.	**123.84**

IRR-DAW-5-5 Providing **homogeneous embankment** using soil from **approved borrow area in layers of 25 to 30 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transportation, spreading soil in layer of specified thickness, breaking clods, sectioning, **watering**, compacting to density control of **not less than 95 percent** or as stipulated using **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

UNIT : **807.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Angle dozer 90 hp	Hour	5.40000	1610.29	8695.57
	Fuel / Energy charges	Hour	5.40000	1110.54	5996.92
2	Shovel 0.85 cum capacity	Hour	8.00000	1749.78	13998.24
	Fuel / Energy charges	Hour	8.00000	1587.53	12700.24
3	Tippers 5.00 cum capacity 5 Nos.	Hour	40.00000	493.27	19730.80
	Fuel / Energy charges	Hour	40.00000	545.53	21821.20
4	Pump 5 hp (ele)	Hour	4.00000	3.27	13.08
	Fuel / Energy charges	Hour	4.00000	42.30	169.20
5	Water tanker 8000 ltr	Hour	8.00000	458.01	3664.08
	Fuel / Energy charges	Hour	8.00000	545.53	4364.24
6	Vibratory Roller 8 tonne	Hour	6.40000	1344.20	8602.88
	Fuel / Energy charges	Hour	6.40000	1876.16	12007.42
7	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**111847.87**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Dozer	Hour	5.40000	430.30	2323.62
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	40.00000	322.73	12909.20
4	Crew for Pump	Hour	4.00000	153.47	613.88
5	Crew for Water tanker	Hour	8.00000	316.88	2535.04
6	Crew for Roller	Hour	6.40000	483.60	3095.04
7	work inspector	Day	2.00000	920.00	1840.00
8	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**29479.18**

labour component/unit qty		36.50
Add contractor's profit and overhead charges	13.615%	5.00
labour component/unit qty (including contractor's profit)		**41.50**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	111847.87
C. Cost of Labour		Rs:	29479.18
	Total	Rs:	141327.05
D.Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs.	19241.68
Total cost for 807.00 cum		Rs:	**160568.73**
Rate per cum (A+B+C+D)/807		Rs:	**198.97**

IRR-DAW-5-6 Providing **embankment adjacent to masonry / concrete structures and filling trial pits** using **impervious soil** from **approved borrow areas** in **layers of 10 to 15 cm** and compacting each layer to density control of **not less than 95 percent using pneumatic tampers or by vibratory earth rammers** including cost of all materials, machinery, labour, picking previous layer, spreading soil in layer, breaking clods, **watering** etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **80** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of air hose	Hour	16.00000	12.00	192.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**192.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Angle dozer 90 hp	Hour	0.15000	1610.29	241.54
	Fuel / Energy charges	Hour	0.15000	1110.54	166.58
2	Shovel 0.85 cum	Hour	0.80000	1749.78	1399.82
	Fuel / Energy charges	Hour	0.80000	1587.53	1270.02
3	Tipper 5 cum	Hour	3.00000	493.27	1479.81
	Fuel / Energy charges	Hour	3.00000	545.53	1636.59
4	Air compressor 8.5 cmm (ele)	Hour	8.00000	177.65	1421.20
	Fuel / Energy charges	Hour	8.00000	475.86	3806.88
5	Pump 5 hp (ele)	Hour	0.40000	3.27	1.31
	Fuel / Energy charges	Hour	0.40000	42.30	16.92
6	Water tanker 8000 ltr	Hour	0.80000	458.01	366.41
	Fuel / Energy charges	Hour	0.80000	545.53	436.42
7	Pneumatic tampers 2 Nos.	Hour	16.00000	20.15	322.40
	Fuel / Energy charges	Hour	16.00000	0.00	0.00
8	Sundries	LS	1.00000	42.00	42.00
			Total hire charges of Machinery	Rs:	**12607.90**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Dozer	Hour	0.15000	430.30	64.55
2	Crew for Shovel	Hour	0.80000	430.30	344.24
3	Crew for Tipper	Hour	3.00000	322.73	968.19
4	Crew for Air compressor	Hour	8.00000	302.25	2418.00
5	Crew for Pump	Hour	0.40000	153.47	61.39
6	Crew for Water tanker	Hour	0.80000	316.88	253.50
7	Crew for Pneumatic tamper	Hour	16.00000	483.60	7737.60
8	work inspector	Day	1.00000	920.00	920.00
9	mazdoor	Day	5.00000	680.00	3400.00
			Total cost of Labour	Rs:	**16167.47**

labour component/unit qty		202.10
Add contractor's profit and overhead charges	13.615%	27.50
labour component/unit qty (including contractor's profit)		**229.60**

ABSTRACT:

A. Cost of Materials			Rs:	192.00
B. Hire charges of Machinery			Rs:	12607.90
C. Cost of Labour			Rs:	16167.47
		Total	Rs:	28967.37
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	3943.91
Total cost for	80.00 cum		Rs:	**32911.28**
Rate per cum	(A+B+C+D)/80		Rs:	**411.39**

IRR-DAW-5-7 Providing and **constructing rockfill embankment** with 300 mm down graded stones and quarry spalls from approved source including cost of all materials, machinery, labour, spreading stones and spalls in layers, hand packing, wedging, finishing the surface to required slopes etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **400** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of drill rod 2.5 m long	Rm	387.00000	47.47	18370.89
	Reconditioning charges @	10%			1837.09
2	Use rate of air hose 6 Nos.	Hour	60.00000	12.00	720.00
3	Explosive small dia	kg	118.00000	75.00	8850.00
4	Electric detonators	Nos	159.00000	12.00	1908.00
5	Detonator ordinary	Nos	8.00000	9.00	72.00
6	Fuse coil	Rm	200.00000	11.00	2200.00
7	Sundries (waste tyres etc)	LS	10.00000	42.00	420.00
			Total cost of Materials	Rs:	**34377.98**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Air compressor 8.5cmm(diesel)3 Nos	Hour	30.00000	288.50	8655.00
	Fuel / Energy charges	Hour	30.00000	1623.60	48708.00
2	Jack hammer 6 Nos	Hour	60.00000	19.11	1146.60
	Fuel / Energy charges	Hour	60.00000	0.00	0.00
3	Angle dozer 90 hp	Hour	4.00000	1610.29	6441.16
	Fuel / Energy charges	Hour	4.00000	1110.54	4442.16
4	Shovel 0.85 cum	Hour	8.00000	1749.78	13998.24
	Fuel / Energy charges	Hour	8.00000	1587.53	12700.24
5	Tipper 5 cum	Hour	24.00000	493.27	11838.48
	Fuel / Energy charges	Hour	24.00000	545.53	13092.72
			Total hire charges of Machinery	Rs:	**121022.60**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Air compressor	Hour	30.00000	386.88	11606.40
2	Crew for Jack hammer	Hour	60.00000	604.50	36270.00
3	Crew for Shovel	Hour	8.00000	430.30	3442.40
4	Crew for Tipper	Hour	24.00000	322.73	7745.52
5	Crew for Dozer	Hour	4.00000	430.30	1721.20
6	Blaster	Day	1.00000	925.00	925.00
7	Helper blaster	Day	1.00000	730.00	730.00
8	work inspector	Day	2.00000	920.00	1840.00
9	Mason Class-II	Day	2.00000	730.00	1460.00
10	mazdoor	Day	10.00000	680.00	6800.00
			Total cost of Labour	Rs:	**72540.52**

labour component/unit qty		181.40
Add contractor's profit and overhead charges	13.615%	24.70
labour component/unit qty (including contractor's profit)		**206.10**

ABSTRACT:

A. Cost of Materials			Rs:	34377.98
B. Hire charges of Machinery			Rs:	121022.60
C. Cost of Labour			Rs:	72540.52
		Total	Rs:	227941.10
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	31034.18
Total cost for	400.00 cum		Rs:	**258975.28**
Rate per cum	(A+B+C+D)/400		Rs:	**647.44**

IRR-DAW-5-8 **Providing and constructing dry rubble rock-toe** using rubble and stone chips from approved source including cost of all materials, machinery, labour, hand packing rubble and stone chips, finishing top and sides to required slopes etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of drill rod 1.5 m long	Rm	97.00000	47.47	4604.59
	Reconditionong charges @	10%			460.46
2	Use rate of air hose	Hour	15.00000	12.00	180.00
3	Explosive small dia	kg	30.00000	75.00	2250.00
4	Electric detonator	Nos	40.00000	12.00	480.00
5	Detonator ordinary	Nos	2.00000	9.00	18.00
6	Fuse coil	Rm	50.00000	11.00	550.00
7	Sundries	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**8627.05**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Air compressor 8.5 cmm (diesel)	Hour	7.50000	288.50	2163.75
	Fuel / Energy charges	Hour	7.50000	1623.60	12177.00
2	Jack hammer	Hour	15.00000	19.11	286.65
	Fuel / Energy charges	Hour	15.00000	0.00	0.00
3	Shovel 0.85 cum	Hour	2.00000	1749.78	3499.56
	Fuel / Energy charges	Hour	2.00000	1587.53	3175.06
4	Tipper 5 cum	Hour	6.00000	493.27	2959.62
	Fuel / Energy charges	Hour	6.00000	545.53	3273.18
			Total hire charges of Machinery	Rs:	**27534.82**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Air compressor	Hour	7.50000	386.88	2901.60
2	Crew for Jack hammer	Hour	15.00000	604.50	9067.50
3	Crew for Shovel	Hour	2.00000	430.30	860.60
4	Crew for Tipper	Hour	6.00000	322.73	1936.38
5	Blaster	Day	0.50000	925.00	462.50
6	Helper blaster	Day	1.00000	730.00	730.00
7	work inspector	Day	1.00000	920.00	920.00
8	Mason Class-II	Day	7.00000	730.00	5110.00
9	mazdoor	Day	19.00000	680.00	12920.00
			Total cost of Labour	Rs:	**34908.58**

labour component/unit qty		349.10
Add contractor's profit and overhead charges	13.615%	47.50
labour component/unit qty (including contractor's profit)		**396.60**

ABSTRACT:

A. Cost of Materials		Rs:	8627.05
B. Hire charges of Machinery		Rs:	27534.82
C. Cost of Labour		Rs:	34908.58
	Total	Rs:	71070.45
D.Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs.	9676.24
Total cost for 100.00 cum		Rs:	**80746.69**
Rate per cum (A+B+C+D)/100		Rs:	**807.47**

IRR-DAW-5-9 Providing and **constructing dry rubble rock-toe** with rubble and stone chips from **dump yard (Spoil Bank)** including cost of all materials, machinery, labour, hand packing rubble and stone chips, finishing top and sides to required slopes etc., complete **with initial lead upto 1 km and all lifts.**

Note: Useful rubble and stone chips will be issued at dump yard at the issue rate for usefull rubble / stone chips. Sorting out and breaking charges included in rate analysis.

DATA: **RATE ANALYSIS**

UNIT : **100** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Useful rubble (at dump yard)	cum	100.00000	219.00	21900.00
2	Useful stone chips (at dump yard)	cum	15.00000	254.00	3810.00
			Total cost of Materials	Rs:	**25710.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Shovel 0.85 cum	Hour	2.00000	1749.78	3499.56
	Fuel / Energy charges	Hour	2.00000	1587.53	3175.06
2	Tipper 5 cum	Hour	6.00000	493.27	2959.62
	Fuel / Energy charges	Hour	6.00000	545.53	3273.18
			Total hire charges of Machinery	Rs:	**12907.42**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Shovel	Hour	2.00000	430.30	860.60
2	Crew for Tipper	Hour	6.00000	322.73	1936.38
3	Mason Class-II	Day	7.00000	730.00	5110.00
4	work inspector	Day	1.00000	920.00	920.00
6	Stone breaker	Day	2.00000	730.00	1460.00
7	mazdoor	Day	21.00000	680.00	14280.00
			Total cost of Labour	Rs:	**24566.98**

labour component/unit qty		245.70
Add contractor's profit and overhead charges	13.615%	33.50
labour component/unit qty (including contractor's profit)		**279.20**

ABSTRACT:

A. Cost of Materials		Rs:	25710.00
B. Hire charges of Machinery		Rs:	12907.42
C. Cost of Labour		Rs:	24566.98
	Total	Rs:	63184.40
D.Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs.	8602.56
Total cost for 100.00 cum		Rs:	**71786.96**
Rate per cum (A+B+C+D)/100		Rs:	**717.87**

IRR-DAW-5-9-A (New Item 1 -20) Providing and constructing dry rock pitching for groynes/platform using un-coursed rubble stone of size 300 mm thick from quarry to site of work including cost of all materials, machinery, labour charge hand picking un-coursed rubble stone to the designed profile with all leads and all lifts etc for **Above Water level**

DATA: **RATE ANALYSIS**

UNIT : **100** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Un Coursed Rubble Stones at quarry	cum	100.00000	424.00	42400.00
2	Stone Chips at Quarry	cum	0.00000	498.00	0.00
			Total cost of Materials	Rs:	**42400.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
	Shovel 0.85 cum for loading tipper at the worksite	Hour	2.00000	1749.78	3499.56
1	Fuel / Energy charges	Hour	2.00000	1587.53	3175.06
2	Tipper 5 cum	Hour	6.00000	493.27	2959.62
	Fuel / Energy charges	Hour	6.00000	545.53	3273.18
			Total hire charges of Machinery	Rs:	**12907.42**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Shovel	Hour	2.00000	430.30	860.60
2	Crew for Tipper	Hour	6.00000	322.73	1936.38
3	Mason Class-II	Day	7.00000	730.00	5110.00
4	work inspector	Day	1.00000	920.00	920.00
5	Stone breaker	Day	2.00000	730.00	1460.00
6	mazdoor	Day	21.00000	680.00	14280.00
			Total cost of Labour	Rs:	**24566.98**

labour component/unit qty		245.70
Add contractor's profit and overhead charges	13.615%	33.50
labour component/unit qty (including contractor's profit)		**279.20**

ABSTRACT:

A. Cost of Materials		Rs:	42400.00
B. Hire charges of Machinery		Rs:	12907.42
C. Cost of Labour		Rs:	24566.98
	Total	Rs:	79874.40
D.Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs.	10874.9
Total cost for 100.00 cum		Rs:	**90749.30**
Rate per cum (A+B+C+D)/100		Rs:	**907.49**

IRR-DAW-5-9-B (New Item 2 -20) Providing and constructing dry rock pitching for groynes using un-coursed rubble stone of size 300 mm thick and un-coursed rubble stone chips from quarry to site of work including cost of all materials,machinery, labour charge hand picking un-coursed rubble stone and chips to the designed profile with all leads and all lifts etc for **Below Water level.**

DATA: **RATE ANALYSIS**

UNIT : **100** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Un Coursed Rubble Stones at quarry	cum	100.00000	424.00	42400.00
2	Stone Chips at Quarry	cum	0.00000	498.00	0.00
			Total cost of Materials	Rs:	**42400.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Shovel 0.85 cum for loading tipper at the worksite	Hour	2.00000	1749.78	3499.56
	Fuel / Energy charges	Hour	2.00000	1587.53	3175.06
2	Tipper 5 cum	Hour	6.00000	493.27	2959.62
	Fuel / Energy charges	Hour	6.00000	545.53	3273.18
			Total hire charges of Machinery	Rs:	**12907.42**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Shovel	Hour	2.00000	430.30	860.60
2	Crew for Tipper	Hour	6.00000	322.73	1936.38
			Total cost of Labour	Rs:	**2796.98**

labour component/unit qty		28.00
Add contractor's profit and overhead charges	13.615%	3.80
labour component/unit qty (including contractor's profit)		**31.80**

ABSTRACT:

A. Cost of Materials		Rs:	42400.00
B. Hire charges of Machinery		Rs:	12907.42
C. Cost of Labour		Rs:	2796.98
	Total	Rs:	58104.40
D.Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs.	7910.91
Total cost for 100.00 cum		Rs:	**66015.31**
Rate per cum (A+B+C+D)/100		Rs:	**660.15**

IRR-DAW-5-10 Providing and **laying 30 cm diameter open jointed hume pipes with collars in rock-toe** for drainage including cost of all materials, machinery, labour etc., complete **with lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** Rm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Hume pipe 300 mm dia.with collar	Rm	100.00000	664.00	66400.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**66400.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Mason Cl- II	Day	2.00000	730.00	1460.00
2	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**5540.00**

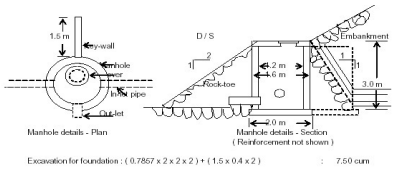
labour component/unit qty		55.40
Add contractor's profit and overhead charges	13.615%	7.50
labour component/unit qty (including contractor's profit)		**62.90**

ABSTRACT:

A. Cost of Materials		Rs:	66400.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	5540.00
	Total	Rs:	71940.00
D.Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs.	9794.63
Total cost for 100.00 Rm		Rs:	**81734.63**
Rate per Rm (A+B+C+D)/100		Rs:	**817.35**

IRR_DAW-6 **FILTER & PITCHING WORKS :**

IRR-DAW-6-1 Providing and **constructing 1.20 m internal diameter and average 3 m height RCC manhole** with 60 cm dia. top cover in **M-15** grade cement concrete using **20 mm down graded**, clean, hard coarse aggregate, 20 cm thick for bed / sides / top slab / 1.5 m long cut-off wall and 7.5 cm thick for cover including providing 12 mm dia reinforcement bars at 30 cm c / c bothways for bed / sides / cut-off wall / top slab / rungs and 8 mm dia bars at 15 cm c / c bothways for cover, excavation for foundation, providing 30 cm dia hume pipe outlet, cost of all materials, machinery, labour, formwork, scaffolding, batching, mixing, laying, vibrating, finishing, curing etc., complete **with lead upto 1 km and all lifts.**
(Cement content : 300 kg/cum , CA : 0.80 cum, Blending Ratioof CA -- 65:35, FA : 0.44 cum, superplasticizer (0.4% by wt. of cement)



DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT **1** Each

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement	kg	1331.70000	4.22	5619.77
	Cement for incidentals @ 3 kg / cum	kg	13.31700	4.22	56.20
2	Coarse aggregate 20 to 10 mm	cum	2.30828	1635.00	3774.04
	Coarse aggregate 10 to 4.75 mm	cum	1.24292	1190.00	1479.07
3	Fine aggregate (Un-Screened)	cum	1.95316	0.00	0.00
4	Super plasticiser	kg	23.64567	64.00	1513.32
5	Reinforcement steel with 5 % wastage	kg	163.69500	55.00	9003.23
6	Binding wire	kg	4.00000	70.00	280.00
7	Hume pipe 300 mm dia	Rm	1.00000	664.00	664.00
8	Use rate of shuttering	sqm	36.00000	309.79	11152.44
9	Scaffolding of shuttering @	5%			557.62
10	Sundries	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**34183.69**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 (ele)	Hour	4.00000	54.10	216.40
	Fuel / Energy charges	Hour	4.00000	42.30	169.20
2	Needle vibrator 40 mm dia (ele)	Hour	4.00000	8.10	32.40
	Fuel / Energy charges	Hour	4.00000	8.46	33.84
3	Pump 5 hp (ele)	Hour	0.50000	3.27	1.64
	Fuel / Energy charges	Hour	0.50000	42.30	21.15
4	Sundries	LS	1.00000	42.00	42.00
			Total hire charges of Machinery	Rs:	**516.63**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Mason Cl- II	Day	1.00000	730.00	730.00
2	Bar bender	Day	1.00000	990.00	990.00
3	work inspector	Day	1.00000	920.00	920.00
4	mazdoor				
	for excavation for foundation	Day	2.00000	680.00	1360.00
	for bar bending	Day	1.00000	680.00	680.00
	for concreting	Day	5.00000	680.00	3400.00
	for excavation for foundation	Day	2.00000	680.00	1360.00
	for concreting	Day	4.00000	680.00	2720.00
	for curing	Day	1.00000	680.00	680.00
5	Labour for shuttering	sqm	36.00000	167.70	6037.20
			Total cost of Labour	Rs:	**18877.20**

labour component/unit qty		18877.20	
Add contractor's profit and overhead charges	13.615%	2570.10	
labour component/unit qty (including contractor's profit)		**21447.30**	

ABSTRACT:

A. Cost of Materials				Rs:	34183.69
B. Hire charges of Machinery				Rs:	516.63
C. Cost of Labour				Rs:	18877.20
			Total	Rs:	53577.52
D.Add for contractor's profit and overheads on (A+B+C)			13.615%	Rs.	7294.58
Lead Charges for 1 Km for FA	1.95316	cum @	46.41 Rs./Cum		90.65
Lead Charges for 1 Km for CA	3.55120	cum @	44.62 Rs./Cum		158.44
Lead Charges for 1Km for Steel (including Loading and Unloading Charges)	0.163700	tonne @	317.62 Rs./Tonne		51.99
Total cost for	1.00		Each	Rs:	**61173.18**
Rate per Each	(A+B+C+D)/1.0			Rs:	**61173.18**

IRR-DAW-6-2 Providing and **constructing longitudinal and cross graded filter drains** using sand and 80-20 mm and 20 mm down graded aggregates satisfying specified filter creteria in layers as per specifications including cost of all materials, machinery, labour, laying to required slopes, compaction etc. complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Fine aggregate (Un-Screened)	cum	47.50000	0.00	0.00
2	Coarse aggregate 80-40 mm	cum	17.86500	848.00	15149.52
3	Coarse aggregate 40-20 mm	cum	1.98500	1562.00	3100.57
4	Coarse aggregate 20-10 mm	cum	24.48750	1635.00	40037.06
5	Coarse aggregate 10 mm down	cum	8.16250	1190.00	9713.38
			Total cost of Materials	Rs:	**68000.53**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00000	920.00	920.00
2	mazdoor	Day	38.00000	680.00	25840.00
			Total cost of Labour	Rs:	**26760.00**

labour component/unit qty		267.60	
Add contractor's profit and overhead charges	13.615%	36.40	
labour component/unit qty (including contractor's profit)		**304.00**	

ABSTRACT:

A. Cost of Materials				Rs:	68000.53
B. Hire charges of Machinery				Rs:	0.00
C. Cost of Labour				Rs:	26760.00
			Total	Rs:	94760.53
D.Add for contractor's profit and overheads on (A+B+C)			13.615%	Rs.	12901.65
Total cost for	100.00	cum		Rs:	**107662.18**
Rate per cum	(A+B+C+D)/100			Rs:	**1076.62**

IRR-DAW-6-3 Providing and **constructing 1.40 m thick vertical or inclined graded filter media** consisting of 20 cm thick sand layers, 25 cm thick 20 mm down coarse aggregate layers and 50 cm thick 80-20 mm coarse aggregate layer using approved materials satisfying specified filter creteria as per specifications including cost of all materials, machinery, labour, laying to required slope, compaction etc., **complete with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Fine aggregate (Un-Screened)	cum	28.60000	0.00	0.00
2	Coarse aggregate 80-40 mm	cum	32.13000	848.00	27246.24
3	Coarse aggregate 40-20 mm	cum	3.57000	1562.00	5576.34
4	Coarse aggregate 20-10 mm	cum	28.12500	1635.00	45984.38
5	Coarse aggregate 10 mm down	cum	8.92500	1190.00	10620.75
			Total cost of Materials	Rs:	**89427.71**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00000	920.00	920.00
2	mazdoor	Day	38.00000	680.00	25840.00
			Total cost of Labour	Rs:	**26760.00**

labour component/unit qty		267.60
Add contractor's profit and overhead charges	13.615%	36.40
labour component/unit qty (including contractor's profit)		**304.00**

ABSTRACT:

A. Cost of Materials			Rs:	89427.71
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	26760.00
		Total	Rs:	116187.71
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	15818.96
Total cost for	100.00 cum		Rs:	**132006.67**
Rate per cum	(A+B+C+D)/100		Rs:	**1320.07**

IRR-DAW-6-4 **Providing and constructing graded filter media below and behind rock-toe** consisting of 20 cm thick sand, 25 cm thick 20 - 4.75 mm and 40 cm thick 80 - 20 mm size graded coarse aggregates satisfying filter creteria as per specifications including cost of all materials, labour, machinery, laying to required slope, compaction etc., complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT **100** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Fine aggregate (Un-Screened)	cum	23.55000	0.00	0.00
2	Coarse aggregate 80-40 mm	cum	42.39000	848.00	35946.72
3	Coarse aggregate 40-20 mm	cum	4.71000	1562.00	7357.02
4	Coarse aggregate 20-10 mm	cum	22.05000	1635.00	36051.75
5	Coarse aggregate 10 mm down	cum	7.35000	1190.00	8746.50
			Total cost of Materials	Rs:	**88101.99**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00000	920.00	920.00
2	mazdoor	Day	34.00000	680.00	23120.00
			Total cost of Labour	Rs:	**24040.00**

labour component/unit qty		240.40
Add contractor's profit and overhead charges	13.615%	32.70
labour component/unit qty (including contractor's profit)		**273.10**

ABSTRACT:

A. Cost of Materials			Rs:	88101.99
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	24040.00
		Total	Rs:	112141.99
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	15268.13
Total cost for	100.00 cum		Rs:	**127410.12**
Rate per cum	(A+B+C+D)/100		Rs:	**1274.10**

IRR-DAW-6-4-A (New Item2- 2011-12) Providing and **constructing graded filter media below and behind rock-toe** consisting of 30 cm thick 80 - 20 mm size graded coarse aggregates satisfying filter creteria as per specifications including cost of all materials, labour, machinery, laying to required slope, compaction etc., complete **with initial lead upto 50 m and all lifts.**

DATA:

RATE ANALYSIS

A. MATERIALS: UNIT **100** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Coarse aggregate 80-40 mm	cum	35.00000	848.00	29680.00
2	Coarse aggregate 40-20 mm	cum	55.00000	1562.00	85910.00
3	Coarse aggregate 20-10 mm	cum	5.00000	1635.00	8175.00
4	Coarse aggregate 10 mm down	cum	5.00000	1190.00	5950.00
			Total cost of Materials	Rs:	**129715.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

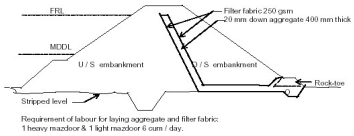
Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00000	920.00	920.00
2	mazdoor	Day	12.00000	680.00	8160.00
			Total cost of Labour	Rs:	**9080.00**

labour component/unit qty		90.80
Add contractor's profit and overhead charges	13.615%	12.40
labour component/unit qty (including contractor's profit)		**103.20**

ABSTRACT:

A. Cost of Materials			Rs:	129715.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	9080.00
		Total	Rs:	138795.00
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	18896.94
Total cost for	100.00 cum		Rs:	**157691.94**
Rate per cum	(A+B+C+D)/100		Rs:	**1576.92**

IRR-DAW-6-5 Providing and **laying filter media consisting of 2 layers of 250 gsm poly-propeline** non-woven filter fabric and 400 mm thick 20 mm down graded coarse aggregate for vertical / inclined and horizontal filter blanket for embankment including cost of all materials, machinery, labour etc., complete **with lead upto 50 m for aggregate and all leads for fabric and all lifts.**



DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** sqm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	PP filter fabric 250 gsm	sqm	220.00000	134.00	29480.00
2	20 - 10 mm CA @ 75 %	cum	30.00000	1635.00	49050.00
	10 mm down CA @ 25 %	cum	10.00000	1190.00	11900.00
			Total cost of Materials	Rs:	**90430.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00000	920.00	920.00
2	mazdoor	Day	14.00000	680.00	9520.00
			Total cost of Labour	Rs:	**10440.00**

labour component/unit qty		104.40
Add contractor's profit and overhead charges	13.615%	14.20
labour component/unit qty (including contractor's profit)		**118.60**

ABSTRACT:

A. Cost of Materials		Rs:	90430.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	10440.00
	Total	Rs:	100870.00
D.Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs.	13733.45
Total cost for 100.00 sqm		Rs:	**114603.45**
Rate per sqm (A+B+C+D)/100		Rs:	**1146.03**

IRR-DAW-6-6 Providing and **constructing 45 cm thick chimney filter** using clean approved sand satisfying filter creteria including cost of all materials, machinery, labour, compacting etc., complete with **initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sand (Un-Screened)	cum	105.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00000	920.00	920.00
2	mazdoor	Day	30.00000	680.00	20400.00
			Total cost of Labour	Rs:	**21320.00**

labour component/unit qty		213.20
Add contractor's profit and overhead charges	13.615%	29.00
labour component/unit qty (including contractor's profit)		**242.20**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	21320.00
	Total	Rs:	21320.00
D.Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs.	2902.72
Total cost for 100.00 cum		Rs:	**24222.72**
Rate per cum (A+B+C+D)/100		Rs:	**242.23**

IRR-DAW-6-7 Providing and **constructing 90 cm thick transition cum filter media behind rockfill** using approved sand and 80-20 mm and 20 mm down graded aggregates satisfying the filter creteria in layers of 30 cm thickness each as per specifications including cost of all materials, machinery, labour, laying each layer to required slope, compaction etc., complete with initial **lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** cum.

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sand (Un-Screened)	cum	34.00000	0.00	0.00
2	Coarse aggregate 80-40 mm	cum	30.60000	848.00	25948.80
3	Coarse aggregate 40-20 mm	cum	3.40000	1562.00	5310.80
4	Coarse aggregate 20-10 mm	cum	25.50000	1635.00	41692.50
5	Coarse aggregate 10 mm down	cum	8.50000	1190.00	10115.00
			Total cost of Materials	Rs:	**83067.10**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00000	920.00	920.00
2	mazdoor	Day	40.00000	680.00	27200.00
			Total cost of Labour	Rs:	**28120.00**

labour component/unit qty		281.20
Add contractor's profit and overhead charges	13.615%	38.30
labour component/unit qty (including contractor's profit)		**319.50**

ABSTRACT:

A. Cost of Materials		Rs:	83067.10
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	28120.00
	Total	Rs:	111187.10
D.Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs.	15138.12
Total cost for 100.00 cum.		Rs:	**126325.22**
Rate per cum. (A+B+C+D)/100		Rs:	**1263.25**

IRR-DAW-6-8 Providing and **constructing 60 cm thick hand packed rough stone revetment** with 65 to 75 cm long through stones at 1.50 m c / c over a backing of 45 cm thick graded filter media consisting of sand, 10 mm and 40 mm size approved graded aggregates laid in layers of 15 cm thick each including cost of all materials, machinery, labour, laying to required slopes, wedging with chips, finishing etc. complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** sqm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sand (Un-Screened)	cum	15.30000	0.00	0.00
2	Coarse aggregate 10 mm down	cum	15.30000	1190.00	18207.00
3	Coarse aggregate 40-20 mm	cum	15.30000	1562.00	23898.60
4	Stone chips	cum	9.00000	498.00	4482.00
5	Rough stones (rubble) 30 to 45 cm long	cum	57.60000	424.00	24422.40
6	Through stones 65 to 75 cm long	Nos	44.00000	78.00	3432.00
			Total cost of Materials	Rs:	**74442.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00000	920.00	920.00
2	Mason Class-II	Day	10.00000	730.00	7300.00
3	mazdoor	Day	33.00000	680.00	22440.00
			Total cost of Labour	Rs:	**30660.00**

labour component/unit qty 306.60
Add contractor's profit and overhead charges 13.615% 41.70
labour component/unit qty (including contractor's profit) **348.30**

ABSTRACT:

A. Cost of Materials		Rs:	74442.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	30660.00
	Total	Rs:	105102.00
D.Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs.	14309.64
Total cost for 100.00 sqm		Rs:	**119411.64**
Rate per sqm (A+B+C+D)/100		Rs:	**1194.12**

IRR-DAW-6-9 Providing and **constructing 60 cm thick hand packed rough stone revetment** with 65 to 75 cm long through stones at 1.50 m c / c over a backing of 60 cm thick graded filter media consisting of sand, 10 mm and 40 mm size approved graded aggregates laid in layers of 20 cm thick each including cost of all materials, machinery, labour, laying to required slopes, wedging with chips, finishing etc. complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** sqm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sand (Un-Screened)	cum	20.40000	0.00	0.00
2	Coarse aggregate 10 mm down	cum	20.40000	1190.00	24276.00
3	Coarse aggregate 40-20 mm	cum	20.40000	1562.00	31864.80
4	Stone chips	cum	9.00000	498.00	4482.00
5	Rough stones (rubble) 30 to 45 cm long	cum	57.60000	424.00	24422.40
6	Through stones 65 to 75 cm long	Nos	44.00000	78.00	3432.00
			Total cost of Materials	Rs:	**88477.20**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00000	920.00	920.00
2	Mason Class-II	Day	10.00000	730.00	7300.00
3	mazdoor	Day	39.00000	680.00	26520.00
			Total cost of Labour	Rs:	**34740.00**

labour component/unit qty 347.40
Add contractor's profit and overhead charges 13.615% 47.30
labour component/unit qty (including contractor's profit) **394.70**

ABSTRACT:

A. Cost of Materials		Rs:	88477.20
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	34740.00
	Total	Rs:	123217.20
D.Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs.	16776.02
Total cost for 100.00 sqm		Rs:	**139993.22**
Rate per sqm (A+B+C+D)/100		Rs:	**1399.93**

IRR-DAW-6-10 Providing and **constructing 60 cm thick hand packed rough stone riprap over a backing of 45 cm thick graded filter media** consisting of sand, 10 mm and 40 mm size graded approved aggregates laid in layers of 15 cm thick each including cost of all materials, machinery, labour, laying to required slopes, wedging with stone chips etc., complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** sqm.

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sand (Un-Screened)	cum	15.30000	0.00	0.00
2	Coarse aggregate 10 mm down	cum	15.30000	1190.00	18207.00
3	Coarse aggregate 40-20 mm	cum	15.30000	1562.00	23898.60
4	Stone chips	cum	9.00000	498.00	4482.00
5	Rough stones (rubble)	cum	60.00000	424.00	25440.00
			Total cost of Materials	Rs:	**72027.60**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00000	920.00	920.00
2	Mason Class-II	Day	5.00000	730.00	3650.00
3	mazdoor	Day	28.00000	680.00	19040.00
			Total cost of Labour	Rs:	**23610.00**

labour component/unit qty		236.10
Add contractor's profit and overhead charges	13.615%	32.10
labour component/unit qty (including contractor's profit)		**268.20**

ABSTRACT:

A. Cost of Materials		Rs:	72027.60
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	23610.00
	Total	Rs:	95637.60
D.Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs.	13021.06
Total cost for 100.00 sqm.		Rs:	**108658.66**
Rate per sqm. (A+B+C+D)/100		Rs:	**1086.59**

IRR-DAW-6-11 Providing and **constructing 75 cm thick hand packed rough stone riprap** over a backing of 45 cm thick graded filter media consisting of sand, 10 mm and 40 mm size graded approved aggregates laid in layers of 15 cm thick each including cost of all materials, machinery, labour, laying to required slopes, wedging with stone chips, etc., complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** sqm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sand (Un-Screened)	cum	15.30000	0.00	0.00
2	Coarse aggregate 10 mm down	cum	15.30000	1190.00	18207.00
3	Coarse aggregate 40-20 mm	cum	15.30000	1562.00	23898.60
4	Stone chips	cum	11.00000	498.00	5478.00
5	Rough stones (rubble)	cum	75.00000	424.00	31800.00
			Total cost of Materials	Rs:	**79383.60**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00000	920.00	920.00
2	Mason Class-II	Day	6.00000	730.00	4380.00
3	mazdoor	Day	30.00000	680.00	20400.00
			Total cost of Labour	Rs:	**25700.00**

labour component/unit qty		257.00
Add contractor's profit and overhead charges	13.615%	35.00
labour component/unit qty (including contractor's profit)		**292.00**

ABSTRACT:

A. Cost of Materials			Rs:	79383.60
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	25700.00
		Total	Rs:	105083.60
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	14307.13
Total cost for	100.00 sqm		Rs:	**119390.73**
Rate per sqm	(A+B+C+D)/100		Rs:	**1193.91**

IRR-DAW-6-12 Providing and **constructing 90 cm thick hand packed rough stone riprap over a backing of 45 cm thick graded filter media** consisting of sand, 10 mm and 40 mm size graded approved aggregates laid in layers of 15 cm thick each including cost of all materials, machinery, labour, laying to required slopes, wedging with stone chips etc., **complete with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** sqm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sand (Un-Screened)	cum	15.30000	0.00	0.00
2	Coarse aggregate 10 mm down	cum	15.30000	1190.00	18207.00
3	Coarse aggregate 40-20 mm	cum	15.30000	1562.00	23898.60
4	Stone chips	cum	13.50000	498.00	6723.00
5	Rough stones (rubble)	cum	90.00000	424.00	38160.00
			Total cost of Materials	Rs:	**86988.60**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00000	920.00	920.00
2	Mason Class-II	Day	8.00000	730.00	5840.00
3	mazdoor	Day	34.00000	680.00	23120.00
			Total cost of Labour	Rs:	**29880.00**

labour component/unit qty		298.80	
Add contractor's profit and overhead charges	13.615%	40.70	
labour component/unit qty (including contractor's profit)		**339.50**	

ABSTRACT:

A. Cost of Materials			Rs:	86988.60
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	29880.00
		Total	Rs:	116868.60
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	15911.66
Total cost for	100.00 sqm		Rs:	**132780.26**
Rate per sqm	(A+B+C+D)/100		Rs:	**1327.80**

IRR-DAW-6-13 Providing and **laying Hariyala or other approved quality turfing sods** for the slopes of earthen embankments over 20 mm thick sand backing including cost of all materials, machinery, labour including preparing surface, spreading sand, watering for 15 days etc., complete with **initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** sqm.

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sand for filling	cum	2.00000	0.00	0.00
2	Hariyala turfing sods	sqm	100.00000	358.00	35800.00
			Total cost of Materials	Rs:	**35800.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cartman with double bullock cart	Day	2.00000	810.00	1620.00
2	mazdoor	Day	15.00000	680.00	10200.00
			Total cost of Labour	Rs:	**11820.00**

labour component/unit qty		118.20	
Add contractor's profit and overhead charges	13.615%	16.10	
labour component/unit qty (including contractor's profit)		**134.30**	

ABSTRACT:

A. Cost of Materials			Rs:	35800.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	11820.00
		Total	Rs:	47620.00
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	6483.46
Lead Charges for 1 Km for FA	2.00	cum @	46.41 Rs./Cum	92.82
Total cost for	100.00 sqm.		Rs:	**54196.28**
Rate per sqm.	(A+B+C+D)/100		Rs:	**541.96**

Chapter - II

TUNNEL AND ALLIED WORKS - Standard Data

(WILL BE WITH E-N-C & TO INCORPORATE CHANGES YEARLY/ AS NEEDED)
FOR THE YEAR :2026-27

Index- code

TUNNEL AND ALLIED WORKS - DATA RATES

IRR-TAW

Directions to add Seigniorage Charges and Additional Lead Charges

Seigniorage Charges:

1. The unit rate for work item in the Standard Data is **exclusive of Seigniorage Charges** wherever applicable.
2. The appropriate Seigniorage Charges for relevant materials are to be added in the Part-B of the estimate

Additional Lead and Lift Charges:

1. Unless otherwise specified the basic rates are inclusive of all lifts.
2. For concrete, masonry and reinforcement items **wherever** initial lead of 1km is considered in the basic rate, the additional lead charges are to be added as follows:

Additional lead charges for Steel, sand, coarse aggregate, stones and stone chips shall be worked out for total lead involved and 1 km lead charges included in basic rate shall be deducted from total lead charges. No loading and unloading charges shall be allowed for any item.

In case of Cement and Steel, Loading and unloading charges are already added in the work item while arriving the unit rate and hence should not be added again

Example:

Total lead for sand from approved sand quarry :			15	Km
Initial lead included in the basic rate in the basic item rate in the data (i.e., item specification) :			1	Km
Additional lead charges :	Lead charges for 5 km	Rs.	123.75	
	Lead charges for next 10 km	Rs.	185.65	
	Total lead charges for 15 km /cum	Rs.	309.40	
	Less 1 km initial lead charges /cum	Rs.	46.41	(-)
	Net additional lead charges / cum	Rs.	262.99	

3. The Leads for Steel shall be from the nearest market place to the Project area

4. For earth/rockfill embankments **wherever** initial lead of 1km is considered in the basic rate, the additional lead charges are to be added as follows:

Additional lead charges for Earth, Murrum etc., shall be worked out for total lead involved and 1 km lead charges included in basic rate shall be deducted from total lead charges. No loading and unloading charges shall be allowed for any item. (same as above)

Example:

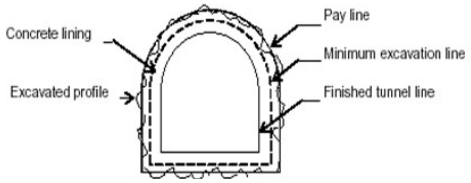
Total lead for earth from approved borrow area :			15	Km
Initial lead included in the basic rate in the basic item rate in the data (i.e., item specification) :			1	Km
Additional lead charges :	Lead charges for 5 km	Rs.	123.75	
	Lead charges for next 10 km	Rs.	185.65	
	Total lead charges for 15 km /cum	Rs.	309.40	
	Less 1 km initial lead charges /cum	Rs.	46.41	(-)
	Net additional lead charges / cum	Rs.	262.99	

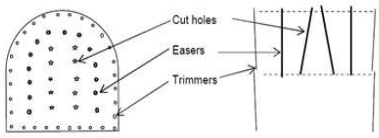
5. The initial lead up to 50 m as mentioned in some standard data items is meant for manual lead within the working area. For conveyance of materials, the lead required from quarry/Borrow area/ Dump Area to worksite shall be added to the data without deducting the 50 m initial lead charges

TAW -Work Items

IRR-TAW-1 **EXCAVATION :**

IRR-TAW-1-1 **Excavation for adit by tunnelling methods in all types of rock** including cost of all materials, machinery, labour, scaling excavated surface, ventilation, lighting, drainage, removing and hauling the excavated muck outside adit upto specified dump area and all other ancillary operations etc., complete **with initial lead upto 1km and all lifts.**





TYPICAL DRILLING PATTERN FOR ADIT / TUNNEL

DATA: **RATE ANALYSIS** UNIT : **38.50** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Small dia explosive	kg	40.00000	75.00	3000.00
2	Delay detonators	Nos	54.00000	24.00	1296.00
3	Electric detonators	Nos	5.00000	12.00	60.00
4	Detonating fuse coil	Rm	50.00000	11.00	550.00
5	Use rate of drill rod 2.5 m long	Rm	119.00000	47.47	5648.53
	Reconditioning charges @	10%			564.85
6	Use rate of air hose	Hour	20.00000	6.00	120.00
7	Use rate of water hose	Hour	20.00000	6.09	121.88
8	Sundries(paint / template etc)	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**11445.26**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling jumbo	Hour	8.00000	396.21	3169.68
	Fuel / Energy charges	Hour	8.00000	77.94	623.52
2	Air compressor 15 cmm (ele)	Hour	5.00000	140.61	703.05
	Fuel / Energy charges	Hour	5.00000	1057.45	5287.25
3	Jack hammer (4 x 5 hrs)	Hour	20.00000	19.11	382.20
	Fuel / Energy charges	Hour	20.00000	0.00	0.00
4	Pusher leg	Hour	20.00000	15.15	303.00
	Fuel / Energy charges	Hour	20.00000	0.00	0.00
5	Convey mucker	Hour	6.50000	834.82	5426.33
	Fuel / Energy charges	Hour	6.50000	294.40	1913.60
6	Dumper (1 x 6.5 hrs)	Hour	6.50000	641.87	4172.16
	Fuel / Energy charges	Hour	6.50000	727.38	4727.97
7	Pump 10 hp (ele)	Hour	5.00000	7.29	36.45
	Fuel / Energy charges	Hour	5.00000	84.60	423.00
8	Ventilation fans 20 hp	Hour	1.00000	12.99	12.99
	Fuel / Energy charges	Hour	1.00000	169.19	169.19
9	Sundries(explosive van / magazine)	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**27434.39**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling jumbo	Hour	8.00000	322.40	2579.20
2	Crew for Air compressor	Hour	5.00000	322.40	1612.00
3	Crew for Jack hammer	Hour	20.00000	604.50	12090.00
4	Crew for Convey mucker	Hour	6.50000	322.40	2095.60
5	Crew for Dumper	Hour	6.50000	413.09	2685.09
6	Crew for Pump	Hour	5.00000	153.47	767.35
7	Crew for ventilation fans	Hour	1.00000	52.94	52.94
8	Surveyor	Day	0.50000	1255.00	627.50
9	Foreman	Day	1.00000	925.00	925.00
10	Fitter / Mechanic	Day	2.00000	850.00	1700.00
11	Blaster (Licensed)	Day	1.00000	925.00	925.00
12	Helper blasting	Day	2.00000	730.00	1460.00
13	Hammerman	Day	2.00000	730.00	1460.00
14	work inspector 1 in each shift	Day	3.00000	920.00	2760.00
15	Khalasi for mucking shift 4 Nos	Day	4.00000	820.00	3280.00
16	mazdoor				
	for mucking shift 4 Nos	Day	4.00000	680.00	2720.00
	for other 2 shifts 1 No each shift	Day	2.00000	680.00	1360.00
	for cleaning & miscellaneous	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**40459.68**

labour component/unit qty		1050.90
Add contractor's profit and overhead charges	13.615%	143.10
labour component/unit qty (including contractor's profit)		**1194.00**

ABSTRACT:

A. Cost of Materials			Rs:	11445.26
B. Hire charges of Machinery			Rs:	27434.39
C. Cost of Labour			Rs:	40459.68
		Total	Rs:	79339.33
Add for Air and Water line @	1.00%		Rs:	793.39
Add for Ventilation @	4.50%		Rs:	3570.27
Add for Lighting @	1.60%		Rs:	1269.43
Add for Ele sub-station / Demand charges @	2.50%		Rs:	1983.48
		Total	Rs:	86955.90
D.Add for contractor's profit and overheads on (A+B+C+other percentages)	13.615%		Rs:	11839.05
Total cost for	38.50 cum		Rs:	**98794.95**
Rate per cum	(A+B+C+D)/38.50		Rs:	**2566.10**

IRR-TAW-1-2 **Excavation for vertical / inclined shaft in all types of soft / hard rock** including cost of all materials, machinery, labour, shoring, strutting, scaling excavated surface, ventilation, lighting, drainage, removing and hauling excavated muck outside shaft upto specified dump area and all other ancillary operations etc., complete **with initial lead upto 1 km and all lifts.**

DATA **RATE ANALYSIS** UNIT : **30.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Small dia explosive	kg	32.00000	75.00	2400.00
2	Electric detonator	Nos	65.00000	12.00	780.00
3	Detonating fuse coil	Rm	50.00000	11.00	550.00
4	Use rate of drill rod 1.6 m long	Rm	95.00000	31.71	3012.45
5	Reconditioning charges @	10%			301.25
6	Use rate of air hose	Hour	18.00000	24.00	432.00
7	Use rate of water hose	Hour	16.00000	24.38	390.08
8	Use rate of rail track	Shift	3.00000	159.74	479.22
9	Use rate of mucking bucket	Hour	24.00000	11.02	264.48
10	Sundries(paint / template etc)	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**8693.48**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air compressor 15 cmm (ele)	Hour	4.50000	140.61	632.75
	Fuel / Energy charges	Hour	4.50000	1057.45	4758.53
2	Jack hammer (4 x 4 hrs)	Hour	16.00000	19.11	305.76
	Fuel / Energy charges	Hour	16.00000	0.00	0.00
3	Pump 10 hp (ele)	Hour	4.00000	7.29	29.16
	Fuel / Energy charges	Hour	4.00000	84.60	338.40
4	Pump 20 hp electric	Hour	2.00000	13.68	27.36
	Fuel / Energy charges	Hour	2.00000	169.19	338.38
5	Winch 35 hp electric	Hour	28.00000	143.13	4007.64
	Fuel / Energy charges	Hour	28.00000	207.26	5803.28
6	Tipping tub 1.5 cum	Hour	24.00000	75.02	1800.48
	Fuel / Energy charges	Hour	24.00000	0.00	0.00
7	Sundries(explosive van / magazine)	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**18125.74**

C. LABOUR:

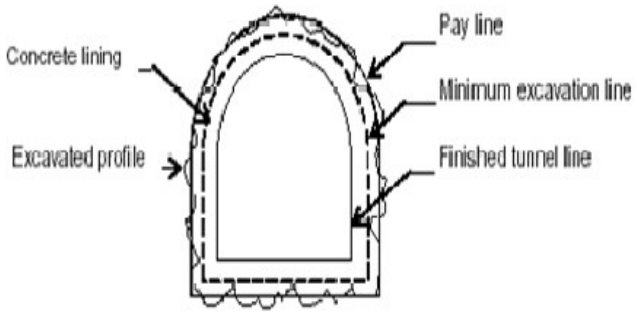
Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Air compressor	Hour	4.50000	322.40	1450.80
2	Crew for Jack hammer	Hour	16.00000	604.50	9672.00
3	Crew for Pump 10 hp	Hour	4.00000	153.47	613.88
4	Crew for Pump 20 hp	Hour	2.00000	153.47	306.94
5	Crew for Winch	Hour	28.00000	483.60	13540.80
6	Surveyor	Day	0.50000	1255.00	627.50
7	Foreman	Day	4.00000	925.00	3700.00
8	Fitter / Mechanic	Day	2.00000	850.00	1700.00
9	Blaster (Licensed)	Day	1.00000	925.00	925.00
10	Helper blasting	Day	2.00000	730.00	1460.00
11	Hammerman 1 No. in each shift	Day	3.00000	730.00	2190.00
12	work inspector 1 in each shift	Day	4.00000	920.00	3680.00
13	Khalasi for mucking 2 Nos in each shift	Day	6.00000	820.00	4920.00
14	mazdoor				
	for mucking 8 Nos in each shift	Day	24.00000	680.00	16320.00
	for other 2 shifts 1 No / shift	Day	2.00000	680.00	1360.00
	for cleaning & miscellaneous	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**63826.92**

labour component/unit qty		2127.60
Add contractor's profit and overhead charges	13.615%	289.70
labour component/unit qty (including contractor's profit)		**2417.30**

ABSTRACT:

A. Cost of Materials			Rs:	8693.48
B. Hire charges of Machinery			Rs:	18125.74
C. Cost of Labour			Rs:	63826.92
		Total	Rs:	90646.14
Add for Air and Water line @	1.00%		Rs:	906.46
Add for Ventilation @	4.50%		Rs:	4079.08
Add for Lighting @	1.60%		Rs:	1450.34
Add for Ele sub-station / Demand charges @	2.50%		Rs:	2266.15
		Total	Rs:	99348.17
D.Add for contractor's profit and overheads on (A+B+C+other percentages)	13.615%		Rs:	13526.25
Total cost for	30.00 cum		Rs:	**112874.42**
Rate per cum	(A+B+C+D)/30.0		Rs:	**3762.48**

IRR-TAW-1-3 **Excavation for tunnel by tunnelling methods in rock not requiring supports** including cost of all materials,machinery, labour, scaling excavated surface, removing under-cuts, ventilation, lighting, drainage, removing and hauling the excavated muck outside tunnel upto specified dump area and all other ancillary operations etc., complete **with initial lead upto 1 km and all lifts.**



TYPICAL CROSS SECTION OF TUNNEL 4.50 m dia.

DATA: **RATE ANALYSIS** UNIT : **48.60** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Small dia explosive	kg	54.00000	75.00	4050.00
2	Delay detonators	Nos	68.00000	24.00	1632.00
3	Electric detonators	Nos	10.00000	12.00	120.00
4	Detonating fuse coil	Rm	50.00000	11.00	550.00
5	Use rate of drill rod 2.5 m long	Rm	150.00000	47.47	7120.50
	Reconditioning charges @	10%			712.05
6	Use rate of air hose	Hour	24.00000	6.00	144.00
7	Use rate of water hose	Hour	24.00000	6.09	146.16
8	Sundries(paint / template etc)	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**14558.71**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling jumbo	Hour	10.00000	396.21	3962.10
	Fuel / Energy charges	Hour	10.00000	77.94	779.40
2	Air compressor 15 cmm (ele)	Hour	6.50000	140.61	913.97
	Fuel / Energy charges	Hour	6.50000	1057.45	6873.43
3	Jack hammer (4 x 6.5 hrs)	Hour	26.00000	19.11	496.86
	Fuel / Energy charges	Hour	26.00000	0.00	0.00
4	Pusher leg	Hour	26.00000	15.15	393.90
	Fuel / Energy charges	Hour	26.00000	0.00	0.00
5	Convey mucker	Hour	6.00000	834.82	5008.92
	Fuel / Energy charges	Hour	6.00000	294.40	1766.40
6	Dumper (2 x 6 hrs)	Hour	12.00000	641.87	7702.44
	Fuel / Energy charges	Hour	12.00000	727.38	8728.56
7	Pump 10 hp (ele)	Hour	6.50000	7.29	47.39
	Fuel / Energy charges	Hour	6.50000	84.60	549.90
8	Ventilation fans 20 hp	Hour	2.00000	12.99	25.98
	Fuel / Energy charges	Hour	2.00000	169.19	338.38
9	Sundries(explosive van / magazine)	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**37671.63**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling jumbo	Hour	10.00000	322.40	3224.00
2	Crew for Air compressor	Hour	6.50000	322.40	2095.60
3	Crew for Jack hammer	Hour	26.00000	604.50	15717.00
4	Crew for Convey mucker	Hour	6.00000	322.40	1934.40
5	Crew for Dumper	Hour	12.00000	413.09	4957.08
6	Crew for Pump	Hour	6.50000	153.47	997.56
7	Crew for ventilation fans	Hour	2.00000	52.94	105.88
8	Surveyor	Day	0.50000	1255.00	627.50
9	Foreman	Day	1.00000	925.00	925.00
10	Fitter / Mechanic	Day	2.00000	850.00	1700.00
11	Blaster (Licensed)	Day	1.00000	925.00	925.00
12	Helper blasting	Day	2.00000	730.00	1460.00
13	Hammerman	Day	2.00000	730.00	1460.00
14	work inspector 1 in each shift	Day	3.00000	920.00	2760.00
15	Khalasi for mucking shift 4 Nos	Day	4.00000	820.00	3280.00
16	mazdoor				
	for mucking shift 8 Nos	Day	8.00000	680.00	5440.00
	for other 2 shifts 1 No each shift	Day	2.00000	680.00	1360.00
	for cleaning & miscellaneous	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**50329.02**

labour component/unit qty		1035.60
Add contractor's profit and overhead charges	13.615%	141.00
labour component/unit qty (including contractor's profit)		**1176.60**

ABSTRACT:

A. Cost of Materials			Rs:	14558.71
B. Hire charges of Machinery			Rs:	37671.63
C. Cost of Labour			Rs:	50329.02
		Total	Rs:	102559.36
Add for Air and Water line @	1.00%		Rs:	1025.59
Add for Ventilation @	4.50%		Rs:	4615.17
Add for Lighting @	1.60%		Rs:	1640.95
Add for Ele sub-station / Demand charges @	2.50%		Rs:	2563.98
		Total	Rs:	112405.05
D.Add for contractor's profit and overheads on (A+B+C+other percentages)	13.615%		Rs:	15303.95
Total cost for	48.60 cum		Rs:	**127709.00**
Rate per cum	(A+B+C+D)/48.60		Rs:	**2627.76**

IRR-TAW-1-4 **Excavation for tunnel by tunnelling methods including excavation for supports in all types of soil / rock strata requiring supports (excluding cost of providing supports)** including cost of all other materials, machinery, labour, scaling excavated surface, ventilation, lighting, drainage, removing and hauling the excavated muck outside tunnel upto specified dump area and all other ancillary operations etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **46.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Small dia explosive	kg	41.00000	75.00	3075.00
2	Delay detonators	Nos	77.00000	24.00	1848.00
3	Electric detonators	Nos	10.00000	12.00	120.00
4	Detonating fuse coil	Rm	50.00000	11.00	550.00
5	Use rate of drill rod 2.5 m long	Rm	144.00000	47.47	6835.68
	Reconditioning charges @	10%			683.57
6	Use rate of air hose	Hour	24.00000	6.00	144.00
7	Use rate of water hose	Hour	24.00000	6.09	146.16
8	Sundries(paint / template etc)	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**13486.41**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling jumbo	Hour	11.00000	396.21	4358.31
	Fuel / Energy charges	Hour	11.00000	77.94	857.34
2	Air compressor 15 cmm (ele)	Hour	6.00000	140.61	843.66
	Fuel / Energy charges	Hour	6.00000	1057.45	6344.70
3	Jack hammer (4 x 6 hrs)	Hour	24.00000	19.11	458.64
	Fuel / Energy charges	Hour	24.00000	0.00	0.00
4	Pusher leg	Hour	24.00000	15.15	363.60
	Fuel / Energy charges	Hour	24.00000	0.00	0.00
5	Convey mucker	Hour	6.00000	834.82	5008.92
	Fuel / Energy charges	Hour	6.00000	294.40	1766.40
6	Dumper (2 x 6 hrs)	Hour	12.00000	641.87	7702.44
	Fuel / Energy charges	Hour	12.00000	727.38	8728.56
7	Pump 10 hp (ele)	Hour	6.00000	7.29	43.74
	Fuel / Energy charges	Hour	6.00000	84.60	507.60
8	Ventilation fans 20 hp	Hour	2.00000	12.99	25.98
	Fuel / Energy charges	Hour	2.00000	169.19	338.38
9	Sundries(explosive van / magazine)	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**37432.27**

C. LABOUR:

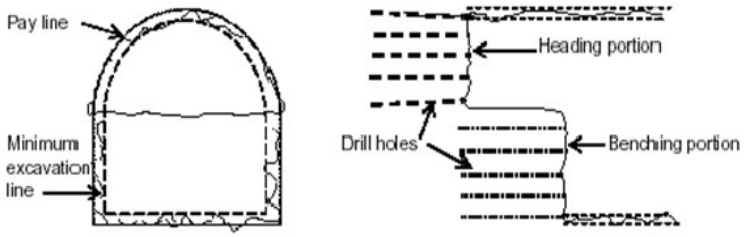
Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling jumbo	Hour	11.00000	322.40	3546.40
2	Crew for Air compressor	Hour	6.00000	322.40	1934.40
3	Crew for Jack hammer	Hour	24.00000	604.50	14508.00
4	Crew for Convey mucker	Hour	6.00000	322.40	1934.40
5	Crew for Dumper	Hour	12.00000	413.09	4957.08
6	Crew for Pump	Hour	6.00000	153.47	920.82
7	Crew for ventilation fans	Hour	2.00000	52.94	105.88
8	Surveyor	Day	0.50000	1255.00	627.50
9	Foreman	Day	1.00000	925.00	925.00
10	Fitter / Mechanic	Day	2.00000	850.00	1700.00
11	Blaster (Licensed)	Day	1.00000	925.00	925.00
12	Helper blasting	Day	2.00000	730.00	1460.00
13	Hammerman 2 Nos	Day	2.00000	730.00	1460.00
14	work inspector 1 in each shift	Day	3.00000	920.00	2760.00
15	Khalasi for mucking shift 4 Nos	Day	4.00000	820.00	3280.00
16	mazdoor				
	for mucking shift 8 Nos	Day	8.00000	680.00	5440.00
	for other 2 shifts 1 No each shift	Day	2.00000	680.00	1360.00
	for cleaning & miscellaneous	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**49204.48**

labour component/unit qty		1069.70
Add contractor's profit and overhead charges	13.615%	145.60
labour component/unit qty (including contractor's profit)		**1215.30**

ABSTRACT:

A. Cost of Materials			Rs:	13486.41
B. Hire charges of Machinery			Rs:	37432.27
C. Cost of Labour			Rs:	49204.48
		Total	Rs:	100123.16
Add for Air and Water line @	1.00%		Rs:	1001.23
Add for Ventilation @	4.50%		Rs:	4505.54
Add for Lighting @	1.60%		Rs:	1601.97
Add for Ele sub-station / Demand charges @	2.50%		Rs:	2503.08
		Total	Rs:	109734.98
D.Add for contractor's profit and overheads on (A+B+C+other percentages)	13.615%		Rs:	14940.42
Total cost for	46.00 cum		Rs:	**124675.40**
Rate per cum	(A+B+C+D)/46.0		Rs:	**2710.33**

IRR-TAW-1-5 **Excavation for tunnel by heading and benching tunnelling methods including excavation for supports in all types of soil / rock strata requiring supports (excluding cost of providing supports) for roof** before benching including cost of all other materials, machinery, labour, scaling excavated surface, ventilation, lighting, drainage removing and hauling excavated muck outside tunnel upto specified dump area and all other ancillary operations etc., complete with **initial lead upto 1 km and all lifts.**



TYPICAL CROSS SECTION OF TUNNEL FOR HEADING & BENCHING

DATA: **RATE ANALYSIS** UNIT : **50.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Small dia explosive	kg	44.00000	75.00	3300.00
2	Delay detonators	Nos	84.00000	24.00	2016.00
3	Electric detonator	Nos	10.00000	12.00	120.00
4	Detonating fuse coil	Rm	50.00000	11.00	550.00
5	Use rate of drill rod 2.5 m long	Rm	157.00000	47.47	7452.27
	Reconditioning charges @	10%			745.23
6	Use rate of air hose	Hour	26.00000	6.00	156.00
7	Use rate of water hose	Hour	26.00000	6.09	158.44
8	Sundries(paint / template etc)	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**14581.94**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling jumbo	Hour	12.00000	396.21	4754.52
	Fuel / Energy charges	Hour	12.00000	77.94	935.28
2	Air compressor 15 cmm (ele)	Hour	6.50000	140.61	913.97
	Fuel / Energy charges	Hour	6.50000	1057.45	6873.43
3	Jack hammer (4 x 6.5 hrs)	Hour	26.00000	19.11	496.86
	Fuel / Energy charges	Hour	26.00000	0.00	0.00
4	Pusher leg	Hour	26.00000	15.15	393.90
	Fuel / Energy charges	Hour	26.00000	0.00	0.00
5	Convey mucker	Hour	6.50000	834.82	5426.33
	Fuel / Energy charges	Hour	6.50000	294.40	1913.60
6	Dumper (2 x 6.5 hrs)	Hour	13.00000	641.87	8344.31
	Fuel / Energy charges	Hour	13.00000	727.38	9455.94
7	Pump 10 hp (ele)	Hour	6.50000	7.29	47.39
	Fuel / Energy charges	Hour	6.50000	84.60	549.90
8	Ventilation fans 20 hp	Hour	3.00000	12.99	38.97
	Fuel / Energy charges	Hour	3.00000	169.19	507.57
9	Sundries(explosive van / magazine)	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**40735.97**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling jumbo	Hour	12.00000	322.40	3868.80
2	Crew for Air compressor	Hour	6.50000	322.40	2095.60
3	Crew for Jack hammer	Hour	26.00000	604.50	15717.00
4	Crew for Convey mucker	Hour	6.50000	322.40	2095.60
5	Crew for Dumper	Hour	13.00000	413.09	5370.17
6	Crew for Pump	Hour	6.50000	153.47	997.56
7	Crew for Ventilation fan	Hour	3.00000	52.94	158.82
8	Surveyor	Day	0.50000	1255.00	627.50
9	Foreman	Day	1.00000	925.00	925.00
10	Fitter / Mechanic	Day	2.00000	850.00	1700.00
11	Blaster (Licensed)	Day	2.00000	925.00	1850.00
12	Helper blasting	Day	4.00000	730.00	2920.00
13	Hammerman 2 Nos	Day	2.00000	730.00	1460.00
14	work inspector 1 in each shift	Day	3.00000	920.00	2760.00
15	Khalasi				
	for pushing muck in heading portion	Day	4.00000	820.00	3280.00
	for mucking shift 4 Nos	Day	4.00000	820.00	3280.00
16	mazdoor				
	for mucking shift 8 Nos	Day	8.00000	680.00	5440.00
	for other 2 shifts 1 No each shift	Day	2.00000	680.00	1360.00
	for cleaning &miscellaneous	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**57266.05**

labour component/unit qty		1145.30	
Add contractor's profit and overhead charges	13.615%	155.90	
labour component/unit qty (including contractor's profit)		**1301.20**	

ABSTRACT:

A. Cost of Materials			Rs:	14581.94
B. Hire charges of Machinery			Rs:	40735.97
C. Cost of Labour			Rs:	57266.05
		Total	Rs:	112583.96
Add for Air and Water line @	1.00%		Rs:	1125.84
Add for Ventilation @	4.50%		Rs:	5066.28
Add for Lighting @	1.60%		Rs:	1801.34
Add for Ele sub-station / Demand charges @	2.50%		Rs:	2814.60
		Total	Rs:	123392.02
D.Add for contractor's profit and overheads on (A+B+C+other percentages)	13.615%		Rs:	16799.82
Total cost for	50.00 cum		Rs:	**140191.84**
Rate per cum	(A+B+C+D)/50.0		Rs:	**2803.84**

NOTE: Where mucking is to be carried out through shaft using winch and mucking tub system increase the basic rates for items IRR-TAW-1-3, IRR-TAW-1-4 & IRR-TAW-1-5 by 8 percent.

IRR-TAW-1-6 **Removing and hauling muck** overfallen due to natural causes such as geological faults etc., out of tunnel including breaking large fragments by blasting if necessary and disposing off the same in specified dump area or as directed including cost of all materials, machinery, labour, ventilation, drainage, lighting and all other ancillary operations etc., complete **with initial lead upto 1 km and all lifts.**

DATA **RATE ANALYSIS** UNIT : **100.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of drill rod	Rm	15.00000	31.71	475.65
	Reconditioning charges @	10%			47.57
2	Explosive small dia.	kg	8.00000	75.00	600.00
3	Detonator (ele)	Nos.	30.00000	12.00	360.00
4	Detonating fuse coil	Rm	20.00000	11.00	220.00
5	Use rate of air hose	Hour	4.00000	6.00	24.00
6	Use rate of water hose	Hour	4.00000	6.09	24.36
7	Sundries	LS	1.00000	42.00	42.00
			Total cost of Materials	Rs:	**1793.58**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air compressor 15 cmm (ele)	Hour	1.00000	140.61	140.61
	Fuel / Energy charges	Hour	1.00000	1057.45	1057.45
2	Jack hammer	Hour	4.00000	19.11	76.44
	Fuel / Energy charges	Hour	4.00000	0.00	0.00
3	Pump 10 hp (ele)	Hour	1.00000	7.29	7.29
	Fuel / Energy charges	Hour	1.00000	84.60	84.60
4	Convey mucker	Hour	6.00000	834.82	5008.92
	Fuel / Energy charges	Hour	6.00000	294.40	1766.40
5	Dumper 4.5 cum	Hour	12.00000	641.87	7702.44
	Fuel / Energy charges	Hour	12.00000	727.38	8728.56
6	Sundries	LS	1.00000	42.00	42.00
			Total hire charges of Machinery	Rs:	**24614.71**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Air compressor	Hour	1.00000	322.40	322.40
2	Crew for Jack hammer	Hour	4.00000	604.50	2418.00
3	Crew for Pump	Hour	1.00000	153.47	153.47
4	Crew for Convey mucker	Hour	6.00000	322.40	1934.40
5	Crew for Dumper	Hour	12.00000	413.09	4957.08
6	Blaster (Licensed)	Day	0.50000	925.00	462.50
7	Helper blasting	Day	0.50000	730.00	365.00
8	mazdoor	Day	8.00000	680.00	5440.00
			Total cost of Labour	Rs:	**16052.85**

labour component/unit qty		160.50
Add contractor's profit and overhead charges	13.615%	21.90
labour component/unit qty (including contractor's profit)		**182.40**

ABSTRACT:

A. Cost of Materials			Rs:	1793.58
B. Hire charges of Machinery			Rs:	24614.71
C. Cost of Labour			Rs:	16052.85
		Total	Rs:	42461.14
Add for Air and Water line @	1.00%		Rs:	424.61
Add for Ventilation @	4.50%		Rs:	1910.75
Add for Lighting @	1.60%		Rs:	679.38
Add for Ele sub-station / Demand charges @	2.50%		Rs:	1061.53
		Total	Rs:	46537.41
D.Add for contractor's profit and overheads on (A+B+C+other percentages)	13.615%		Rs:	6336.07
Total cost for	100.00 cum		Rs:	**52873.48**
Rate per cum	(A+B+C+D)/100.0		Rs:	**528.73**

IRR_TAW-2 **DEWATERING & GUNITING WORKS :**

IRR-TAW-2-1 **Dewatering tunnel by pumping out water collected by natural drainage inside tunnel** including providing sump wherever necessary, cost of all materials, machinery, labour, drainage, lighting, ventilation and all other ancillary operations etc., complete.

DATA **RATE ANALYSIS** UNIT : **15.00** Kwhr

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of G.I.pipe 100 mm dia	Hour	1.00000	7.35	7.35
2	Sundries	LS	0.10000	42.00	4.20
			Total cost of Materials	Rs:	**11.55**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Electric pump 20 hp	Hour	1.00000	13.68	13.68
2	Fuel / Energy charges	Hour	1.00000	169.19	169.19
3	Sundries(Starter/Switches ete)	LS	0.10000	42.00	4.20
			Total hire charges of Machinery	Rs:	**187.07**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew charges for Pump	Hour	1.00000	153.47	153.47
2	Laying & dismantling pipe	LS	0.05000	42.00	2.10
3	mazdoor	Day	0.10000	680.00	68.00
			Total cost of Labour	Rs:	**223.57**

labour component/unit qty		14.90	
Add contractor's profit and overhead charges	13.615%	2.00	
labour component/unit qty (including contractor's profit)		**16.90**	

ABSTRACT:

A. Cost of Materials			Rs:	11.55
B. Hire charges of Machinery			Rs:	187.07
C. Cost of Labour			Rs:	223.57
		Total	Rs:	422.19
Add for Air and Water line @	1.00%		Rs:	4.22
Add for Ventilation @	4.50%		Rs:	19.00
Add for Lighting @	1.60%		Rs:	6.76
Add for Ele sub-station / Demand charges @	2.50%		Rs:	10.55
		Total	Rs:	462.72
D.Add for contractor's profit and overheads on (A+B+C+other percentages)	13.615%		Rs:	63.00
Total cost for	15.00 Kwhr		Rs:	**525.72**
Rate per Kwhr	(A+B+C+D)/15.0		Rs:	**35.05**

IRR-TAW-2-2 **Providing 25 mm thick guniting to sides and arch** of tunnel in **cement mortar 1 : 3** proportion by weight including cost of all materials, machinery, labour, ventilation, lighting, drainage and all other ancillary operations etc., complete **with lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **36.00** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	600.00000	4.22	2532.00
2	Sand (Screened)	cum	1.10000	128.00	140.80
3	Use rate of grout hose 20 m	Hour	8.00000	6.00	48.00
4	Use rate of water hose 20 m	Hour	8.00000	6.09	48.72
5	Use rate of guniting nozzle	Hour	8.00000	3.96	31.68
6	Sundries	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**2885.20**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Guniting equipment	Hour	8.00000	126.54	1012.32
	Fuel / Energy charges	Hour	8.00000	0.00	0.00
2	Air compressor 8.5 cmm (ele)	Hour	8.00000	177.65	1421.20
	Fuel / Energy charges	Hour	8.00000	475.86	3806.88
3	Pump 10 hp (ele)	Hour	1.00000	7.29	7.29
	Fuel / Energy charges	Hour	1.00000	84.60	84.60
4	Drilling jumbo	Hour	4.00000	396.21	1584.84
	Fuel / Energy charges	Hour	4.00000	77.94	311.76
5	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**8312.89**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Guniting equipment	Hour	8.00000	403.00	3224.00
2	Crew for Air compressor	Hour	8.00000	302.25	2418.00
3	Crew for pump	Hour	1.00000	153.47	153.47
4	Crew for Drilling jumbo	Hour	4.00000	322.40	1289.60
5	Mason Cl I	Day	1.00000	840.00	840.00
6	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**12005.07**

labour component/unit qty		333.50
Add contractor's profit and overhead charges	13.615%	45.40
labour component/unit qty (including contractor's profit)		**378.90**

ABSTRACT:

A. Cost of Materials			Rs:	2885.20
B. Hire charges of Machinery			Rs:	8312.89
C. Cost of Labour			Rs:	12005.07
		Total	Rs:	23203.16
Add for Air and Water line @	1.00%		Rs:	232.03
Add for Ventilation @	4.50%		Rs:	1044.14
Add for Lighting @	1.60%		Rs:	371.25
Add for Ele sub-station / Demand charges @	2.50%		Rs:	580.08
		Total	Rs:	25430.66
D.Add for contractor's profit and overheads on (A+B+C+other percentages)	13.615%		Rs:	3462.38
Lead Charges for 1 Km for FA	1.10 cum @	46.41 Rs./Cum		51.05
Total cost for	36.00 sqm		Rs:	**28944.09**
Rate per sqm	(A+B+C+D)/36.0		Rs:	**804.00**

IRR-TAW-2-3 (new4 - 2011-12)

Shortcreting in two layers (each layer+38 mm thickness) for slabs duly fixing chain weld wire mesh 100 x 100x5 mm in between the two layers including cost and conveyance of all materials, labour charges, all heads, lifts, centering, scaffolding, machine mixing, laying concrete with shortcrete machine etc. complete **as per specification and as directed by Engineer-in-Charge**

Data

RATE ANALYSIS UNIT : **36.00** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	1548.00000	4.22	6532.56
2	Sand (Screened)	cum	2.41000	128.00	308.48
3	Coarse aggregate 10-4.75 mm size	cum	1.03000	1190.00	1225.70
4	Use rate of grout hose 20 m	Hour	8.00000	6.00	48.00
5	Use rate of water hose 20 m	Hour	8.00000	6.09	48.72
6	Use rate of guniting nozzle	Hour	8.00000	3.96	31.68
7	Welded steel wire fabric 100 x 100 x 5 m	kg	108.00000	216.00	23328.00
8	Sundries	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**31607.14**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Guniting equipment	Hour	8.00000	126.54	1012.32
	Fuel / Energy charges	Hour	8.00000	0.00	0.00
2	Air compressor 8.5 cmm (ele)	Hour	8.00000	177.65	1421.20
	Fuel / Energy charges	Hour	8.00000	475.86	3806.88
3	Pump 10 hp (ele)	Hour	1.00000	7.29	7.29
	Fuel / Energy charges	Hour	1.00000	84.60	84.60
4	Drilling jumbo	Hour	4.00000	396.21	1584.84
	Fuel / Energy charges	Hour	4.00000	77.94	311.76
5	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**8312.89**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Guniting equipment	Hour	8.00000	403.00	3224.00
2	Crew for Air compressor	Hour	8.00000	302.25	2418.00
3	Crew for pump	Hour	1.00000	153.47	153.47
4	Crew for Drilling jumbo	Hour	4.00000	322.40	1289.60
5	Mason Cl I	Day	1.00000	840.00	840.00
6	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**12005.07**

labour component/unit qty		333.50
Add contractor's profit and overhead charges	13.615%	45.40
labour component/unit qty (including contractor's profit)		**378.90**

ABSTRACT:

A. Cost of Materials				Rs:	31607.14
B. Hire charges of Machinery				Rs:	8312.89
C. Cost of Labour				Rs:	12005.07
			Total	Rs:	51925.10
Add for Air and Water line @		1.00%		Rs:	519.25
Add for Ventilation @		4.50%		Rs:	2336.63
Add for Lighting @		1.60%		Rs:	830.80
Add for Ele sub-station / Demand charges @		2.50%		Rs:	1298.13
			Total	Rs:	56909.91
D.Add for contractor's profit and overheads on (A+B+C+other percentages)		13.615%		Rs:	7748.28
Lead Charges for 1 Km for FA	2.41	cum @	46.41 Rs./Cum		111.85
Lead Charges for 1 Km for CA	1.03	cum @	44.62 Rs./Cum		45.96
Total cost for	36.00	sqm		Rs:	**64816.00**
Rate per sqm	(A+B+C+D)/36.0			Rs:	**1800.44**

IRR_TAW-3 **TEMPORARY & PERMANENT SUPPORTS :**

IRR-TAW-3-1 Providing and **fixing 25 mm diameter steel rock bolts with mechanical / wedge type anchorage** including drilling 35 mm dia holes, providing 15 cm long 20 mm thick steel tapered wedge, 10 mm thick plate washers and nuts, tightening bolt by torque wrench, cost of all materials, machinery, labour, ventilation, lighting, drainage and all other ancillary operations etc., complete **with lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **20.00** Rm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rein.Steel with 5 % wastage	kg	86.91375	55.00	4780.26
2	Steel plate for washers	kg	65.94000	61.00	4022.34
	Steel plate for wedges	kg	6.18188	61.00	377.09
3	M S Nuts for bolts	kg	4.00000	98.00	392.00
4	Use rate of drill rod	Rm	20.00000	47.47	949.40
	Reconditioning charges @	10%			94.94
5	Use rate of air hose 4 Nos	Hour	6.00000	6.00	36.00
6	Use rate of water hose 4 Nos	Hour	6.00000	6.09	36.54
7	Sundries (gas for cutting / heating etc)	LS	5.00000	42.00	210.00
			Total cost of Materials	Rs:	**10898.57**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air compressor 15 cmm (ele)	Hour	1.50000	140.61	210.92
	Fuel / Energy charges	Hour	1.50000	1057.45	1586.18
2	Pump 10 hp (ele)	Hour	1.00000	7.29	7.29
	Fuel / Energy charges	Hour	1.00000	84.60	84.60
3	Jack hammer	Hour	6.00000	19.11	114.66
	Fuel / Energy charges	Hour	6.00000	0.00	0.00
4	Pusher leg	Hour	6.00000	15.15	90.90
	Fuel / Energy charges	Hour	6.00000	0.00	0.00
5	Drilling jumbo	Hour	4.00000	396.21	1584.84
	Fuel / Energy charges	Hour	4.00000	77.94	311.76
6	Sundries (lathe, blower etc)	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**4201.15**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Air compressor	Hour	1.50000	322.40	483.60
2	Crew for pump	Hour	1.00000	153.47	153.47
3	Crew for Jack hammer	Hour	6.00000	604.50	3627.00
4	Crew for Drilling jumbo	Hour	4.00000	322.40	1289.60
5	Fitter	Day	0.50000	850.00	425.00
6	Gas cutter	Day	1.00000	820.00	820.00
7	Turner	Day	1.00000	895.00	895.00
8	Blacksmith	Day	1.00000	790.00	790.00
9	Khalasi (2 x 0.5)	Day	1.00000	820.00	820.00
10	Hammerman	Day	0.50000	730.00	365.00
11	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**11028.67**

labour component/unit qty		551.40
Add contractor's profit and overhead charges	13.615%	75.10
labour component/unit qty (including contractor's profit)		**626.50**

ABSTRACT:

A. Cost of Materials				Rs:	10898.57
B. Hire charges of Machinery				Rs:	4201.15
C. Cost of Labour				Rs:	11028.67
			Total	Rs:	26128.39
Add for Air and Water line @		1.00%		Rs:	261.28
Add for Ventilation @		4.50%		Rs:	1175.78
Add for Lighting @		1.60%		Rs:	418.05
Add for Ele sub-station / Demand charges @		2.50%		Rs:	653.21
			Total	Rs:	28636.71
D.Add for contractor's profit and overheads on (A+B+C+other percentages)		13.615%		Rs:	3898.89
Lead Charges for 1Km for Steel (including Loading and Unloading Charges)	0.16	tonne @	317.62 Rs./Tonne		50.51
Total cost for	20.00 Rm			Rs:	**32586.11**
Rate per Rm	(A+B+C+D)/20.0			Rs:	**1629.31**

IRR-TAW-3-2 Providing and **fixing 25 mm diameter steel rock bolts with resin bond cement capsule anchorage** including drilling 35 mm dia holes, inserting grout capsule, driving bolt,fixing 10 mm thick plate washers and nuts and tightening the same by torque wrench after hardening of cement grout, cost of all materials, machinery, labour, ventilation, lighting, drainage and other ancillary operations etc., **complete with lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **20.00** Rm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rein.Steel with 5 % wastage	kg	86.91375	55.00	4780.26
2	Steel plate for washers	kg	65.94000	61.00	4022.34
3	Resin bond cement grout capsule	Nos.	2.00000	57.00	114.00
4	M S Nuts for bolts	kg	4.00000	98.00	392.00
5	Use rate of drill rod	Rm	20.00000	47.47	949.40
	Reconditioning charges @	10%			95.00
6	Use rate of air hose 4 Nos	Hour	6.00000	6.00	36.00
7	Use rate of water hose 4 Nos	Hour	6.00000	6.09	36.54
8	Sundries(gas for cutting etc)	LS	3.00000	42.00	126.00
			Total cost of Materials	Rs:	**10551.54**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air compressor 15 cmm (ele)	Hour	1.50000	140.61	210.92
	Fuel / Energy charges	Hour	1.50000	1057.45	1586.18
2	Pump 10 hp (ele)	Hour	1.00000	7.29	7.29
	Fuel / Energy charges	Hour	1.00000	84.60	84.60
3	Jack hammer	Hour	6.00000	19.11	114.66
	Fuel / Energy charges	Hour	6.00000	0.00	0.00
4	Pusher leg	Hour	6.00000	15.15	90.90
	Fuel / Energy charges	Hour	6.00000	0.00	0.00
5	Drilling jumbo	Hour	4.00000	396.21	1584.84
	Fuel / Energy charges	Hour	4.00000	77.94	311.76
6	Sundries (lathe, etc)	LS	3.00000	42.00	126.00
			Total hire charges of Machinery	Rs:	**4117.15**

C. LABOUR:

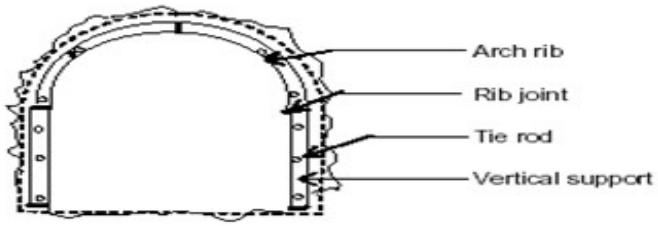
Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Air compressor	Hour	1.50000	322.40	483.60
2	Crew for pump	Hour	1.00000	153.47	153.47
3	Crew for Jack hammer	Hour	6.00000	604.50	3627.00
4	Crew for Drilling jumbo	Hour	4.00000	322.40	1289.60
5	Fitter	Day	0.50000	730.00	365.00
6	Gas cutter	Day	1.00000	820.00	820.00
7	Turner	Day	1.00000	895.00	895.00
8	Khalasi (2 x 0.5)	Day	1.00000	820.00	820.00
9	Hammerman	Day	0.50000	730.00	365.00
10	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**10178.67**

labour component/unit qty		508.90
Add contractor's profit and overhead charges	13.615%	69.30
labour component/unit qty (including contractor's profit)		**578.20**

ABSTRACT:

A. Cost of Materials				Rs:	10551.54
B. Hire charges of Machinery				Rs:	4117.15
C. Cost of Labour				Rs:	10178.67
			Total	Rs:	24847.36
Add for Air and Water line @		1.00%		Rs:	248.47
Add for Ventilation @		4.50%		Rs:	1118.13
Add for Lighting @		1.60%		Rs:	397.56
Add for Ele sub-station / Demand charges @		2.50%		Rs:	621.18
			Total	Rs:	27232.70
D.Add for contractor's profit and overheads on (A+B+C+other percentages)		13.615%		Rs:	3707.73
Lead Charges for 1Km for Steel (including Loading and Unloading Charges)	0.15	tonne @		317.62 Rs./Tonne	48.55
Total cost for	20.00 Rm			Rs:	**30988.98**
Rate per Rm	(A+B+C+D)/20.0			Rs:	**1549.45**

IRR-TAW-3-3 Providing, fabricating and **fixing in position permanent structural steel supports as per details** including cost of all materials, machinery, labour, cutting, bending, welding, grinding, lighting, ventilation, drainage and all other ancillary operations etc., complete **with initial lead upto 1 km and all lifts.**



TYPICAL SKETCH SHOWING TUNNEL SUPPORTS

Data **RATE ANALYSIS** UNIT : **1.00** tonne

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel beams	kg	760.00000	56.00	42560.00
2	Structural steel plates	kg	115.00000	61.00	7015.00
3	Steel bars for tie rods & anchors	kg	150.00000	55.00	8250.00
4	For cutting sections:				
	Oxygen gas @ 2.4 cum / t	cum	2.40000	47.00	112.80
	Acetylene gas @ 0.8 cum / t	cum	0.80000	385.00	308.00
5	For welding sections:				
	Electrodes 4 x 300 mm @ 125 Nos / t	Nos.	125.00000	17.00	2125.00
6	For field connections:				
	M.S.Bolts / Nuts & Washers	kg	50.00000	98.00	4900.00
7	Sundries	LS	5.00000	42.00	210.00
			Total cost of Materials	Rs:	**65480.80**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Bending machine	Hour	8.00000	44.50	356.00
	Fuel / Energy charges	Hour	8.00000	126.90	1015.20
2	Welding set	Hour	16.00000	17.57	281.12
	Fuel / Energy charges	Hour	16.00000	101.52	1624.32
3	Drilling Jumbo	Hour	12.00000	396.21	4754.52
	Fuel / Energy charges	Hour	12.00000	77.94	935.28
4	Sundries (lathe / drilling / grinder)	LS	30.00000	42.00	1260.00
			Total hire charges of Machinery	Rs:	**10226.44**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling Jumbo	Hour	12.00000	322.40	3868.80
2	Crew fir Bending machine	Hour	8.00000	241.80	1934.40
3	For cutting & preparing sections:				
	Structural steel Marker	Day	1.00000	990.00	990.00
	Gas cutter	Day	2.00000	820.00	1640.00
	Fitter	Day	2.00000	850.00	1700.00
	Turner / Driller	Day	3.00000	895.00	2685.00
	Khalasi	Day	2.00000	820.00	1640.00
	Helper fabrication	Day	4.00000	730.00	2920.00
4	For welding sections:				
	Welder	Day	2.00000	820.00	1640.00
	Helper fabrication	Day	2.00000	730.00	1460.00
	Khalasi	Day	2.00000	820.00	1640.00
5	For erection of supports:				
	Foreman	Day	1.00000	925.00	925.00
	Structural steel Erector	Day	2.00000	990.00	1980.00
	Helper erector	Day	2.00000	730.00	1460.00
	Khalasi	Day	4.00000	820.00	3280.00
			Total cost of Labour	Rs:	**29763.20**

labour component/unit qty		29763.20	
Add contractor's profit and overhead charges	13.615%	4052.30	
labour component/unit qty (including contractor's profit)		**33815.50**	

ABSTRACT:

A. Cost of Materials				Rs:	65480.80
B. Hire charges of Machinery				Rs:	10226.44
C. Cost of Labour				Rs:	29763.20
			Total	Rs:	105470.44
Add for Air and Water line @		1.00%		Rs:	1054.70
Add for Ventilation @		4.50%		Rs:	4746.17
Add for Lighting @		1.60%		Rs:	1687.53
Add for Ele sub-station / Demand charges @		2.50%		Rs:	2636.76
			Total	Rs:	115595.60
D.Add for contractor's profit and overheads on (A+B+C+other percentages)		13.615%		Rs:	15738.34
Lead Charges for 1Km for Steel (including Loading and Unloading Charges)	1.03	tonne @	7.62 Rs./Tonne		325.56
Total cost for	1.00	tonne		Rs:	**131659.50**
Rate per tonne	(A+B+C+D)/1.0			Rs:	**131659.50**

IRR-TAW-3-4 Providing, fabricating and **fixing in position temperary structural steel supports as per details** and dismantling the same before concreting including cost of all materials, machinery, labour, cutting, bending, welding, grinding, ventilation, lighting, drainage and all other ancillary operations etc.,complete **with initial lead upto 1 km and all lifts.**

DATA **RATE ANALYSIS** UNIT : **1.00** tonne

A. MATERIALS (for 20 uses):

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel beams	kg	760.00000	56.00	42560.00
2	Structural steel plates	kg	115.00000	61.00	7015.00
3	Tie rods & anchors	kg	150.00000	55.00	8250.00
4	For cutting sections:				
	Oxygen gas @ 2.40 cum / t	cum	2.40000	47.00	112.80
	Acetylene @ 0.8 cum / t	cum	0.80000	385.00	308.00
5	For welding sections:				
	Electrodes @ 125 Nos / t	Nos.	125.00000	17.00	2125.00
6	For field connections:				
	M.S.Bolts / Nuts / Washers	kg	50.00000	98.00	4900.00
7	Sundries	LS	20.00000	42.00	840.00
	Total cost of Materials for 20 uses of supports			Rs:	66110.80
	Cost per use considering	20 uses		Rs:	**3305.54**

B. MACHINERY (for fabrication):

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Bending machine	Hour	8.00000	44.50	356.00
	Fuel / Energy charges	Hour	8.00000	126.90	1015.20
2	Welding set	Hour	16.00000	17.57	281.12
	Fuel / Energy charges	Hour	16.00000	101.52	1624.32
3	Sundries	LS	30.00000	42.00	1260.00
			Total hire charges of Machinery	Rs:	4536.64
	Cost per use considering		20 uses	Rs:	**226.83**

B. MACHINERY (for erection and dismantling):

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling Jumbo	Hour	18.00000	396.21	7131.78
	Fuel / Energy charges	Hour	18.00000	77.94	1402.92
2	Sundries	LS	10.00000	42.00	420.00
			Total hire charges of Machinery	Rs:	**8954.70**

C. LABOUR (for fabrication):

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Bending machine	Hour	8.00000	241.80	1934.40
2	For cutting & preparing sections:				
	Structural steel Marker	Day	1.00000	990.00	990.00
	Gas cutter	Day	2.00000	820.00	1640.00
	Fitter	Day	2.00000	850.00	1700.00
	Turner / Driller	Day	3.00000	895.00	2685.00
	Khalasi	Day	2.00000	820.00	1640.00
	Helper fabrication	Day	4.00000	730.00	2920.00
3	For welding sections:				
	Welder	Day	2.00000	820.00	1640.00
	Helper fabrication	Day	2.00000	730.00	1460.00
	Khalasi	Day	2.00000	820.00	1640.00
			Total cost of Labour	Rs:	18249.40
	Cost per use considering		20 uses	Rs:	**912.47**

C. LABOUR (for erection):

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling jumbo	Hour	8.00000	322.40	2579.20
2	For erection of supports:				
	Foreman	Day	1.00000	925.00	925.00
	Structural steel Erector	Day	2.00000	990.00	1980.00
	Helper erector	Day	2.00000	730.00	1460.00
	Khalasi	Day	4.00000	820.00	3280.00
3	For dismantling of supports:				
	Foreman	Day	0.50000	925.00	462.50
	Structural steel Erector	Day	1.00000	990.00	990.00
	Helper erector	Day	1.00000	730.00	730.00
	Khalasi	Day	2.00000	820.00	1640.00
			Total cost of Labour	Rs:	**14046.70**

labour component/unit qty		14959.20
Add contractor's profit and overhead charges	13.615%	2036.70
labour component/unit qty (including contractor's profit)		**16995.90**

ABSTRACT:

A. Cost of Materials			Rs:	3305.54
B. Hire charges of Machinery for fabrication			Rs:	226.83
C. Hire charges of Machinery for erection and dismantling			Rs:	8954.70
D. Cost of Labour for fabrication			Rs:	912.47
E. Cost of Labour for erection and dismantling			Rs:	14046.70
		Total	Rs:	27446.24
Add for Air and Water line @	1.00%		Rs:	274.46
Add for Ventilation @	4.50%		Rs:	1235.08
Add for Lighting @	1.60%		Rs:	439.14
Add for Ele sub-station / Demand charges @	2.50%		Rs:	686.16
		Total	Rs:	30081.08
D.Add for contractor's profit and overheads on (A+B+C+other percentages)	13.615%		Rs:	4095.54
Lead Charges for 1Km for Steel (including Loading and Unloading Charges)	1.03 tonne @		317.62 Rs./Tonne	325.56
Total cost for	1.00 tonne		Rs:	**34502.18**
Rate per tonne	(A+B+C+D)/1.0		Rs:	**34502.18**

IRR-TAW-3-5 Providing and fixing hard variety cut jungle wood for lagging / blocking locations in tunnel wherever required including cost of all materials, machinery, labour, fixing in position, lighting, ventilation, drainage etc complete with all leads and lifts.

DATA: **RATE ANALYSIS** UNIT : **1.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cut jungle wood	cum	1.05000	21617.00	22697.85
2	Sundries	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**22781.85**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling jumbo	Hour	2.00000	396.21	792.42
	Fuel / Energy charges	Hour	2.00000	77.94	155.88
			Total hire charges of Machinery	Rs:	**948.30**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling jumbo	Hour	2.00000	322.40	644.80
2	Carpenter Cl II	Day	1.00000	730.00	730.00
3	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**2734.80**

labour component/unit qty		2734.80	
Add contractor's profit and overhead charges	13.615%	372.30	
labour component/unit qty (including contractor's profit)		**3107.10**	

ABSTRACT:

A. Cost of Materials			Rs:	22781.85
B. Hire charges of Machinery			Rs:	948.30
C. Cost of Labour			Rs:	2734.80
		Total	Rs:	26464.95
Add for Air and Water line @	1.00%		Rs:	264.65
Add for Ventilation @	4.50%		Rs:	1190.92
Add for Lighting @	1.60%		Rs:	423.44
Add for Ele sub-station / Demand charges @	2.50%		Rs:	661.62
		Total	Rs:	29005.58
D.Add for contractor's profit and overheads on (A+B+C+other percentages)	13.615%		Rs:	3949.11
Total cost for	1.00 cum		Rs:	**32954.69**
Rate per cum	(A+B+C+D)/1.0		Rs:	**32954.69**

IRR_TAW-4 **MASONRY WORKS :**

IRR-TAW-4-1 Providing and **constructing un-coursed rubble stone masonry with approved stones** from **tunnel excavated muck** in **cement mortar 1 : 6** proportion for backfilling over cuts / slips on tunnel sides due to geological faults etc., including cost of all materials, machinery, labour, cleaning,scaffolding, packing mortar, wedging stone chips, curing, ventilation, lighting, drainage complete **with lead upto 1 km and all lifts.**
(cement content : 95 kg/cum of masonry, Rubble stones : 0.83 cum, Stone chips : 0.13 cum, FA : 0.40 cum)

DATA **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	950.00000	4.22	4009.00
2	Rubble stones	cum	8.30000	424.00	3519.20
3	Stone chips	cum	1.25000	498.00	622.50
4	Sand (Screened)	cum	4.00000	128.00	512.00
			TOTAL	Rs:	8662.70
	Add for scaffolding @		2.5%	Rs:	216.57
			Total cost of Materials	Rs:	**8879.27**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	10 hp pump (ele)	Hour	1.00000	7.29	7.29
	Fuel / energy charges	Hour	1.00000	84.60	84.60
			Total hire charges of Machinery	Rs:	**91.89**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Pump	Hour	1.00000	153.47	153.47
2	work inspector	Day	1.00000	920.00	920.00
3	Mason Class-I	Day	1.00000	840.00	840.00
4	Mason Class-II	Day	2.00000	730.00	1460.00
5	mazdoor				
	for sorting out rubble in dump yard	Day	1.00000	680.00	680.00
	for conveying rubble	Day	2.00000	680.00	1360.00
	for preparing mortar	Day	2.00000	680.00	1360.00
	for loading mortar pans	Day	1.00000	680.00	680.00
	for laying & packing mortar	Day	4.00000	680.00	2720.00
	for washing rubble / finishing / curing	Day	1.00000	680.00	680.00
	for conveying mortar / chips	Day	3.00000	680.00	2040.00
			TOTAL	Rs:	12893.47
	Add for labour for scaffolding @		15.0%	Rs:	1934.02
	Total cost of Labour			Rs:	**14827.49**

labour component/unit qty		1482.75
Add contractor's profit and overhead charges	13.615%	201.90
labour component/unit qty (including contractor's profit)		**1684.60**

ABSTRACT:

A. Cost of Materials			Rs:	8879.27
B. Hire charges of Machinery			Rs:	91.89
C. Cost of Labour			Rs:	14827.49
		Total	Rs:	23798.65
Add for Air and Water line @	1.00%		Rs:	237.99
Add for Ventilation @	4.50%		Rs:	1070.94
Add for Lighting @	1.60%		Rs:	380.78
Add for Ele sub-station / Demand charges @	2.50%		Rs:	594.97
		Total	Rs:	26083.33
D.Add for contractor's profit and overheads on (A+B+C+other percentages)	13.615%		Rs:	3551.25
Lead Charges for 1 Km for FA	4.00 cum @	46.41 Rs./Cum		185.65
Lead Charges for 1 Km for Stones and Stone Chip	9.55 cum @	44.62 Rs./Cum		426.09
Total cost for	10.00 cum		Rs:	**30246.32**
Rate per cum	(A+B+C+D)/10.0		Rs:	**3024.63**

IRR_TAW-5 **REINFORCEMENT & CONCRETE WORKS :**

IRR-TAW-5-1 Providing, fabricating and **placing in position reinforcement steel for tunnel RCC works** including cleaning, straightening, cutting, bending, hooking, lapping / welding joints wherever required, tying with 1.25 mm dia.soft annealed steel wire, including cost of all materials, labour, machinery, ventilation, lighting, drainage etc.,complete **with initial lead upto 1 km and all lifts.**

DATA **RATE ANALYSIS** UNIT : **1.00** tonne

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rein.Steel with 5 % wastage	tonne	1.05000	55000.00	57750.00
2	Binding wire 1.25 mm dia	kg	13.50000	70.00	945.00
3	Sundries (chairs / spacers etc)	LS	5.00000	42.00	210.00
			Total cost of Materials	Rs:	**58905.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Bar bender	Day	9.00000	990.00	8910.00
2	mazdoor	Day	15.00000	680.00	10200.00
			Total cost of Labour	Rs:	**19110.00**

labour component/unit qty		19110.00
Add contractor's profit and overhead charges	13.615%	2601.80
labour component/unit qty (including contractor's profit)		**21711.80**

ABSTRACT:

A. Cost of Materials				Rs:	58905.00
B. Hire charges of Machinery				Rs:	0.00
C. Cost of Labour				Rs:	19110.00
			Total	Rs:	78015.00
Add for Air and Water line @		1.00%		Rs:	780.15
Add for Ventilation @		4.50%		Rs:	3510.68
Add for Lighting @		1.60%		Rs:	1248.24
Add for Ele sub-station / Demand charges @		2.50%		Rs:	1950.38
			Total	Rs:	85504.45
D.Add for contractor's profit and overheads on (A+B+C+other percentages)		13.615%		Rs:	11641.43
Lead Charges for 1Km for Steel (including Loading and Unloading Charges)	1.05	tonne @	317.622094	Rs.	333.5
Total cost for	1.00	tonne		Rs:	**97479.38**
Rate per tonne	(A+B+C+D)/1.0			Rs:	**97479.38**

IRR-TAW-5-2 Providing and laying **insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates crushed from tunnel excavated muck **for filling and levelling over-cuts in bed due to geological faults etc.,** including cost of all materials, machinery, labour, cleaning bed, batching, mixing, conveying and laying, levelling, compacting, finishing, curing, lighting, ventilation, drainage etc., complete **with initial lead upto 1 km and all lifts. (Cement content : 220 kg / cum, CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum, Superplasticizer 0.4% by wt. of cement)**

DATA **RATE ANALYSIS** UNIT : **28.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	6160.00000	4.22	25995.20
2	Coarse aggregate 40-20 mm	cum	12.60000	1562.00	19681.20
	Coarse aggregate 20-10 mm	cum	7.56000	1635.00	12360.60
	Coarse aggregate 10 mm below	cum	5.04000	1190.00	5997.60
3	Fine aggregate (Un-Screened)	cum	11.20000	0.00	0.00
4	Super Plasticizer	kg	24.64000	64.00	1576.96
5	Sundries	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**65695.56**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Batching plant 2 x 1 cum	Hour	8.00000	394.33	3154.64
	Fuel / Energy charges	Hour	8.00000	380.69	3045.52
2	Agitator car 2 cum	Hour	16.00000	791.29	12660.64
	Fuel / Energy charges	Hour	16.00000	1587.53	25400.48
3	10 hp pump (ele)	Hour	8.00000	7.29	58.32
	Fuel / Energy charges	Hour	8.00000	84.60	676.80
4	Needle vibrator 40 mm dia	Hour	8.00000	8.10	64.80
	Fuel / Energy charges	Hour	8.00000	8.46	67.68
5	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**45212.88**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Batching plant	Hour	8.00000	621.38	4971.04
2	Crew for Agitator car	Hour	16.00000	516.36	8261.76
3	Crew for Pump	Hour	8.00000	153.47	1227.76
4	Crew for Needle vibrator	Hour	8.00000	290.10	2320.80
5	Mason Class-I	Day	1.00000	840.00	840.00
6	work inspector	Day	1.00000	920.00	920.00
7	mazdoor				
	for cleaning bed	Day	2.00000	680.00	1360.00
	for loading material bin (Cement)	Day	3.00000	680.00	2040.00
	for miscellaneous works at BP	Day	2.00000	680.00	1360.00
	for laying concrete	Day	7.00000	680.00	4760.00
	for conveying laying concrete	Day	14.00000	680.00	9520.00
	for cleaning bed	Day	2.00000	680.00	1360.00
	for washing CA / curing	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**40301.36**

labour component/unit qty		1439.30
Add contractor's profit and overhead charges	13.615%	196.00
labour component/unit qty (including contractor's profit)		**1635.30**

ABSTRACT:

A. Cost of Materials				Rs:	65695.56
B. Hire charges of Machinery				Rs:	45212.88
C. Cost of Labour				Rs:	40301.36
			Total	Rs:	151209.80
Add for Air and Water line @		1.00%		Rs:	1512.10
Add for Ventilation @		4.50%		Rs:	6804.44
Add for Lighting @		1.60%		Rs:	2419.36
Add for Ele sub-station / Demand charges @		2.50%		Rs:	3780.25
[illegible]			Total	Rs:	165725.95
percentages)		13.615%		Rs:	22563.59
Lead Charges for 1 Km for FA	11.20	cum @	46.41 Rs./Cum		519.81
Lead Charges for 1 Km for CA	25.20	cum @	44.62 Rs./Cum		1124.34
Total cost for		28.00 cum		Rs:	**189933.69**
Rate per cum	(A+B+C+D)/28.0			Rs:	**6783.35**

IRR-TAW-5-3 Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sqmm) grade **cement concrete using 40 mm and down size** approved clean, hard, graded aggregates crushed from tunnel muck **for kerb and bed lining** including cost of all materials, machinery, labour, formwork, batching, mixing, conveying upto placing point in agitator cars, placing in position, levelling, vibrating, finishing, curing, ventilation, lighting, drainage and all other ancillary operations etc., complete **with lead upto 1 km and all lifts.**
(Cement content 330 kg / cum for use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

DATA **RATE ANALYSIS** UNIT : **28.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	kg	9240.00000	4.22	38992.80
	Cement for incidentals @ 1 kg / cum	kg	28.00000	4.22	118.16
2	Fine aggregate (Un-Screened)	cum	11.20000	0.00	0.00
3	Coarse aggregate 40-20 mm	cum	12.60000	1562.00	19681.20
	Coarse aggregate 20-10 mm	cum	7.56000	1635.00	12360.60
	Coarse aggregate 10-4.75 mm	cum	5.04000	1190.00	5997.60
4	Super plasticiser	kg	36.96000	64.00	2365.44
5	Use rate of shuttering for kerb / bed	sqm	28.00000	227.62	6373.36
6	Sundries	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**85973.16**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Batching plant 2 x 1.00 cum	Hour	8.00000	394.33	3154.64
	Fuel / Energy charges	Hour	8.00000	380.69	3045.52
2	Agitator car 2 cum (2 Nos)	Hour	16.00000	791.29	12660.64
	Fuel / Energy charges	Hour	16.00000	1587.53	25400.48
3	Needle Vibrator	Hour	8.00000	8.10	64.80
	Fuel / Energy charges	Hour	8.00000	8.46	67.68
4	Pump 10 hp (Ele)	Hour	8.00000	7.29	58.32
	Fuel / Energy charges	Hour	8.00000	84.60	676.80
5	Sundries	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**45338.88**

C. LABOUR:

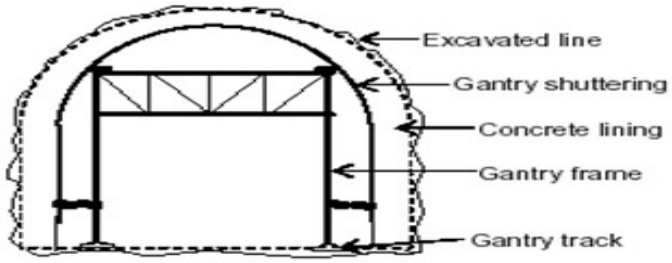
Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Batching plant	Hour	8.00000	621.38	4971.04
2	Crew for Agitator car	Hour	16.00000	516.36	8261.76
3	Crew for vibrator	Hour	8.00000	290.10	2320.80
4	Crew for pump	Hour	8.00000	153.47	1227.76
5	For scaling & cleaning bed				
	Hammerman	Day	2.00000	730.00	1460.00
	mazdoor	Day	6.00000	680.00	4080.00
6	For loading cement to BP bin				
	mazdoor	Day	3.00000	680.00	2040.00
7	For miscellaneous work at BP				
	mazdoor	Day	2.00000	680.00	1360.00
8	For wetting C.A & curing				
	mazdoor	Day	2.00000	680.00	1360.00
9	Laying concrete for kerb/ invert				
	Mason Cl I	Day	2.00000	840.00	1680.00
	Mason Cl II	Day	2.00000	730.00	1460.00
	mazdoor	Day	21.00000	680.00	14280.00
	work inspector	Day	1.00000	920.00	920.00
10	Labour charges for shuttering	sqm	28.0000	167.70	4695.60
			Total cost of Labour	Rs:	**50116.96**

labour component/unit qty		1789.90	
Add contractor's profit and overhead charges	13.615%	243.70	
labour component/unit qty (including contractor's profit)		**2033.60**	

ABSTRACT:

A. Cost of Materials				Rs:	85973.16
B. Hire charges of Machinery				Rs:	45338.88
C. Cost of Labour				Rs:	50116.96
			Total	Rs:	181429.00
Add for Air and Water line @		1.00%		Rs:	1814.29
Add for Ventilation @		4.50%		Rs:	8164.31
Add for Lighting @		1.60%		Rs:	2902.86
Add for Ele sub-station / Demand charges @		2.50%		Rs:	4535.73
			Total	Rs:	198846.19
D.Add for contractor's profit and overheads on (A+B+C+other percentages)		13.615%		Rs:	27072.91
Lead Charges for 1 Km for FA	11.20	cum @	46.4117275	Rs.	519.81
Lead Charges for 1 Km for CA	25.20	cum @	44.6166105	Rs.	1124.34
Total cost for	28.00	cum		Rs:	**227563.25**
Rate per cum	(A+B+C+D)/28.0			Rs:	**8127.26**

IRR-TAW-5-4 Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sqmm) grade cement concrete using **40 mm and down size** approved clean, hard, graded aggregates crushed from tunnel muck **for sides and arch lining** including cost of all materials, machinery, labour, formwork, batching, mixing, conveying upto placing point in agitator cars, placing in position, levelling, vibrating, finishing, curing, ventilation, lighting, drainage and all other ancillary operations etc., complete **with lead upto 1 km and all lifts. (Cement content 330 kg / cum for use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**



DATA: **RATE ANALYSIS** UNIT : **48.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	kg	15840.00000	4.22	66844.80
	Cement for incidentals @ 1 kg / cum	kg	48.00000	4.22	202.56
2	Fine aggregate (Un-Screened)	cum	19.20000	0.00	0.00
3	Coarse aggregate 40-20 mm	cum	21.60000	1562.00	33739.20
	Coarse aggregate 20-10 mm	cum	12.96000	1635.00	21189.60
	Coarse aggregate 10-4.75 mm	cum	8.64000	1190.00	10281.60
4	Super plasticiser	kg	63.36000	64.00	4055.04
5	Use rate of end shuttering	sqm	6.00000	227.62	1365.72
6	Use rate of steel gantry	sqm	100.00000	167.70	16770.00
7	Sundries (placer pipe etc)	LS	5.00000	42.00	210.00
			Total cost of Materials	Rs:	**154658.52**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air compressor (Ele) 8.5 cmm	Hour	16.00000	177.65	2842.40
	Fuel / Energy charges @ 75 % load	Hour	12.00000	475.86	5710.32
2	Batching plant 2 x 1.00 cum	Hour	12.00000	394.33	4731.96
	Fuel / Energy charges	Hour	12.00000	380.69	4568.28
3	Agitator car 2 cum (2 Nos)	Hour	32.00000	791.29	25321.28
	Fuel / Energy charges	Hour	32.00000	1587.53	50800.96
4	Concrete placer pump	Hour	16.00000	965.22	15443.52
	Fuel / Energy charges	Hour	16.00000	507.58	8121.28
5	Needle Vibrator / Shutter vibrator	Hour	8.00000	8.10	64.80
	Fuel / Energy charges	Hour	8.00000	8.46	67.68
6	Pump 10 hp (Ele)	Hour	8.00000	7.29	58.32
	Fuel / Energy charges	Hour	8.00000	84.60	676.80
7	Sundries	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**118617.60**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew charges for Air compressor	Hour	16.00000	302.25	4836.00
2	Crew charges for Batching plant	Hour	16.00000	621.38	9942.08
3	Crew charges for Agitator car	Hour	32.00000	516.36	16523.52
4	Crew charges for placer pump	Hour	16.00000	302.25	4836.00
5	Crew charges for vibrator	Hour	8.00000	290.10	2320.80
6	Crew charges for Pump	Hour	8.00000	153.47	1227.76
7	For scaling & cleaning				
	Stone chiseller Cl II	Day	0.50000	730.00	365.00
	mazdoor	Day	1.00000	680.00	680.00
8	For dismantling / Laying track				
	Surveyer	Day	0.50000	1255.00	627.50
	Fitter shuttering	Day	0.50000	730.00	365.00
	Helper shuttering 2 x 0.5	Day	1.00000	730.00	730.00
	Khalasi 6 x 0.5	Day	3.00000	820.00	2460.00
	mazdoor 2 x 0.5	Day	1.00000	680.00	680.00
9	For Moving / Positioning gantry				
	Surveyer	Day	0.50000	1255.00	627.50
	Foreman	Day	0.50000	925.00	462.50
	Fitter shuttering	Day	0.50000	730.00	365.00
	Helper shuttering 2 x 0.5	Day	1.00000	730.00	730.00
	Khalasi 6 x 0.5	Day	3.00000	820.00	2460.00
	mazdoor 2 x 0.5	Day	1.00000	680.00	680.00
10	For loading cement to BP bin				
	mazdoor	Day	5.00000	680.00	3400.00
11	For miscellaneous works of BP				
	mazdoor	Day	2.00000	680.00	1360.00
12	For Erection/Dismantling bulk head	sqm	6.00000	167.70	1006.20
13	For Laying concrete by placer				
	Masom Cl I	Day	3.00000	840.00	2520.00
	mazdoor	Day	9.00000	680.00	6120.00
	work inspector	Day	3.00000	920.00	2760.00
14	For wetting C.A / Curing etc				
	mazdoor	Day	3.00000	680.00	2040.00
			Total cost of Labour	Rs:	**70124.86**

labour component/unit qty		1460.90
Add contractor's profit and overhead charges	13.615%	198.90
labour component/unit qty (including contractor's profit)		**1659.80**

ABSTRACT:

A. Cost of Materials			Rs:	154658.52
B. Hire charges of Machinery			Rs:	118617.60
C. Cost of Labour			Rs:	70124.86
		Total	Rs:	343400.98
Add for Air and Water line @	1.00%		Rs:	3434.01
Add for Ventilation @	4.50%		Rs:	15453.04
Add for Lighting @	1.60%		Rs:	5494.42
Add for Ele sub-station / Demand charges @	2.50%		Rs:	8585.02
		Total	Rs:	376367.47
D.Add for contractor's profit and overheads on (A+B+C+other percentages)	13.615%		Rs:	51242.43
Lead Charges for 1 Km for FA	19.20	cum @	46.41 Rs./Cum	891.11
Lead Charges for 1 Km for CA	43.20	cum @	44.62 Rs./Cum	1927.44
Total cost for	48.00	cum	Rs:	**430428.45**
Rate per cum	(A+B+C+D)/48.0		Rs:	**8967.26**

IRR-TAW-6 **DRILLING & GROUTING WORKS :**

IRR-TAW-6-1 **Drilling 32 mm diameter grout holes in concrete / rock by percussion drilling** using jack hammer or stooper drills as directed to specified depth for consolidation / contact grouting including cost of all materials, machinery, labour, cleaning holes, ventilation, lighting, drainage and all other ancillary operations etc., complete.

DATA: **RATE ANALYSIS** UNIT : **100.00** Rm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of drill rod	Rm	100.00000	47.47	4747.00
	Reconditioning charges @	10%			474.70
2	Use rate of air hose 4 Nos	Hour	32.00000	6.00	192.00
3	Use rate of water hose 4 Nos	Hour	32.00000	6.09	194.88
4	Sundries	LS	3.00000	42.00	126.00
			Total cost of Materials	Rs:	**5734.58**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air compressor 15 cmm (ele)	Hour	8.00000	140.61	1124.88
	Fuel / Energy charges	Hour	8.00000	1057.45	8459.60
2	Pump 10 hp (ele)	Hour	4.00000	7.29	29.16
	Fuel / Energy charges	Hour	4.00000	84.60	338.40
3	Jack hammer	Hour	32.00000	19.11	611.52
	Fuel / Energy charges	Hour	32.00000	0.00	0.00
4	Pusher leg	Hour	32.00000	15.15	484.80
	Fuel / Energy charges	Hour	32.00000	0.00	0.00
5	Drilling jumbo	Hour	8.00000	396.21	3169.68
	Fuel / Energy charges	Hour	8.00000	77.94	623.52
6	Sundries	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**15051.56**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew charges for Air compressor	Hour	8.00000	322.40	2579.20
2	Crew charges for Pump	Hour	4.00000	153.47	613.88
3	Crew charges for Jack Hammer	Hour	32.00000	604.50	19344.00
4	Crew charges for Drilling Jumbo	Hour	8.00000	322.40	2579.20
5	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**26476.28**

labour component/unit qty		264.80
Add contractor's profit and overhead charges	13.615%	36.10
labour component/unit qty (including contractor's profit)		**300.90**

ABSTRACT:

A. Cost of Materials			Rs:	5734.58
B. Hire charges of Machinery			Rs:	15051.56
C. Cost of Labour			Rs:	26476.28
		Total	Rs:	47262.42
Add for Air and Water line @	1.00%		Rs:	472.62
Add for Ventilation @	4.50%		Rs:	2126.81
Add for Lighting @	1.60%		Rs:	756.20
Add for Ele sub-station / Demand charges @	2.50%		Rs:	1181.56
		Total	Rs:	51799.61
D.Add for contractor's profit and overheads on (A+B+C+other percentages)	13.615%		Rs:	7052.52
Total cost for	100.00 Rm		Rs:	**58852.13**
Rate per Rm	(A+B+C+D)/100.0		Rs:	**588.52**

IRR-TAW-6-2 **Grouting cement slurry in grout holes** under specified pressure for consolidation / contact grouting including cost of all materials, machinery, labour, redrilling wherever necessary, ventilation,lighting, drainage and other ancillary operations etc., complete **with lead upto 1 km and all lifts.**

DATA:

RATE ANALYSIS UNIT : **1.50** tonne

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	tonne	1.50000	4220.00	6330.00
2	Use rate of grouting hose 50 m	Hour	8.00000	12.00	96.00
3	Use rate of water hose 50 m	Hour	8.00000	12.19	97.52
4	Sundries	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**6607.52**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Grouting machine	Hour	8.00000	24.49	195.92
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
2	Pump 10 hp (ele)	Hour	2.00000	7.29	14.58
	Fuel / Energy charges	Hour	2.00000	84.60	169.20
3	Drilling jumbo	Hour	2.00000	396.21	792.42
	Fuel / Energy charges	Hour	2.00000	77.94	155.88
4	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**1750.40**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Grout pump	Hour	8.00000	483.60	3868.80
2	Crew for pump	Hour	2.00000	153.47	306.94
3	Crew for Drilling jumbo	Hour	2.00000	322.40	644.80
4	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**6180.54**

labour component/unit qty		4120.40
Add contractor's profit and overhead charges	13.615%	561.00
labour component/unit qty (including contractor's profit)		**4681.40**

ABSTRACT:

A. Cost of Materials			Rs:	6607.52
B. Hire charges of Machinery			Rs:	1750.40
C. Cost of Labour			Rs:	6180.54
		Total	Rs:	14538.46
Add for Air and Water line @	1.00%		Rs:	145.38
Add for Ventilation @	4.50%		Rs:	654.23
Add for Lighting @	1.60%		Rs:	232.62
Add for Ele sub-station / Demand charges @	2.50%		Rs:	363.46
		Total	Rs:	15934.15
D.Add for contractor's profit and overheads on (A+B+C+other percentages)	13.615%		Rs:	2169.43
Total cost for	1.50 tonne		Rs:	**18103.58**
Rate per tonne	(A+B+C+D)/1.50		Rs:	**12069.05**

IRR-TAW-6-3 **Drilling 75 mm diameter drainage holes** vertical or inclined in **rock / concrete** in tunnel by percussion drilling using waggon drill or other suitable drilling equipment including cost of all materials, machinery, labour, ventilation, lighting, drainage etc., complete.

DATA **RATE ANALYSIS** UNIT : **120.00** Rm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of cross bit 75 mm dia	Rm	120.00000	156.64	18796.80
2	Use rate of air hose 20 m	Hour	16.00000	4.80	76.80
3	Use rate of water hose 20 m	Hour	16.00000	4.88	78.08
4	Use rate of extension rods	Rm	120.00000	9.65	1158.00
			Total cost of Materials	Rs:	**20109.68**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Waggon drill	Hour	16.00000	204.05	3264.80
	Fuel / Energy charges	Hour	16.00000	0.00	0.00
2	Air compressor 15 cmm (ele)	Hour	8.00000	140.61	1124.88
	Fuel / Energy charges	Hour	8.00000	1057.45	8459.60
3	Pump 10 hp (ele)	Hour	6.00000	7.29	43.74
	Fuel / Energy charges	Hour	6.00000	84.60	507.60
4	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**13484.62**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Waggon drill	Hour	16.00000	516.36	8261.76
2	Crew for Air compressor	Hour	8.00000	322.40	2579.20
3	Crew for Pump	Hour	6.00000	153.47	920.82
4	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**13121.78**

labour component/unit qty		109.30
Add contractor's profit and overhead charges	13.615%	14.90
labour component/unit qty (including contractor's profit)		**124.20**

ABSTRACT:

A. Cost of Materials			Rs:	20109.68
B. Hire charges of Machinery			Rs:	13484.62
C. Cost of Labour			Rs:	13121.78
		Total	Rs:	46716.08
Add for Air and Water line @	1.00%		Rs:	467.16
Add for Ventilation @	4.50%		Rs:	2102.22
Add for Lighting @	1.60%		Rs:	747.46
Add for Ele sub-station / Demand charges @	2.50%		Rs:	1167.90
		Total	Rs:	51200.82
D.Add for contractor's profit and overheads on (A+B+C+other percentages)	13.615%		Rs:	6970.99
Total cost for	120.00 Rm		Rs:	**58171.81**
Rate per Rm	(A+B+C+D)/120.0		Rs:	**484.77**

Chapter III

CANAL AND ALLIED WORKS - Standard Data

(WILL BE WITH E-N-C & TO INCORPORATE CHANGES YEARLY/ AS NEEDED)
FOR THE YEAR : 2026-27

Index- code
IRR-CAW **CANAL AND ALLIED WORKS - DATA RATES**

Directions to add Seigniorage Charges and Additional Lead Charges

Seigniorage Charges:

1. The unit rate for work item in the Standard Data is **exclusive of Seigniorage Charges** wherever applicable.
2. The appropriate Seigniorage Charges for relevant materials are to be added in the Part-B of the estimate

Additional Lead and Lift Charges:

1. Unless otherwise specified the basic rates are inclusive of all lifts.
2. For concrete, masonry and reinforcement items **wherever** initial lead of 1km is considered in the basic rate, the additional lead charges are to be added as follows:
Additional lead charges for Steel, sand, coarse aggregate, stones and stone chips shall be worked out for total lead involved and 1 km lead charges included in basic rate shall be deducted from total lead charges. No loading and unloading charges shall be allowed for any item.
In case of Cement and Steel, Loading and unloading charges are already added in the work item while arriving the unit rate and hence should not be added again
Example:

Total lead for sand from approved sand quarry :			15	Km
Initial lead included in the basic rate in the basic item rate in the data (i.e., item specification) :			1	Km
Additional lead charges :	Lead charges for 5 km	Rs.	123.75	
	Lead charges for next 10 km	Rs.	185.65	
	Total lead charges for 15 km /cum	Rs.	309.40	
	Less 1 km initial lead charges /cum	Rs.	46.41	(-)
	Net additional lead charges / cum	Rs.	262.99	

3. The Leads for Steel shall be from the nearest market place to the Project area

4. For earth/rockfill embankments **wherever** initial lead of 1km is considered in the basic rate, the additional lead charges are to be added as follows:
Additional lead charges for Earth, Murrum etc., shall be worked out for total lead involved and 1 km lead charges included in basic rate shall be deducted from total lead charges. No loading and unloading charges shall be allowed for any item. (same as above)
Example:

Total lead for earth from approved borrow area :			15	Km
Initial lead included in the basic rate in the basic item rate in the data (i.e., item specification) :			1	Km
Additional lead charges :	Lead charges for 5 km	Rs.	123.75	
	Lead charges for next 10 km	Rs.	185.65	
	Total lead charges for 15 km /cum	Rs.	309.40	
	Less 1 km initial lead charges /cum	Rs.	46.41	(-)
	Net additional lead charges / cum	Rs.	262.99	

5. The initial lead up to 50 m as mentioned in some standard data items is meant for manual lead within the working area. For conveyance of materials, the lead required from quarry/Borrow area/ Dump Area to worksite shall be added to the data without deducting the 50 m initial lead charges

CAW - Work Items

IRR-CAW-1 **EXCAVATION WORKS :**

IRR-CAW-1-1 Excavation in **all kinds of soil** including boulders **upto 0.3 m** diameter **for canal**, seating of embankment, filter drains / catch water drains etc., including dressing bed and sides to required level and profile, cost of all materials, machinery, labour, placing the excavated soil neatly in dump area or for the formation of service road / embankment as directed etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **925.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
Total cost of Materials				Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shovel 0.85 cum capacity	Hour	8.00000	1749.78	13998.24
	Fuel / Energy charges	Hour	8.00000	1587.53	12700.24
2	Tippers 5 cum capacity 6 Nos	Hour	48.00000	493.27	23676.96
	Fuel / Energy charges	Hour	48.00000	545.53	26185.44
Total hire charges of Machinery				Rs:	**76560.88**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Shovel	Hour	8.00000	430.30	3442.40
2	Crew for Tipper	Hour	48.00000	322.73	15491.04
3	work inspector	Day	1.00000	920.00	920.00
4	mazdoor	Day	30.00000	680.00	20400.00
				Total cost of Labour	Rs: **40253.44**

labour component/unit qty		43.50
Add contractor's profit and overhead charges	13.615%	5.90
labour component/unit qty (including contractor's profit)		**49.40**

ABSTRACT:

A. Cost of Materials	Rs:	0.00
B. Hire charges of Machinery	Rs:	76560.88
C. Cost of Labour	Rs:	40253.44
Total	Rs:	116814.32
D. Add for contractor's profit and overheads on (A+B+C) 13.615%	Rs:	15904.27
Total cost for 925.00 cum	Rs:	**132718.59**
Rate per cum (A+B+C+D)/925	Rs.	**143.48**

IRR-CAW-1-2 Excavation in **all kinds of soil** including boulders **upto 0.30 m** dia **for field channels**, seating of embankment for field channels etc., including dressing of bed and sides to required profile, cost of all materials, machinery, labour, placing the excavated stuff for formation of service road / embankment as directed etc., complete **with lead upto 10 m and lift upto 3 m.**

DATA: **RATE ANALYSIS** UNIT : **440.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
				Total cost of Materials Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shovel 0.50 cum capacity	Hour	8.00000	1047.41	8379.28
	Fuel / Energy charges	Hour	8.00000	865.93	6927.44
				Total hire charges of Machinery Rs:	**15306.72**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Shovel	Hour	8.00000	430.30	3442.40
2	work inspector	Day	1.00000	920.00	920.00
3	mazdoor	Day	17.00000	680.00	11560.00
				Total cost of Labour Rs:	**15922.40**

labour component/unit qty		36.20
Add contractor's profit and overhead charges	13.615%	4.90
labour component/unit qty (including contractor's profit)		**41.10**

ABSTRACT:

A. Cost of Materials	Rs:	0.00
B. Hire charges of Machinery	Rs:	15306.72
C. Cost of Labour	Rs:	15922.40
Total	Rs:	31229.12
D. Add for contractor's profit and overheads on (A+B+C) 13.615%	Rs:	4251.84
Total cost for 440.00 cum	Rs:	**35480.96**
Rate per cum (A+B+C+D)/440	Rs.	**80.64**

IRR-CAW-1-3 Excavation in **ordinary rock (including HDR) without blasting** including boulders **above 0.30 m upto 0.6 m dia.** for canals, seating of embankment, filter drain / catch water drains etc., including dressing of bed and sides to required level and profile, cost of all materials, machinery, labour, placing the excavated soft rock neatly in dump area or for formation of service road as directed etc., complete **with lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **630.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shovel 0.85 cum capacity	Hour	8.00000	1749.78	13998.24
	Fuel / Energy charges	Hour	8.00000	1587.53	12700.24
2	Tippers 5 cum capacity 5 Nos	Hour	40.00000	493.27	19730.80
	Fuel / Energy charges	Hour	40.00000	545.53	21821.20
				Total hire charges of Machinery Rs:	**68250.48**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Shovel	Hour	8.00000	430.30	3442.40
2	Crew for Tipper	Hour	40.00000	322.73	12909.20
3	work inspector	Day	1.00000	920.00	920.00
4	Crowbarman	Day	11.00000	730.00	8030.00
5	mazdoor	Day	22.00000	680.00	14960.00
			Total cost of Labour	Rs:	**40261.60**

labour component/unit qty 63.90
Add contractor's profit and overhead charges 13.615% 8.70
labour component/unit qty (including contractor's profit) **72.60**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	68250.48
C. Cost of Labour		Rs:	40261.60
	Total	Rs:	108512.08
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	14773.92
Total cost for	630.00 cum	Rs:	**123286.00**
Rate per cum (A+B+C+D)/630		Rs.	**195.69**

IRR-CAW-1-4 Excavation **in ordinary rock (including HDR) without blasting** including boulders **above 0.3 m upto 0.60 m dia.** for field channels, seating of embankment **for field channels** etc., including dressing of bed and sides to required profile, cost of all materials, machinery, labour, placing the excavated stuff for formation of service road as directed etc.,complete **with lead upto 10 m and lift upto 3 m.**

DATA: **RATE ANALYSIS** UNIT : **265.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shovel 0.50 cum capacity	Hour	8.00000	1047.41	8379.28
	Fuel / Energy charges	Hour	8.00000	865.93	6927.44
			Total hire charges of Machinery	Rs:	**15306.72**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Shovel	Hour	8.00000	430.30	3442.40
2	work inspector	Day	1.00000	920.00	920.00
3	Crowbarman	Day	5.00000	730.00	3650.00
4	mazdoor	Day	11.00000	680.00	7480.00
			Total cost of Labour	Rs:	**15492.40**

labour component/unit qty 58.50
Add contractor's profit and overhead charges 13.615% 8.00
labour component/unit qty (including contractor's profit) **66.50**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	15306.72
C. Cost of Labour		Rs:	15492.40
	Total	Rs:	30799.12
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	4193.3
Total cost for	265.00 cum	Rs:	**34992.42**
Rate per cum (A+B+C+D)/265		Rs.	**132.05**

IRR-CAW-1-5 Excavation in **hard rock (including F&F rock) requiring blasting** including boulders **above 0.6 m upto 1.2 m dia. for canals**, seating of embankment, filter drain / catch water drains etc., including dressing bed and sides to required level and profile, cost of all materials, machinery, labour, placing the excavated rock in dump area or for formation of service road as directed etc., complete **with lead upto 1 km and all lifts.**

DATA: RATE ANALYSIS UNIT : **805.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of drill rod 1.5 m length	Rm	316.00000	23.79	7517.64
	Reconditioning charges @	10%			751.76
2	Use rate of 50 m air hose 2 Nos	Hour	24.00000	12.00	288.00
3	Explosive small dia (Kelvex-220)	kg	161.00000	75.00	12075.00
4	Ordinary detonators	Nos	12.00000	9.00	108.00
5	Electric detonators	Nos	215.00000	12.00	2580.00
6	Fuse coil	Rm	520.00000	11.00	5720.00
7	Sundries	LS	5.00000	42.00	210.00
			Total cost of Materials	Rs:	**29250.40**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shovel 0.85 cum capacity	Hour	8.00000	1749.78	13998.24
	Fuel / Energy charges	Hour	8.00000	1587.53	12700.24
2	Tippers 5 cum capacity 5 Nos.	Hour	40.00000	493.27	19730.80
	Fuel / Energy charges	Hour	40.00000	545.53	21821.20
3	Air compressor 8.5 cmm (diesel)	Hour	12.00000	288.50	3462.00
	Fuel / Energy charges	Hour	12.00000	1623.60	19483.20
4	Jack hammers 3 Nos.	Hour	39.00000	19.11	745.29
	Fuel / Energy charges	Hour	39.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**91940.97**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Shovel	Hour	8.00000	430.30	3442.40
2	Crew for Tipper	Hour	40.00000	322.73	12909.20
3	Crew for Air compressor	Hour	12.00000	386.88	4642.56
4	Crew for Jack hammer	Hour	39.00000	604.50	23575.50
5	work inspector	Day	1.00000	920.00	920.00
6	Blaster	Day	1.00000	925.00	925.00
7	Helper blaster	Day	1.00000	730.00	730.00
8	Crowbarman	Day	16.00000	730.00	11680.00
9	Stone breaker	Day	16.00000	730.00	11680.00
10	mazdoor	Day	32.00000	680.00	21760.00
	Total cost of Labour			Rs:	**92264.66**

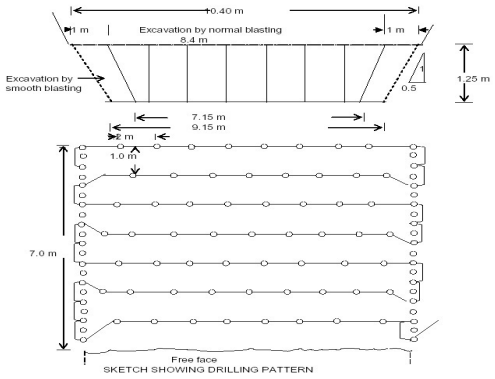
labour component/unit qty		114.60
Add contractor's profit and overhead charges	13.615%	15.60
labour component/unit qty (including contractor's profit)		**130.20**

ABSTRACT:

A. Cost of Materials		Rs:	29250.40
B. Hire charges of Machinery		Rs:	91940.97
C. Cost of Labour		Rs:	92264.66
	Total	Rs:	213456.03
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	29062.04
Total cost for	805.00 cum	Rs:	**242518.07**
Rate per cum (A+B+C+D)/805		Rs.	**301.26**

IRR-CAW-1-6 (a) Excavation **in hard rock of all toughness by blasting** including boulders **above 1.2 m dia. for canals**, seating of embankment, filter drain / catch water drains etc., including levelling the bed by removing all projections by hammering / chiselling, cost of all materials, machinery, labour, placing the excavated rock neatly in approved dump area and levelling the same as directed etc., complete **with initial lead upto 1 km and all lifts.**

Note: i) The rate under this item shall be adopted for canals designed for carrying capacity of less than 15 cumecs or where the average depth of excavation in hard rock is less than 3 m.
ii) The rate includes levelling canal bed by hammering / chiselling all rock projections wherever required.



SKETCH SHOWING DRILLING PATTERN

DATA: **RATE ANALYSIS** UNIT : **68.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of drill rod 1.5 m length	Rm	85.00000	31.71	2695.35
	Reconditioning charges @	10%			269.54
2	Use rate of 50 m air hose 2 Nos.	Hour	13.00000	12.00	156.00
3	Explosive small dia. (Kelvex-220)	kg	21.20000	75.00	1590.00
4	Ordinary detonators	Nos	4.00000	9.00	36.00
5	Electric detonators	Nos	59.00000	12.00	708.00
6	Fuse coil	Rm	90.00000	11.00	990.00
7	Sundries	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**6528.89**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shovel 0.85 cum capacity	Hour	1.10000	1749.78	1924.76
	Fuel / energy charges	Hour	1.10000	1587.53	1746.28
2	Angle dozer 90 hp	Hour	0.25000	1610.29	402.57
	Fuel / Energy charges	Hour	0.25000	1110.54	277.64
3	Tippers 5 cum capacity 4 Nos.	Hour	4.40000	493.27	2170.39
	Fuel / Energy charges	Hour	4.40000	545.53	2400.33
4	Air compressor 8.5 cmm (diesel) 1 Nos	Hour	6.50000	288.50	1875.25
	Fuel / Energy charges	Hour	6.50000	1623.60	10553.40
5	Jack hammers 2 Nos.	Hour	13.00000	19.11	248.43
	Fuel / Energy charges	Hour	13.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**21599.05**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Shovel	Hour	1.10000	430.30	473.33
2	Crew for Dozer	Hour	0.25000	430.30	107.58
3	Crew for Tipper	Hour	4.40000	322.73	1420.01
4	Crew for Air compressor	Hour	6.50000	386.88	2514.72
5	Crew for Jack hammer	Hour	13.00000	604.50	7858.50
6	work inspector	Day	0.50000	920.00	460.00
7	Blaster	Day	1.00000	925.00	925.00
8	Helper blaster	Day	1.00000	730.00	730.00
9	Crowbarman	Day	0.50000	730.00	365.00
10	Stone breaker	Day	0.50000	730.00	365.00
11	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**16579.14**

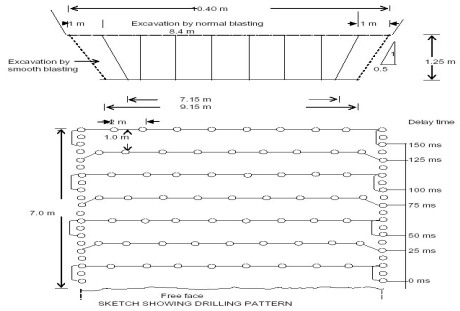
labour component/unit qty		243.80	
Add contractor's profit and overhead charges	13.615%	33.20	
labour component/unit qty (including contractor's profit)		**277.00**	

ABSTRACT:

A. Cost of Materials		Rs:	6528.89
B. Hire charges of Machinery		Rs:	21599.05
C. Cost of Labour		Rs:	16579.14
	Total	Rs:	44707.08
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	6086.87
Total cost for	68.00 cum	Rs:	**50793.95**
Rate per cum (A+B+C+D)/68		Rs.	**746.97**

IRR-CAW-1-7 (b) Excavation **in hard rock of all toughness** including boulders **above 1.2 m dia.** by approved **controlled blasting methods for canals**, cut-off trench of embankment, filter / catch-water drains etc., including controlling fly-rock by muffling arrangements such as placing 50 x 50 mm opening chain link mesh or waste tyres and sand bags, monitoring ground vibrations at specified locations, costof all materials, machinery, labour, placing excavated rock neatly in approved dump area or other place as directed etc., complete **with lead upto 1 km and all lifts.**

Note: i) The rate under this item shall be adopted for canals designed for carrying capacity of less than 15 cumecs or where the average depth of excavation in hard rock is less than 3 m.
ii) The rate under this item shall be adopted where the control of fly-rock and ground vibrations is required.



SKETCH SHOWING DRILLING PATTERN

DATA **RATE ANALYSIS** UNIT : **68.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of drill rod 1.5 m length	Rm	85.00000	31.71	2695.35
	Reconditioning charges @	10%			269.54
2	Use rate of 50 m air hose 2 Nos.	Hour	13.00000	12.00	156.00
3	Use rate of wire mesh	sqm	94.00000	59.35	5578.90
4	Use rate of sand bag	Nos	98.00000	21.60	2116.80
5	Explosive small dia. (Kelvex-220)	kg	21.20000	75.00	1590.00
6	Ordinary detonators	Nos	4.00000	9.00	36.00
7	Electric delay detonators	Nos	59.00000	24.00	1416.00
8	Fuse coil	Rm	90.00000	11.00	990.00
9	Sundries	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**14932.59**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shovel 0.85 cum capacity	Hour	1.10000	1749.78	1924.76
	Fuel / Energy charges	Hour	1.10000	1587.53	1746.28
2	Angle dozer 90 hp	Hour	0.25000	1610.29	402.57
	Fuel / Energy charges	Hour	0.25000	1110.54	277.64
3	Tippers 5 cum capacity 3 Nos.	Hour	4.40000	493.27	2170.39
	Fuel / Energy charges	Hour	4.40000	545.53	2400.33
4	Air compressor 8.5 cmm (diesel) 1 No	Hour	6.50000	288.50	1875.25
	Fuel / Energy charges	Hour	6.50000	1623.60	10553.40
5	Jack hammers 2 Nos.	Hour	13.00000	19.11	248.43
	Fuel / Energy charges	Hour	13.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**21599.05**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Shovel	Hour	1.10000	430.30	473.33
2	Crew for Angle dozer	Hour	0.25000	430.30	107.58
3	Crew for Tipper	Hour	4.40000	322.73	1420.01
4	Crew for Air compressor	Hour	6.50000	386.88	2514.72
5	Crew for Jack hammer	Hour	13.00000	604.50	7858.50
6	work inspector	Day	0.50000	920.00	460.00
7	Blaster	Day	0.50000	925.00	462.50
8	Helper blaster	Day	0.50000	730.00	365.00
9	Stone chiseller Cl - II	Day	0.50000	730.00	365.00
10	Stone breaker	Day	0.50000	730.00	365.00
11	mazdoor	Day	3.00000	680.00	2040.00
	Total cost of Labour			Rs:	**16431.64**

labour component/unit qty		241.60	
Add contractor's profit and overhead charges	13.615%	32.90	
labour component/unit qty (including contractor's profit)		**274.50**	

ABSTRACT:

A. Cost of Materials			Rs:	14932.59
B. Hire charges of Machinery			Rs:	21599.05
C. Cost of Labour			Rs:	16431.64
		Total	Rs:	52963.28
Add for blasting studies & monitoring vibrations etc	0.50%		Rs:	264.82
		Total	Rs:	53228.10
D. Add for contractor's profit and overheads on (A+B+C+blasting study charges)	13.615%		Rs:	7247.01
Total cost for 68.00 cum			Rs:	**60475.11**
Rate per cum (A+B+C+D)/68			Rs.	**889.34**

IRR-CAW-1-8 (c)

Excavation **in hard rock of all toughness** including boulders **above 1.2 m dia. for dressing canal sides** neatly on either side to required profile by line drilling and smooth blasting including removing under-cuts by chiselling / hammering, placing the excavated rock neatly in dump area or other place as directed, cost of all materials, machinery, labour etc., complete **with lead upto 1 km and all lifts.**

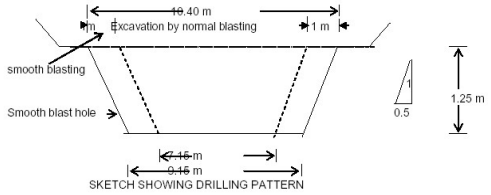
Note: i) For excavation of canal below free board level combination of normal / controlled blasting and line drilling and smooth blasting shall be adopted to obtain neat side slopes. For the purpose of payment 1 m width of excavation on either side shall be treated as excavation by line drilling and smooth blasting and remaining portion shall be treated as excavation by normal / controlled blasting as the case may be.

ii) The rate under this item shall be adopted for canals designed for carrying capacity of less than 15 cumecs or where the average depth of excavation in hard rock is less than 3 m.

iii) The rate includes controlling fly-rock wherever required.

iv) The rate under this item shall be paid only on ascertaining that the excavated face has come off neatly as per specifications or atleast 50 percent of smooth blast holes are visible for inspection and are spaced at specified interval.

v) In case, where the above criteria is not fulfilled payment shall be restricted to rate provided for excavation by normal blasting or controlled blasting as the case may be.



SKETCH SHOWING DRILLING PATTERN

DATA

RATE ANALYSIS

A. MATERIALS: UNIT : **17.50** cum

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of drill rod 1.5 m length	Rm	63.00000	31.71	1997.73
	Reconditioning charges @	10%			199.77
2	Use rate of 50 m air hose 2 Nos.	Hour	10.00000	12.00	120.00
3	Explosive small dia. (Kelvex-220)	kg	3.50000	75.00	262.50
4	Electric delay detonators	Nos	22.00000	24.00	528.00
5	Fuse coil	Rm	20.00000	11.00	220.00
6	Sundries	LS	1.00000	42.00	42.00
			Total cost of Materials	Rs:	**3370.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shovel 0.85 cum capacity	Hour	0.28000	1749.78	489.94
	Fuel / Energy charges	Hour	0.28000	1587.53	444.51
2	Tippers 5 cum capacity 4 Nos.	Hour	1.12000	493.27	552.46
	Fuel / Energy charges	Hour	1.12000	545.53	610.99
3	Air compressor 8.5 cmm (diesel) 1 Nos	Hour	5.00000	288.50	1442.50
	Fuel / Energy charges	Hour	5.00000	1623.60	8118.00
4	Jack hammers 2 Nos.	Hour	10.00000	19.11	191.10
	Fuel / Energy charges	Hour	10.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**11849.50**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Shovel	Hour	0.50000	430.30	215.15
2	Crew for Tipper	Hour	1.12000	322.73	361.46
3	Crew for Air compressor	Hour	5.00000	386.88	1934.40
4	Crew for Jack hammer	Hour	10.00000	604.50	6045.00
5	work inspector	Day	0.50000	920.00	460.00
6	Blaster	Day	0.50000	925.00	462.50
7	Helper blaster	Day	0.50000	730.00	365.00
8	Stone breaker	Day	0.50000	730.00	365.00
9	Stone chiseller CI - II	Day	0.50000	730.00	365.00
10	mazdoor	Day	1.00000	680.00	680.00
	Total cost of Labour			Rs:	**11253.51**

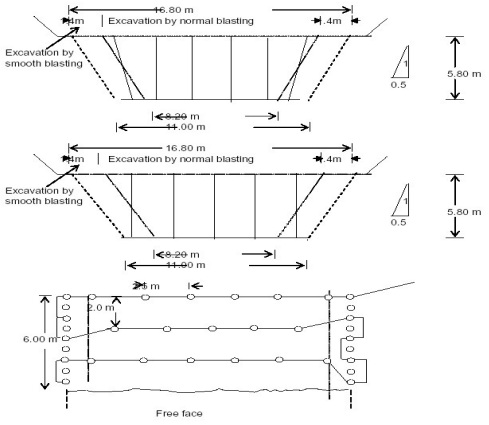
labour component/unit qty		643.10	
Add contractor's profit and overhead charges	13.615%	87.60	
labour component/unit qty (including contractor's profit)		**730.70**	

ABSTRACT:

A. Cost of Materials			Rs:	3370.00
B. Hire charges of Machinery			Rs:	11849.50
C. Cost of Labour			Rs:	11253.51
		Total	Rs:	26473.01
Add for blasting studies & monitoring vibrations etc	0.50%		Rs:	132.37
		Total	Rs:	26605.38
D. Add for contractor's profit and overheads on (A+B+C+blasting study charges)	13.615%		Rs:	3622.32
Total cost for 17.50 cum			Rs:	**30227.70**
Rate per cum (A+B+C+D)/17.50			Rs.	**1727.30**

IRR-CAW-1-9 (a) Excavation **in hard rock by blasting** including boulders **above 1.2 m dia. for canals**, seating embankment etc., including levelling bed by removing all projections by hammering / chiselling, cost of all materials, machinery, labour, placing the excavated rock neatly in approved dump area and levelling the same as directed etc.,complete with **initial lead upto 1 km and all lifts.**

Note: i) The rate under this item shall be adopted for canals designed for carrying capacity of more than 15 cumecs or where the average depth of excavation in hard rock is more than 3 m.
ii) The rate includes levelling canal bed by hammering / chiselling all rock projections wherever required.



SKETCH SHOWING DRILLING PATTERN

DATA: **RATE ANALYSIS** Unit: **386.00** Cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of T.C bit 100 mm dia	Rm	104.00000	184.39	19176.56
2	Use rate of Extension rod with coupling sleeve	Rm	104.00000	7.24	752.96
3	Use rate of Jack hammer drill rod 1.5 m	Rm	12.00000	31.71	380.52
	reconditioning charges @	10%			38.05
4	Use rate of 50 m air hose for waggon drill	Hour	10.50000	18.13	190.37
	Use rate of 25 m air hose for JH 2 Nos	Hour	1.00000	12.00	12.00
5	High strength ANFO booster	kg	38.00000	75.00	2850.00
6	ANFO	kg	155.00000	48.00	7440.00
7	Diesel oil	ltr	35.00000	104.96	3673.60
8	Explosive small dia (Kelvex-220)	kg	4.00000	75.00	300.00
9	Ordinary detonators	Nos	20.00000	9.00	180.00
10	D-cord	Rm	145.00000	9.00	1305.00
11	Detonating fuse coil	Rm	20.00000	11.00	220.00
12	Sundries	LS	5.00000	42.00	210.00
			Total cost of Materials	Rs:	**36729.06**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tippers 5 cum capacity	Hour	24.84000	493.27	12252.83
	Fuel / Energy charges	Hour	24.84000	545.53	13550.97
2	Shovel 0.85 cum capacity	Hour	6.21000	1749.78	10866.13
	Fuel / Energy charges	Hour	6.21000	1587.53	9858.56
3	Angle dozer	Hour	2.00000	1610.29	3220.58
	Fuel / Energy charges	Hour	2.00000	1110.54	2221.08
4	Air compressor 8.5 cmm (diesel)	Hour	11.50000	288.50	3317.75
	Fuel / Energy charges	Hour	11.50000	1623.60	18671.40
5	Waggon drill	Hour	10.50000	204.05	2142.53
	Fuel / Energy charges	Hour	10.50000	0.00	0.00
6	Jack hammer	Hour	2.00000	19.11	38.22
	Fuel / Energy charges	Hour	2.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**76140.05**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Tipper	Hour	24.84000	322.73	8016.61
2	Crew for Shovel	Hour	6.21000	430.30	2672.16
3	Crew for Dozer	Hour	2.00000	430.30	860.60
4	Crew for Air compressor	Hour	11.50000	386.88	4449.12
5	Crew for Waggon drill	Hour	10.50000	516.36	5421.78
6	Crew for Jack hammer	Hour	2.00000	604.50	1209.00
7	work inspector	Day	2.00000	920.00	1840.00
8	Blaster	Day	1.00000	925.00	925.00
9	Helper blaster	Day	1.00000	730.00	730.00
10	Stone chiseller Cl - II	Day	1.00000	730.00	730.00
11	Stone breaker	Day	1.00000	730.00	730.00
12	mazdoor	Day	3.00000	680.00	2040.00
			Total cost of Labour	Rs:	**29624.27**

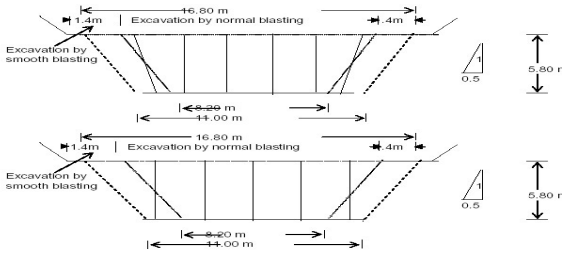
labour component/unit qty		76.70	
Add contractor's profit and overhead charges	13.615%	10.40	
labour component/unit qty (including contractor's profit)		**87.10**	

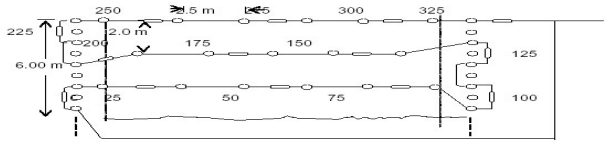
ABSTRACT:

A. Cost of Materials		Rs:	36729.06
B. Hire charges of Machinery		Rs:	76140.05
C. Cost of Labour		Rs:	29624.27
	Total	Rs:	142493.38
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	19400.47
Total cost for	386.00 Cum	Rs:	**161893.85**
Rate per Cum (A+B+C+D)/386		Rs.	**419.41**

IRR-CAW-1-10 (b) Excavation **in hard rock of all toughness** including boulders **above 1.2 m dia.** by approved **controlled blasting methods for canals, cut-off trench of embankment etc.**, including controlling fly-rock by muffling arrangements such as placing 50 x 50 mm opening chain link mesh or waste tyres and sand bags, monitoring ground vibrations at specified locations, cost of all materials, machinery, labour, placing excavated rock neatly in approved dump area or other place as directed etc., complete **with lead upto 1 km and all lifts.**

Note: i) The rate under this item shall be adopted for canals designed for carrying capacity of more than 15 cumecs or where the average depth of excavation in hard rock is more than 3 m.
ii) The rate under this item shall be adopted where the control of fly-rock and ground vibrations is required.





Free face
Numbers 0 , 25 , 50 upto 325 indicate trunk delays
SKETCH SHOWING DRILLING PATTERN

DATA **RATE ANALYSIS** UNIT : **386.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of T.C bit 100 mm dia	Rm	104.00000	184.39	19176.56
2	Use rate of Extension rod with coupling sleeve	Rm	104.00000	7.24	752.96
3	Use rate of Jack hammer drill rod 1.6 m	Rm	12.00000	31.71	380.52
	reconditioning charges @	10%			38.05
4	Use rate of 50 m air hose 50 mm 1 No.	Hour	10.50000	18.13	190.37
	Use rate of 25 mm air hose 2 Nos	Hour	2.00000	12.00	24.00
5	High strength ANFO booster	kg	38.00000	75.00	2850.00
6	ANFO	kg	155.00000	48.00	7440.00
7	Diesel oil	ltr	35.00000	104.96	3673.60
8	Explosive small dia (Kelvex-220)	kg	4.00000	75.00	300.00
9	Ordinary detonators	Nos	20.00000	9.00	180.00
10	Shock tube detonators	Rm	120.00000	44.00	5280.00
11	Noiseless trunk line delays	Nos	12.00000	23.00	276.00
12	Detonating fuse coil	Rm	20.00000	11.00	220.00
13	Use rate of chain link wire mesh	sqm	132.00000	189.90	25066.80
14	Use rate of sand bag	Nos	110.00000	21.60	2376.00
15	Sundries	LS	20.00000	42.00	840.00
			Total cost of Materials	Rs:	**69064.86**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tippers 5 cum capacity	Hour	30.00000	493.27	14798.10
	Fuel / Energy charges	Hour	30.00000	545.53	16365.90
2	Shovel 0.85 cum capacity	Hour	10.00000	1749.78	17497.80
	Fuel / Energy charges	Hour	10.00000	1587.53	15875.30
3	Angle dozer	Hour	2.00000	1610.29	3220.58
	Fuel / Energy charges	Hour	2.00000	1110.54	2221.08
4	Air compressor 8.5 cmm (diesel)	Hour	12.50000	288.50	3606.25
	Fuel / Energy charges	Hour	12.50000	1623.60	20295.00
5	Waggon drill	Hour	11.50000	204.05	2346.58
	Fuel / Energy charges	Hour	11.50000	0.00	0.00
6	Jack hammer	Hour	2.00000	19.11	38.22
	Fuel / Energy charges	Hour	2.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**96264.81**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Tipper	Hour	30.00000	322.73	9681.90
2	Crew for Shovel	Hour	10.00000	430.30	4303.00
3	Crew for Dozer	Hour	2.00000	430.30	860.60
4	Crew for Air compressor	Hour	12.50000	386.88	4836.00
5	Crew for Waggon drill	Hour	11.50000	516.36	5938.14
6	Crew for Jack hammer	Hour	2.00000	604.50	1209.00
7	work inspector	Day	1.50000	920.00	1380.00
8	Blaster	Day	0.50000	925.00	462.50
9	Helper blaster	Day	0.50000	730.00	365.00
10	Stone chiseller Cl - II	Day	1.00000	730.00	730.00
11	Stone breaker	Day	1.00000	730.00	730.00
12	mazdoor	Day	5.00000	680.00	3400.00
			Total cost of Labour	Rs:	**33896.14**

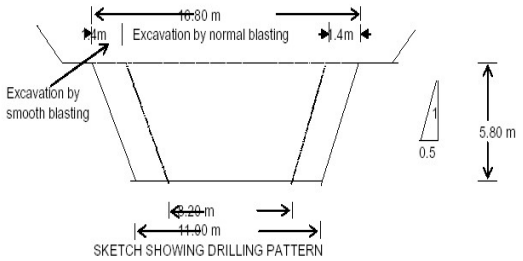
labour component/unit qty		87.80
Add contractor's profit and overhead charges	13.615%	12.00
labour component/unit qty (including contractor's profit)		**99.80**

ABSTRACT:

A. Cost of Materials			Rs:	69064.86
B. Hire charges of Machinery			Rs:	96264.81
C. Cost of Labour			Rs:	33896.14
		Total	Rs:	199225.81
Add for blasting studies & monitoring vibrations etc	0.50%		Rs:	996.13
		Total	Rs:	200221.94
D. Add for contractor's profit and overheads on (A+B+C+blasting study charges)	13.615%		Rs:	27260.22
Total cost for 386.00 cum			Rs:	**227482.16**
Rate per cum (A+B+C+D)/386			Rs.	**589.33**

IRR-CAW-1-11 (c) Excavation **in hard rock of all toughness including boulders above 1.2 m dia. for dressing canal sides** neatly on either side to required profile **by line drilling and smooth blasting** including removing under-cuts by chiselling / hammering, placing the excavated rock neatly in dump area or other place as directed, cost of all materials, machinery, labour etc., complete **with lead upto 1 km and all lifts.**

Note: i) For excavation of canal below free board level combination of normal / controlled blasting and line drilling and smooth blasting shall be adopted to obtain neat side slopes. For the purpose of payment 1 m width of excavation on either side shall be treated as excavation by line drilling and smooth blasting and remaining portion shall be treated as excavation by normal / controlled blasting as the case may be.
ii) The rate under this item shall be adopted for canals designed for carrying capacity of more than 15 cumecs or where the average depth of excavation in hard rock is more than 3 m.
iii) The rate includes controlling fly-rock wherever required.
iv) The rate under this item shall be paid only on ascertaining that the excavated face has come off neatly as per specifications or atleast 50 percent of smooth blast holes are visible for inspection and are spaced at specified interval.
v) In case, where the above criteria is not fulfilled payment shall be restricted to rate provided for excavation by normal blasting or controlled blasting as the case may be.



SKETCH SHOWING DRILLING PATTERN

DATA **RATE ANALYSIS** UNIT : **97.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of T.C bit 100 mm dia	Rm	121.00000	184.39	22311.19
2	Use rate of Extension rod with coupling sleeve	Rm	121.00000	7.24	876.04
3	Use rate of Jack hammer drill rod 1.6 m	Rm	3.00000	31.71	95.13
	reconditioning charges @	10%			9.51
4	Use rate of 50 m air hose 50 mm 1 No.	Hour	12.00000	18.13	217.56
	Use rate of 25 mm air hose 2 Nos	Hour	0.50000	12.00	6.00
5	High strength ANFO booster	kg	5.00000	75.00	375.00
6	ANFO	kg	19.00000	48.00	912.00
7	Diesel oil	ltr	4.50000	104.96	472.32
8	Explosive small dia (Kelvex-220)	kg	1.00000	75.00	75.00
9	Ordinary detonators	Nos	5.00000	9.00	45.00
10	Detonating shock tube	Rm	70.00000	44.00	3080.00
11	Noiseless trunk line delays	Nos	4.00000	23.00	92.00
12	Fuse coil	Rm	10.00000	11.00	110.00
13	Sundries	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**28760.75**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tippers 5 cum capacity	Hour	6.24000	493.27	3078.00
	Fuel / Energy charges	Hour	6.24000	545.53	3404.11
2	Shovel 0.85 cum capacity	Hour	1.56000	1749.78	2729.66
	Fuel / Energy charges	Hour	1.56000	1587.53	2476.55
3	Angle dozer	Hour	0.50000	1610.29	805.15
	Fuel / Energy charges	Hour	0.50000	1110.54	555.27
4	Air compressor 8.5 cmm (diesel)	Hour	13.45000	288.50	3880.33
	Fuel / Energy charges	Hour	13.45000	1623.60	21837.42
5	Waggon drill	Hour	13.20000	204.05	2693.46
	Fuel / Energy charges	Hour	13.20000	0.00	0.00
6	Jack hammer	Hour	0.50000	19.11	9.56
	Fuel / Energy charges	Hour	0.50000	0.00	0.00
			Total hire charges of Machinery	Rs:	**41469.51**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Tipper	Hour	5.24000	322.73	1691.11
2	Crew for Shovel	Hour	1.56000	430.30	671.27
3	Crew for Dozer	Hour	0.50000	430.30	215.15
4	Crew for Air compressor	Hour	13.45000	386.88	5203.54
5	Crew for Waggon drill	Hour	13.45000	516.36	6945.04
6	Crew for Jack hammer	Hour	0.50000	604.50	302.25
7	work inspector	Day	0.50000	920.00	460.00
8	Blaster	Day	0.50000	925.00	462.50
9	Helper blaster	Day	0.50000	730.00	365.00
10	Stone breaker	Day	1.00000	730.00	730.00
11	Stone chiseller Cl- II	Day	1.00000	730.00	730.00
12	mazdoor	Day	2.00000	680.00	1360.00
	Total cost of Labour			Rs:	**19135.86**

labour component/unit qty		197.30
Add contractor's profit and overhead charges	13.615%	26.90
labour component/unit qty (including contractor's profit)		**224.20**

ABSTRACT:

A. Cost of Materials			Rs:	28760.75
B. Hire charges of Machinery			Rs:	41469.51
C. Cost of Labour			Rs:	19135.86
		Total	Rs:	89366.12
Add for blasting studies & monitoring vibrations etc	0.50%		Rs:	446.83
		Total	Rs:	89812.95
D. Add for contractor's profit and overheads on (A+B+C+blasting study charges)	13.615%		Rs:	12228.03
Total cost for 97.00 cum			Rs:	**102040.98**
Rate per cum (A+B+C+D)/97			Rs.	**1051.97**

IRR-CAW-2 **EMBANKMENT WORKS USING BORROW AREA SOIL :**

IRR-CAW-2-1 **Providing impervious hearting embankment** with selected soil from **approved borrow areas** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **412.80** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer	Hour	3.40000	1610.29	5474.99
	Fuel / Energy charges	Hour	3.40000	1110.54	3775.84
2	Shovel 0.50 cum capacity	Hour	8.00000	1047.41	8379.28
	Fuel / Energy charges	Hour	8.00000	865.93	6927.44
3	Tippers 5.00 cum capacity 4 Nos.	Hour	32.00000	493.27	15784.64
	Fuel / Energy charges	Hour	32.00000	545.53	17456.96
4	Pump 5 hp (diesel)	Hour	2.00000	10.73	21.46
	Fuel / Energy charges	Hour	2.00000	144.33	288.66
5	Water tanker 8000 ltr	Hour	4.00000	458.01	1832.04
	Fuel / Energy charges	Hour	4.00000	545.53	2182.12
6	Vibratory Roller 8 tonne	Hour	5.10000	1344.20	6855.42
	Fuel / Energy charges	Hour	5.10000	1876.16	9568.42
7	Sundries	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**78757.27**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.40000	430.30	1463.02
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	32.00000	322.73	10327.36
4	Crew for Pump	Hour	2.00000	204.67	409.34
5	Crew for Water tanker	Hour	4.00000	316.88	1267.52
6	Crew for Roller	Hour	5.10000	483.60	2466.36
7	work inspector	Day	2.00000	920.00	1840.00
8	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**23936.00**

labour component/unit qty		58.00
Add contractor's profit and overhead charges	13.615%	7.90
labour component/unit qty (including contractor's profit)		**65.90**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	78757.27
C. Cost of Labour			Rs:	23936.00
		Total	Rs:	102693.27
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	13981.69
Total cost for 412.80 cum			Rs:	**116674.96**
Rate per cum (A+B+C+D)/412.80			Rs.	**282.64**

IRR-CAW-2-2 **Providing impervious hearting embankment** with selected soil from **approved borrow areas** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **412.80** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.40000	1610.29	5474.99
	Fuel / Energy charges	Hour	3.40000	1110.54	3775.84
2	Shovel 0.5 cum	Hour	8.00000	1047.41	8379.28
	Fuel / Energy charges	Hour	8.00000	865.93	6927.44
3	Tippers 5 cum	Hour	32.00000	493.27	15784.64
	Fuel / Energy charges	Hour	32.00000	545.53	17456.96
4	Pump 5 hp (diesel)	Hour	2.00000	10.73	21.46
	Fuel / Energy charges	Hour	2.00000	144.33	288.66
5	Water tanker 8000 ltr	Hour	4.00000	458.01	1832.04
	Fuel / Energy charges	Hour	4.00000	545.53	2182.12
6	Vibratory Roller 8 tonne	Hour	4.18000	1344.20	5618.76
	Fuel / Energy charges	Hour	4.18000	1876.16	7842.35
7	Sundries	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**75794.54**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.40000	430.30	1463.02
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	32.00000	322.73	10327.36
4	Crew for Pump	Hour	2.00000	204.67	409.34
5	Crew for Water tanker	Hour	4.00000	316.88	1267.52
6	Crew for Roller	Hour	4.18000	483.60	2021.45
7	work inspector	Day	2.00000	920.00	1840.00
8	mazdoor	Day	4.00000	680.00	2720.00
	Total cost of Labour			Rs:	**23491.09**

labour component/unit qty		56.90	
Add contractor's profit and overhead charges	13.615%	7.70	
labour component/unit qty (including contractor's profit)		**64.60**	

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	75794.54
C. Cost of Labour		Rs:	23491.09
	Total	Rs:	99285.63
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	13517.74
Total cost for 412.80 cum		Rs:	**112803.37**
Rate per cum (A+B+C+D)/412.80		Rs.	**273.26**

IRR-CAW-2-3 **Providing semi-pervious / pervious casing embankment** using soil from **approved borrow area** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sortingout, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **412.80** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.40000	1610.29	5474.99
	Fuel / Energy charges	Hour	3.40000	1110.54	3775.84
2	Shovel 0.50 cum capacity	Hour	8.00000	1047.41	8379.28
	Fuel / Energy charges	Hour	8.00000	865.93	6927.44
3	Tippers 5.00 cum capacity 3 Nos.	Hour	32.00000	493.27	15784.64
	Fuel / Energy charges	Hour	32.00000	545.53	17456.96
4	Pump 5 hp (diesel)	Hour	2.00000	10.73	21.46
	Fuel / Energy charges	Hour	2.00000	144.33	288.66
5	Water tanker 8000 ltr	Hour	4.00000	458.01	1832.04
	Fuel / Energy charges	Hour	4.00000	545.53	2182.12
6	Vibratory Roller 8 tonne	Hour	5.10000	1344.20	6855.42
	Fuel / Energy charges	Hour	5.10000	1876.16	9568.42
7	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**78631.27**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.40000	430.30	1463.02
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	32.00000	322.73	10327.36
4	Crew for Pump	Hour	2.00000	204.67	409.34
5	Crew for Water tanker	Hour	4.00000	316.88	1267.52
6	Crew for Roller	Hour	5.10000	483.60	2466.36
7	work inspector	Day	2.00000	920.00	1840.00
8	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**23936.00**

labour component/unit qty		58.00
Add contractor's profit and overhead charges	13.615%	7.90
labour component/unit qty (including contractor's profit)		**65.90**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	78631.27
C. Cost of Labour		Rs:	23936.00
	Total	Rs:	102567.27
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	13964.53
Total cost for	412.80 cum	Rs:	**116531.80**
Rate per cum	(A+B+C+D)/412.80	Rs.	**282.30**

IRR-CAW-2-4 **Providing semi-pervious / pervious casing embankment** using soil from **approved borrow area** in **layers of 25cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sortingout, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **412.80** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.40000	1610.29	5474.99
	Fuel / Energy charges	Hour	3.40000	1110.54	3775.84
2	Shovel 0.5 cum	Hour	8.00000	1047.41	8379.28
	Fuel / Energy charges	Hour	8.00000	865.93	6927.44
3	Tippers 5 cum	Hour	32.00000	493.27	15784.64
	Fuel / Energy charges	Hour	32.00000	545.53	17456.96
4	Pump 5 hp (diesel)	Hour	2.00000	10.73	21.46
	Fuel / Energy charges	Hour	2.00000	144.33	288.66
5	Water tanker 8000 ltr	Hour	4.00000	458.01	1832.04
	Fuel / Energy charges	Hour	4.00000	545.53	2182.12
6	Vibratory Roller 8 tonne	Hour	4.17000	1344.20	5605.31
	Fuel / Energy charges	Hour	4.17000	1876.16	7823.59
7	Sundries	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**75762.33**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.40000	430.30	1463.02
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	32.00000	322.73	10327.36
4	Crew for Pump	Hour	2.00000	204.67	409.34
5	Crew for Water tanker	Hour	4.00000	316.88	1267.52
6	Crew for Roller	Hour	4.00000	483.60	1934.40
7	work inspector	Day	4.17000	920.00	3836.40
8	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**25400.44**

labour component/unit qty		61.50
Add contractor's profit and overhead charges	13.615%	8.40
labour component/unit qty (including contractor's profit)		**69.90**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	75762.33
C. Cost of Labour		Rs:	25400.44
	Total	Rs:	101162.77
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	13773.31
Total cost for	412.80 cum	Rs:	**114936.08**
Rate per cum	(A+B+C+D)/412.80	Rs.	**278.43**

IRR-CAW-2-5 **Providing semi-pervious / pervious casing embankment** using soil from **approved borrow area in layers of 25cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sortingout, transporting, spreading in layer of specified thickness, breaking clods, sectioning, compacting each layer **without watering** to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **412.80** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.40000	1610.29	5474.99
	Fuel / Energy charges	Hour	3.40000	1110.54	3775.84
2	Shovel 0.50 cum capacity	Hour	8.00000	1047.41	8379.28
	Fuel / Energy charges	Hour	8.00000	865.93	6927.44
3	Tippers 5.00 cum capacity 3 Nos.	Hour	32.00000	493.27	15784.64
	Fuel / Energy charges	Hour	32.00000	545.53	17456.96
4	Vibratory Roller 8 tonne	Hour	4.17000	1344.20	5605.31
	Fuel / Energy charges	Hour	4.17000	1876.16	7823.59
5	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**71312.05**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.40000	430.30	1463.02
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	32.00000	322.73	10327.36
4	Crew for Roller	Hour	4.17000	483.60	2016.61
5	work inspector	Day	2.00000	920.00	1840.00
6	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**21809.39**

labour component/unit qty		52.80
Add contractor's profit and overhead charges	13.615%	7.20
labour component/unit qty (including contractor's profit)		**60.00**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	71312.05
C. Cost of Labour		Rs:	21809.39
	Total	Rs:	93121.44
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	12678.48
Total cost for 412.80 cum		Rs:	**105799.92**
Rate per cum (A+B+C+D)/412.80		Rs.	**256.30**

IRR-CAW-2-6 **Providing hearting / casing embankment with homogeneous soil** from **approved borrow** areas **in layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **677.28** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer	Hour	6.06000	1610.29	9758.36
	Fuel / Energy charges	Hour	6.06000	1110.54	6729.87
2	Shovel 0.50 cum capacity	Hour	8.00000	1047.41	8379.28
	Fuel / Energy charges	Hour	8.00000	865.93	6927.44
3	Tippers 5.00 cum capacity 6 Nos.	Hour	48.00000	493.27	23676.96
	Fuel / Energy charges	Hour	48.00000	545.53	26185.44
4	Pump 5 hp (diesel)	Hour	3.00000	10.73	32.19
	Fuel / Energy charges	Hour	3.00000	144.33	432.99
5	Water tanker 8000 ltr	Hour	6.00000	458.01	2748.06
	Fuel / Energy charges	Hour	6.00000	545.53	3273.18
6	Vibratory Roller 8 tonne	Hour	7.53000	1344.20	10121.83
	Fuel / Energy charges	Hour	7.53000	1876.16	14127.48
7	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**112477.08**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	6.06000	430.30	2607.62
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	48.00000	322.73	15491.04
4	Crew for Pump	Hour	3.00000	204.67	614.01
5	Crew for Water tanker	Hour	6.00000	316.88	1901.28
6	Crew for Roller	Hour	7.53000	483.60	3641.51
7	work inspector	Day	2.00000	920.00	1840.00
8	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**32257.86**

labour component/unit qty		47.60
Add contractor's profit and overhead charges	13.615%	6.50
labour component/unit qty (including contractor's profit)		**54.10**

ABSTRACT:

A. Cost of Materials	Rs:	0.00
B. Hire charges of Machinery	Rs:	112477.08
C. Cost of Labour	Rs:	32257.86
Total	Rs:	144734.94
D. Add for contractor's profit and overheads on (A+B+C) 13.615%	Rs:	19705.66
Total cost for 677.28 cum	Rs:	**164440.60**
Rate per cum (A+B+C+D)/677.28	Rs.	**242.80**

IRR-CAW-2-7 **Providing hearting / casing embankment with homogeneous soil** from **approved borrow** areas in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **677.28** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	6.06000	1610.29	9758.36
	Fuel / Energy charges	Hour	6.06000	1110.54	6729.87
2	Shovel 0.5 cum	Hour	8.00000	1047.41	8379.28
	Fuel / Energy charges	Hour	8.00000	865.93	6927.44
3	Tippers 5 cum 3 Nos	Hour	48.00000	493.27	23676.96
	Fuel / Energy charges	Hour	48.00000	545.53	26185.44
4	Pump 5 hp (diesel)	Hour	3.00000	10.73	32.19
	Fuel / Energy charges	Hour	3.00000	144.33	432.99
5	Water tanker 8000 ltr	Hour	6.00000	458.01	2748.06
	Fuel / Energy charges	Hour	6.00000	545.53	3273.18
6	Vibratory Roller 8 tonne	Hour	6.16000	1344.20	8280.27
	Fuel / Energy charges	Hour	6.16000	1876.16	11557.15
7	Sundries	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**108191.19**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	6.06000	430.30	2607.62
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	48.00000	322.73	15491.04
4	Crew for Pump	Hour	3.00000	204.67	614.01
5	Crew for Water tanker	Hour	6.00000	316.88	1901.28
6	Crew for Roller	Hour	6.16000	483.60	2978.98
7	work inspector	Day	2.00000	920.00	1840.00
8	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**31595.33**

labour component/unit qty 46.70
Add contractor's profit and overhead charges 13.615% 6.40
labour component/unit qty (including contractor's profit) **53.10**

ABSTRACT:

A. Cost of Materials	Rs:	0.00
B. Hire charges of Machinery	Rs:	108191.19
C. Cost of Labour	Rs:	31595.33
Total	Rs:	139786.52
D. Add for contractor's profit and overheads on (A+B+C) 13.615%	Rs:	19031.93
Total cost for 677.28 cum	Rs:	**158818.45**
Rate per cum (A+B+C+D)/677.28	Rs.	**234.49**

IRR-CAW-2-8 **Providing casing embankment using homogeneous soil** from **approved borrow area** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sortingout, transporting, spreading in layer of specified thickness, breaking clods, sectioning, compacting each layer **without watering** to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/** 8 to 10 tonne power roller etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **677.28** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	6.06000	1610.29	9758.36
	Fuel / Energy charges	Hour	6.06000	1110.54	6729.87
2	Shovel 0.50 cum capacity	Hour	8.00000	1047.41	8379.28
	Fuel / Energy charges	Hour	8.00000	865.93	6927.44
3	Tippers 5.00 cum capacity 4 Nos.	Hour	48.00000	493.27	23676.96
	Fuel / Energy charges	Hour	48.00000	545.53	26185.44
4	Vibratory Roller 8 tonne	Hour	6.16000	1344.20	8280.27
	Fuel / Energy charges	Hour	6.16000	1876.16	11557.15
5	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**101578.77**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	6.06000	430.30	2607.62
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	48.00000	322.73	15491.04
4	Crew for Roller	Hour	6.16000	483.60	2978.98
5	work inspector	Day	2.00000	920.00	1840.00
6	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**29080.04**

labour component/unit qty 42.90
Add contractor's profit and overhead charges 13.615% 5.80
labour component/unit qty (including contractor's profit) **48.70**

ABSTRACT:

A. Cost of Materials	Rs:	0.00
B. Hire charges of Machinery	Rs:	101578.77
C. Cost of Labour	Rs:	29080.04
Total	Rs:	130658.81
D. Add for contractor's profit and overheads on (A+B+C) 13.615%	Rs:	17789.2
Total cost for 677.28 cum	Rs:	**148448.01**
Rate per cum (A+B+C+D)/677.28	Rs.	**219.18**

IRR-CAW-3 **EMBANKMENT WORKS USING DUMP AREA SOIL :**

IRR-CAW-3-1 **Providing impervious hearting embankment with soil** from **approved dump areas** in layers **of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as re-excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to achieve density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc.,complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **735.36** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer	Hour	4.04000	1610.29	6505.57
	Fuel / Energy charges	Hour	4.04000	1110.54	4486.58
2	Shovel 0.50 cum capacity	Hour	8.00000	1047.41	8379.28
	Fuel / Energy charges	Hour	8.00000	865.93	6927.44
3	Tippers 5.00 cum capacity 6 Nos.	Hour	48.00000	493.27	23676.96
	Fuel / Energy charges	Hour	48.00000	545.53	26185.44
4	Pump 5 hp (diesel)	Hour	3.00000	10.73	32.19
	Fuel / Energy charges	Hour	3.00000	144.33	432.99
5	Water tanker 8000 ltr	Hour	6.00000	458.01	2748.06
	Fuel / Energy charges	Hour	6.00000	545.53	3273.18
6	Vibratory Roller 8 tonne	Hour	7.50000	1344.20	10081.50
	Fuel / Energy charges	Hour	7.50000	1876.16	14071.20
7	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**106884.39**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.58000	430.30	1540.47
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	48.00000	322.73	15491.04
4	Crew for Pump	Hour	3.00000	204.67	614.01
5	Crew for Water tanker	Hour	6.00000	316.88	1901.28
6	Crew for Roller	Hour	7.50000	483.60	3627.00
7	work inspector	Day	2.00000	920.00	1840.00
8	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**32536.20**

labour component/unit qty		44.20
Add contractor's profit and overhead charges	13.615%	6.00
labour component/unit qty (including contractor's profit)		**50.20**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	106884.39
C. Cost of Labour		Rs:	32536.20
	Total	Rs:	139420.59
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	18982.11
Total cost for	735.36 cum	Rs:	**158402.70**
Rate per cum	(A+B+C+D)/735.36	Rs.	**215.41**

IRR-CAW-3-2 **Providing impervious hearting embankment with soil** from **approved dump areas** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as re-excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to achieve density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc.,complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **735.36** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	4.04000	1610.29	6505.57
	Fuel / Energy charges	Hour	4.04000	1110.54	4486.58
2	Shovel 0.5 cum	Hour	8.00000	1047.41	8379.28
	Fuel / Energy charges	Hour	8.00000	865.93	6927.44
3	Tippers 5 cum	Hour	48.00000	493.27	23676.96
	Fuel / Energy charges	Hour	48.00000	545.53	26185.44
4	Pump 5 hp (diesel)	Hour	3.00000	10.73	32.19
	Fuel / Energy charges	Hour	3.00000	144.33	432.99
5	Water tanker 8000 ltr	Hour	6.00000	458.01	2748.06
	Fuel / Energy charges	Hour	6.00000	545.53	3273.18
6	Vibratory Roller 8 tonne	Hour	6.13000	1344.20	8239.95
	Fuel / Energy charges	Hour	6.13000	1876.16	11500.86
7	Sundries	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**102598.50**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	4.04000	430.30	1738.41
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	48.00000	322.73	15491.04
4	Crew for Pump	Hour	3.00000	204.67	614.01
5	Crew for Water tanker	Hour	6.00000	316.88	1901.28
6	Crew for Roller	Hour	6.13000	483.60	2964.47
7	work inspector	Day	2.00000	920.00	1840.00
8	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**32071.61**

labour component/unit qty		43.60
Add contractor's profit and overhead charges	13.615%	5.90
labour component/unit qty (including contractor's profit)		**49.50**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	102598.50
C. Cost of Labour		Rs:	32071.61
	Total	Rs:	134670.11
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	18335.34
Total cost for 735.36 cum		Rs:	**153005.45**
Rate per cum (A+B+C+D)/735.36		Rs.	**208.07**

IRR-CAW-3-3 **Providing semi-pervious / pervious casing embankment using soil** from **approved dump area** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as re-excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **768.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	4.22000	1610.29	6795.42
	Fuel / Energy charges	Hour	4.22000	1110.54	4686.48
2	Shovel 0.50 cum capacity	Hour	8.00000	1047.41	8379.28
	Fuel / Energy charges	Hour	8.00000	865.93	6927.44
3	Tippers 5.00 cum capacity 6 Nos	Hour	48.00000	493.27	23676.96
	Fuel / Energy charges	Hour	48.00000	545.53	26185.44
4	Pump 5 hp (diesel)	Hour	3.00000	10.73	32.19
	Fuel / Energy charges	Hour	3.00000	144.33	432.99
5	Water tanker 8000 ltr	Hour	6.00000	458.01	2748.06
	Fuel / Energy charges	Hour	6.00000	545.53	3273.18
6	Vibratory Roller 8 tonne	Hour	7.82000	1344.20	10511.64
	Fuel / Energy charges	Hour	7.82000	1876.16	14671.57
7	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**108404.65**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	4.22000	430.30	1815.87
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	48.00000	322.73	15491.04
4	Crew for Pump	Hour	3.00000	204.67	614.01
5	Crew for Water tanker	Hour	6.00000	316.88	1901.28
6	Crew for Roller	Hour	7.82000	483.60	3781.75
7	work inspector	Day	2.00000	920.00	1840.00
8	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**32966.35**

labour component/unit qty 42.90
Add contractor's profit and overhead charges 13.615% 5.80
labour component/unit qty (including contractor's profit) **48.70**

ABSTRACT:

A. Cost of Materials	Rs:	0.00
B. Hire charges of Machinery	Rs:	108404.65
C. Cost of Labour	Rs:	32966.35
Total	Rs:	141371.00
D. Add for contractor's profit and overheads on (A+B+C) 13.615%	Rs:	19247.66
Total cost for 768.00 cum	Rs:	**160618.66**
Rate per cum (A+B+C+D)/768	Rs.	**209.14**

IRR-CAW-3-4 **Providing semi-pervious / pervious casing embankment** using soil from **approved dump area** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as re-excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **768.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	4.22000	1610.29	6795.42
	Fuel / Energy charges	Hour	4.22000	1110.54	4686.48
2	Shovel 0.5 cum	Hour	8.00000	1047.41	8379.28
	Fuel / Energy charges	Hour	8.00000	865.93	6927.44
3	Tippers 5 cum of 6 Nos	Hour	48.00000	493.27	23676.96
	Fuel / Energy charges	Hour	48.00000	545.53	26185.44
4	Pump 5 hp (diesel)	Hour	3.00000	10.73	32.19
	Fuel / Energy charges	Hour	3.00000	144.33	432.99
5	Water tanker 8000 ltr	Hour	6.00000	458.01	2748.06
	Fuel / Energy charges	Hour	6.00000	545.53	3273.18
6	Vibratory Roller 8 tonne	Hour	6.40000	1344.20	8602.88
	Fuel / Energy charges	Hour	6.40000	1876.16	12007.42
7	Sundries	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**103957.74**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	4.22000	430.30	1815.87
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	48.00000	322.73	15491.04
4	Crew for Pump	Hour	3.00000	204.67	614.01
5	Crew for Water tanker	Hour	6.00000	316.88	1901.28
6	Crew for Roller	Hour	6.40000	483.60	3095.04
7	work inspector	Day	2.00000	920.00	1840.00
8	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**32279.64**

labour component/unit qty 42.00
Add contractor's profit and overhead charges 13.615% 5.70
labour component/unit qty (including contractor's profit) **47.70**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	103957.74
C. Cost of Labour		Rs:	32279.64
	Total	Rs:	136237.38
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	18548.72
Total cost for	768.00 cum	Rs:	**154786.10**
Rate per cum (A+B+C+D)/768		Rs.	**201.54**

IRR-CAW-3-5 **Providing semi-pervious / pervious casing embankment** using soil from **approved dump area** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as re-excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, compacting each layer **without watering** to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **768.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	4.22000	1610.29	6795.42
	Fuel / Energy charges	Hour	4.22000	1110.54	4686.48
2	Shovel 0.50 cum capacity	Hour	8.00000	1047.41	8379.28
	Fuel / Energy charges	Hour	8.00000	865.93	6927.44
3	Tippers 5.00 cum capacity 6 Nos.	Hour	48.00000	493.27	23676.96
	Fuel / Energy charges	Hour	48.00000	545.53	26185.44
4	Vibratory Roller 8 tonne	Hour	6.40000	1344.20	8602.88
	Fuel / Energy charges	Hour	6.40000	1876.16	12007.42
5	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**97345.32**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	4.22000	430.30	1815.87
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	48.00000	322.73	15491.04
4	Crew for Roller	Hour	6.40000	483.60	3095.04
5	work inspector	Day	2.00000	920.00	1840.00
6	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**29764.35**

labour component/unit qty		38.80
Add contractor's profit and overhead charges	13.615%	5.30
labour component/unit qty (including contractor's profit)		**44.10**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	97345.32
C. Cost of Labour		Rs:	29764.35
	Total	Rs:	127109.67
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	17305.98
Total cost for	768.00 cum	Rs:	**144415.65**
Rate per cum (A+B+C+D)/768		Rs.	**188.04**

IRR-CAW-4 **EMBANKMENT WORKS USING EXCAVATED SOIL :**

IRR-CAW-4-1 **Providing impervious hearting embankment with soil collected in embankment area** in heaps as part of disposal of excavated soil from canal including cost of all materials,machinery, labour, all operations such as sortingout, spreading in **layer of 25 cm** before compaction, breaking clods,sectioning, **watering** and compacting each layer to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with lead upto 1 km for water.**

DATA: **RATE ANALYSIS** UNIT : **600.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.60000	1610.29	5797.04
	Fuel / Energy charges	Hour	3.60000	1110.54	3997.94
2	Pump 5 hp (diesel)	Hour	3.00000	10.73	32.19
	Fuel / Energy charges	Hour	3.00000	144.33	432.99
3	Water tanker 8000 ltr	Hour	5.00000	458.01	2290.05
	Fuel / Energy charges	Hour	5.00000	545.53	2727.65
4	Vibratory Roller 8 tonne	Hour	7.30000	1344.20	9812.66
	Fuel / Energy charges	Hour	7.30000	1876.16	13695.97
5	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**38870.49**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.60000	430.30	1549.08
2	Crew for Pump	Hour	3.00000	204.67	614.01
3	Crew for Water tanker	Hour	5.00000	316.88	1584.40
4	Crew for Roller	Hour	7.30000	483.60	3530.28
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**10917.77**

labour component/unit qty		18.20
Add contractor's profit and overhead charges	13.615%	2.50
labour component/unit qty (including contractor's profit)		**20.70**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	38870.49
C. Cost of Labour		Rs:	10917.77
	Total	Rs:	49788.26
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	6778.67
Total cost for	600.00 cum	Rs:	**56566.93**
Rate per cum (A+B+C+D)/600		Rs.	**94.28**

IRR-CAW-4-2 **Providing impervious hearting embankment with soil collected in embankment area** in heaps as part of disposal of excavated soil from canal including cost of all materials,machinery, labour, all operations such as sortingout, spreading in **layer of 25 cm** before compaction, breaking clods,sectioning, **watering** and compacting each layer to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with lead upto 1 km for water.**

DATA: **RATE ANALYSIS** UNIT : **600.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.60000	1610.29	5797.04
	Fuel / Energy charges	Hour	3.60000	1110.54	3997.94
2	Pump 5 hp (diesel)	Hour	3.00000	10.73	32.19
	Fuel / Energy charges	Hour	3.00000	144.33	432.99
3	Water tanker 8000 ltr	Hour	5.00000	458.01	2290.05
	Fuel / Energy charges	Hour	5.00000	545.53	2727.65
4	Vibratory Roller 8 tonne	Hour	6.06000	1344.20	8145.85
	Fuel / Energy charges	Hour	6.06000	1876.16	11369.53
5	Sundries	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**35003.24**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.60000	430.30	1549.08
2	Crew for Pump	Hour	3.00000	204.67	614.01
3	Crew for Water tanker	Hour	5.00000	316.88	1584.40
4	Crew for Roller	Hour	6.06000	483.60	2930.62
5	work inspector	Day	2.00000	920.00	1840.00
6	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**11238.11**

labour component/unit qty		18.70
Add contractor's profit and overhead charges	13.615%	2.50
labour component/unit qty (including contractor's profit)		**21.20**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	35003.24
C. Cost of Labour		Rs:	11238.11
	Total	Rs:	46241.35
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	6295.76
Total cost for	600.00 cum	Rs:	**52537.11**
Rate per cum	(A+B+C+D)/600	Rs.	**87.56**

IRR-CAW-4-3 **Providing semi-pervious / pervious casing hearting embankment using soil collected in heaps in embankment area** as part of disposal of excavated soil from canal including cost of all materials, machinery, labour, all operations such as sorting-out, spreading in **layers of 25 cm** before compaction, breaking clods, sectioning, **watering** and compacting each layer to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with lead upto 1 km for water.**

DATA: **RATE ANALYSIS** UNIT : **600.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.60000	1610.29	5797.04
	Fuel / Energy charges	Hour	3.60000	1110.54	3997.94
2	Pump 5 hp (diesel)	Hour	3.00000	10.73	32.19
	Fuel / Energy charges	Hour	3.00000	144.33	432.99
3	Water tanker 8000 ltr	Hour	5.00000	458.01	2290.05
	Fuel / Energy charges	Hour	5.00000	545.53	2727.65
4	Vibratory Roller 8 tonne	Hour	7.30000	1344.20	9812.66
	Fuel / Energy charges	Hour	7.30000	1876.16	13695.97
5	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**38870.49**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.60000	430.30	1549.08
2	Crew for Pump	Hour	3.00000	204.67	614.01
3	Crew for Water tanker	Hour	5.00000	316.88	1584.40
4	Crew for Roller	Hour	7.30000	483.60	3530.28
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**10917.77**

labour component/unit qty		18.20
Add contractor's profit and overhead charges	13.615%	2.50
labour component/unit qty (including contractor's profit)		**20.70**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	38870.49
C. Cost of Labour		Rs:	10917.77
	Total	Rs:	49788.26
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	6778.67
Total cost for	600.00 cum	Rs:	**56566.93**
Rate per cum	(A+B+C+D)/600	Rs.	**94.28**

IRR-CAW-4-4 **Providing semi-pervious / pervious casing embankment using soil collected in heaps in embankment area** as part of disposal of excavated soil from canal including cost of all materials, machinery, labour, all operations such as sorting-out, spreading in **layers of 25 cm** before compaction, breaking clods, sectioning, **watering** and compacting each layer to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with lead upto 1 km for water.**

DATA: **RATE ANALYSIS** UNIT : **600.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.60000	1610.29	5797.04
	Fuel / Energy charges	Hour	3.60000	1110.54	3997.94
2	Pump 5 hp (diesel)	Hour	3.00000	10.73	32.19
	Fuel / Energy charges	Hour	3.00000	144.33	432.99
3	Water tanker 8000 ltr	Hour	5.00000	458.01	2290.05
	Fuel / Energy charges	Hour	5.00000	545.53	2727.65
4	Vibratory Roller 8 tonne	Hour	6.06000	1344.20	8145.85
	Fuel / Energy charges	Hour	6.06000	1876.16	11369.53
5	Sundries	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**35003.24**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.60000	430.30	1549.08
2	Crew for Pump	Hour	3.00000	204.67	614.01
3	Crew for Water tanker	Hour	5.00000	316.88	1584.40
4	Crew for Roller	Hour	6.06000	483.60	2930.62
5	work inspector	Day	2.00000	920.00	1840.00
6	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**11238.11**

labour component/unit qty		18.70
Add contractor's profit and overhead charges	13.615%	2.50
labour component/unit qty (including contractor's profit)		**21.20**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	35003.24
C. Cost of Labour		Rs:	11238.11
	Total	Rs:	46241.35
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	6295.76
Total cost for	600.00 cum	Rs:	**52537.11**
Rate per cum (A+B+C+D)/600		Rs.	**87.56**

IRR-CAW-4-5 **Providing semi-pervious / pervious casing embankment using soil collected in heaps in embankment area** as part of disposal of excavated soil from canal including cost of all materials, machinery, labour, all operations such as sorting-out, spreading in **layers of 25 cm** before compaction, breaking clods, sectioning and compacting each layer **without** watering to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete.**

DATA: **RATE ANALYSIS** UNIT : **600.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.60000	1610.29	5797.04
	Fuel / Energy charges	Hour	3.60000	1110.54	3997.94
2	Vibratory Roller 8 tonne	Hour	6.06000	1344.20	8145.85
	Fuel / Energy charges	Hour	6.06000	1876.16	11369.53
3	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**29394.36**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.60000	430.30	1549.08
2	Crew for Roller	Hour	6.06000	483.60	2930.62
3	work inspector	Day	1.00000	920.00	920.00
4	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**8119.70**

labour component/unit qty		13.50
Add contractor's profit and overhead charges	13.615%	1.80
labour component/unit qty (including contractor's profit)		**15.30**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	29394.36
C. Cost of Labour		Rs:	8119.70
	Total	Rs:	37514.06
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	5107.54
Total cost for	600.00 cum	Rs:	**42621.60**
Rate per cum (A+B+C+D)/600		Rs.	**71.04**

IRR-CAW-4-6 **Providing compacted embankment for field irrigation channels with gravely soil** from **approved borrow area** including sorting out, spreading in **layers of 15 cm** thickness, breaking clods, **watering**, compacting, dressing sides to required slopes etc.,complete **with lead upto 50 m and all lifts.**

DATA **RATE ANALYSIS** UNIT : **25.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	5 hp pump (diesel)	Hour	1.00000	10.73	10.73
	Fuel / Energy charges	Hour	1.00000	144.33	144.33
			Total hire charges of Machinery	Rs:	**155.06**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for pump	Hour	1.00000	204.67	204.67
2	work inspector	Day	1.00000	920.00	920.00
3	Crowbarman for loosening soil	Day	2.50000	730.00	1825.00
4	mazdoor				
	For excavation at borrow area	Day	5.00000	680.00	3400.00
	For spreading / levelling / sectioning	Day	2.50000	680.00	1700.00
	for loading soil	Day	5.00000	680.00	3400.00
5	Cartman with Bullock cart for water	Day	1.00000	770.00	770.00
6	Bullock drawn roller for rolling	Day	1.00000	770.00	770.00
			Total cost of Labour	Rs:	**12989.67**

labour component/unit qty		519.60
Add contractor's profit and overhead charges	13.615%	70.70
labour component/unit qty (including contractor's profit)		**590.30**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	155.06
C. Cost of Labour		Rs:	12989.67
	Total	Rs:	13144.73
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	1789.65
Total cost for	25.00 cum	Rs:	**14934.38**
Rate per cum (A+B+C+D)/25		Rs.	**597.38**

IRR-CAW-5 **FOUNDATION FILLING WORKS :**

IRR-CAW-5-1 Providing **rubble and sand filling in layers of 22.5 to 30 cm** including cost of all materials, machinery, labour, watering, ramming etc., complete **with initial lead upto 50 m and all lifts.**

DATA **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rubble stones at quarry	cum	10.00000	424.00	4240.00
2	Sand for filling	cum	4.00000	0.00	0.00
			Total cost of Materials	Rs:	**4240.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**2720.00**

labour component/unit qty		272.00
Add contractor's profit and overhead charges	13.615%	37.00
labour component/unit qty (including contractor's profit)		**309.00**

ABSTRACT:

A. Cost of Materials		Rs:	4240.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	2720.00
	Total	Rs:	6960.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	947.6
Total cost for	10.00 cum	Rs:	**7907.60**
Rate per cum (A+B+C+D)/10		Rs.	**790.76**

IRR-CAW-5-2 **Providing rubble and Murum filling in layers of 22.5 to 30 cm** including cost of all materials, machinery, labour, watering, ramming etc., complete with **initial lead upto 50 m and all lifts.**

DATA **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rubble stones at quarry	cum	10.00000	424.00	4240.00
2	Murum	cum	4.00000	258.00	1032.00
			Total cost of Materials	Rs:	**5272.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**2720.00**

labour component/unit qty		272.00
Add contractor's profit and overhead charges	13.615%	37.00
labour component/unit qty (including contractor's profit)		**309.00**

ABSTRACT:

A. Cost of Materials		Rs:	5272.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	2720.00
	Total	Rs:	7992.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	1088.11
Total cost for	10.00 cum	Rs:	**9080.11**
Rate per cum (A+B+C+D)/10		Rs.	**908.01**

IRR-CAW-5-3 **Providing and laying 25 cm thick sand blanket below embankment** including cost of all materials, machinery, labour, spreading to specified thickness etc., complete with initial lead **upto 50 m and all lifts.**

DATA **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Sand for Filling	cum	25.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	mazdoor	Day	5.00000	680.00	3400.00
			Total cost of Labour	Rs:	**3400.00**

labour component/unit qty		34.00
Add contractor's profit and overhead charges	13.615%	4.60
labour component/unit qty (including contractor's profit)		**38.60**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	3400.00
	Total	Rs:	3400.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	462.91
Total cost for	100.00 sqm	Rs:	**3862.91**
Rate per sqm (A+B+C+D)/100		Rs.	**38.63**

IRR-CAW-5-3-A (New Item 3-2011-12) **Providing and laying sand blanket below embankment** including cost of all materials, machinery, labour, spreading to specified thickness etc., complete with initial lead **upto 50 m and all lifts.**

DATA **RATE ANALYSIS** UNIT : **100.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Sand for Filling	cum	100.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	mazdoor	Day	20.00000	680.00	13600.00
			Total cost of Labour	Rs:	**13600.00**

labour component/unit qty		136.00
Add contractor's profit and overhead charges	13.615%	18.50
labour component/unit qty (including contractor's profit)		**154.50**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	13600.00
	Total	Rs:	13600.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	1851.64
Total cost for	100.00 cum	Rs:	**15451.64**
Rate per cum (A+B+C+D)/100		Rs.	**154.52**

IRR-CAW-5-4 **Providing and constructing dry rubble rock-toe** using rubble and stone chips from approved source including cost of all materials, machinery, labour, hand packing rubble and stone chips, finishing top and sides to required slopes etc., complete with initial lead upto **50 m and all lifts.**

DATA **RATE ANALYSIS** UNIT : **100.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rubble	cum	100.00000	424.00	42400.00
2	Stone chips	cum	15.00000	498.00	7470.00
3	Sundries	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**49954.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	Mason Class-II	Day	7.00000	730.00	5110.00
3	mazdoor	Day	19.00000	680.00	12920.00
			Total cost of Labour	Rs:	**18950.00**

labour component/unit qty		189.50
Add contractor's profit and overhead charges	13.615%	25.80
labour component/unit qty (including contractor's profit)		**215.30**

ABSTRACT:

A. Cost of Materials		Rs:	49954.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	18950.00
	Total	Rs:	68904.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	9381.28
Total cost for	100.00 cum	Rs:	**78285.28**
Rate per cum (A+B+C+D)/100		Rs.	**782.85**

IRR-CAW-5-5 **Providing and constructing longitudinal and cross graded filter drains** using sand and 20 mm down graded aggregates satisfying specified filter creteria in layers as per specifications including cost of all materials, machinery, labour, laying to required slopes, compaction etc., **complete with initial lead upto 50 m and all lifts.**

DATA **RATE ANALYSIS** UNIT : **100.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Sand (Un-Screened)	cum	76.80000	0.00	0.00
2	Coarse aggregate 20-10 mm 75 %	cum	17.40000	1635.00	28449.00
3	Coarse aggregate 10 mm down 25 %	cum	5.80000	1190.00	6902.00
			Total cost of Materials	Rs:	**35351.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	mazdoor	Day	36.00000	680.00	24480.00
			Total cost of Labour	Rs:	**25400.00**

labour component/unit qty		254.00
Add contractor's profit and overhead charges	13.615%	34.60
labour component/unit qty (including contractor's profit)		**288.60**

ABSTRACT:

A. Cost of Materials		Rs:	35351.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	25400.00
	Total	Rs:	60751.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	8271.25
Total cost for	100.00 cum	Rs:	**69022.25**
Rate per cum (A+B+C+D)/100		Rs.	**690.22**

IRR-CAW-5-6 **Laying Longitudinal Drains and Transverse drains of Size 600 x600 x750 mm in Bed** and filling with 12 mm to 40 mm HG machine Crushed metal and sand in bed including Excavation of drains and Cost of procuring of all materials **including 50 m lead and for all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: Unit: **100** mt

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	12 mm to 40 mm metal	Cum	13.50000	1562.00	21087.00
2	Sand (Un-Screened)	cum	36.00000	0.00	0.00
			Total cost of Materials	Rs.	**21087.00**

B. MACHINERY

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Excavation of drain with Excavator	Cum	45.00000	55.00	2475.00
			Total hire charges of Machinery	Rs.	**2475.00**

C. LABOUR

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Labour for Sand laying	Cum	5.14000	680.00	3495.20
2	Labour for Metal laying	Cum	1.93000	680.00	1312.40
			Total cost of Labour	Rs.	**4807.60**

labour component/unit qty		48.10
Add contractor's profit and overhead charges	13.615%	6.50
labour component/unit qty (including contractor's profit)		**54.60**

ABSTRACT

A. Cost of Materials		Rs.	21087
B. Hire charges of Machinery		Rs.	2475
C. Cost of Labour		Rs.	4807.6
	Total	Rs:	28369.60
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	3862.52
Total cost for	100.00 mt	Rs:	**32232.12**
Rate per mt (A+B+C+D)/100		Rs.	**322.32**

IRR-CAW-5-7 **Laying and fixing of 100 mm Dia 300 mm long precast porus CC plugs in bed and sides** using 0.787 Kgs of cement per each using 20 mm HG metal and placing in local filters of size 600x600x750 mm in size including Excavation of drains and Cost of procuring of all materials **including 50 m lead and for all lifts.** (Thickness of lining = 100 mm)

DATA **Rate Analysis** Unit **1** Plug

A. MATERIALS:

Sl.No	Particulars	Unit	Qty	Rate in Rs	Amount in Rs.
1	Coarse aggregate	Cum	0.12200	1635.00	199.47
2	Sand (Un-Screened)	cum	0.18782	0.00	0.00
3	Cement	Kg	0.78700	4.22	3.32
			Total cost of materials	Rs.	**202.79**

B. MACHINERY

Sl.No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Excavation of drain with Excavator	Cum	0.27000	55.00	14.85
2	Machine mixing Charges	Cum	0.00200	602.73	1.21
			Total hire charges of Machinery	Rs.	**16.06**

C. LABOUR

Sl.No	Particulars	Unit	Qty	Rate in Rs	Amount in Rs.
1	Mazdoor	Day	0.30000	680.00	204.00
			Total cost of Labour	Rs.	**204.00**

labour component/unit qty		204.00
Add contractor's profit and overhead charges	13.615%	27.77
labour component/unit qty (including contractor's profit)		**231.77**

ABSTRACT

A. Cost of Materials		Rs.		202.79
B. Hire charges of Machinery		Rs.		16.06
C. Cost of Labour		Rs.		204.00
			Total Rs:	422.85
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	57.57
Total cost for	1.00 Plug		Rs:	**480.42**
Rate per each plug (A+B+C+D)/1.0			Rs.	**480.42**

IRR-CAW-5-8 **Providing and constructing 0.50 m thick vertical or inclined graded filter media** consisting of 15 cm thick sand layers and 20 cm thick 20 mm down coarse aggregate layer using approved materials satisfying specified filter creteria as per specifications including cost of all materials, machinery, labour, laying to required slope, compaction etc., complete with initial lead upto **50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Sand (Un-Screened)	cum	60.00000	0.00	0.00
2	Coarse aggregate 20-10 mm 75 %	cum	30.00000	1635.00	49050.00
3	Coarse aggregate 10 mm down 25 %	cum	10.00000	1190.00	11900.00
			Total cost of Materials	Rs:	**60950.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	mazdoor	Day	36.00000	680.00	24480.00
			Total cost of Labour	Rs:	**25400.00**

labour component/unit qty		254.00
Add contractor's profit and overhead charges	13.615%	34.60
labour component/unit qty (including contractor's profit)		**288.60**

ABSTRACT:

A. Cost of Materials		Rs:	60950.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	25400.00
	Total	Rs:	86350.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	11756.55
Total cost for	100.00 cum	Rs:	**98106.55**
Rate per cum (A+B+C+D)/100.0		Rs.	**981.07**

IRR-CAW-5-9 **Providing and constructing graded filter media below and behind rock-toe** consisting of 20 cm thick sand, 15 cm thick 20 mm down and 15 cm thick 40 mm down size graded coarse aggregates satisfying filter creteria behind rock-toe and 15 cm thick sand, 20 cm thick 20 mm down coarse aggregate and 65 cm thick 40 mm down size coarse aggregate satisfying filter creiteria below rock-toe as per specifications including cost of all materials, machinery, labour, laying to required slope, compaction etc., complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **176.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Sand (Un-Screened)	cum	58.77000	0.00	0.00
2	Coarse aggregate 40-20 mm	cum	52.70000	1562.00	82317.40
3	Coarse aggregate 20-10 mm	cum	50.70000	1635.00	82894.50
4	Coarse aggregate 10 mm down	cum	13.80000	1190.00	16422.00
			Total cost of Materials	Rs:	**181633.90**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	mazdoors	Day	60.00000	680.00	40800.00
	Total cost of Labour			Rs:	**41720.00**

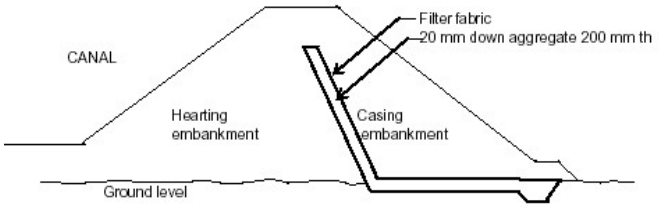
labour component/unit qty		237.00
Add contractor's profit and overhead charges	13.615%	32.30
labour component/unit qty (including contractor's profit)		**269.30**

ABSTRACT:

A. Cost of Materials	Rs:	181633.90
B. Hire charges of Machinery	Rs:	0.00
C. Cost of Labour	Rs:	41720.00
Total	Rs:	223353.90
D. Add for contractor's profit and overheads on (A+B+C) 13.615%	Rs:	30409.63
Total cost for 176.00 cum	Rs:	**253763.53**
Rate per cum (A+B+C+D)/176.0	Rs.	**1441.84**

IRR-CAW-5-10 (a) **Providing and laying filter media consisting of 2 layers of poly-propeline** nonwoven filter fabric and 200 mm thick 20 mm down graded coarse aggregate for embankment including cost of all materials, machinery, labour, forming toe drain etc., **complete with lead upto 50 m**

a. **for aggregate and all leads for fabric and all lifts.**
Using 200 gsm filter fabric.



TYPICAL SKETCH SHOWING FILTER MEDIA USING FILTER FABRIC

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	PP filter fabric 200 gsm	sqm	210.00000	119.00	24990.00
2	20 - 10 mm CA @ 75 %	cum	15.00000	1635.00	24525.00
	10 mm down CA @ 25 %	cum	5.00000	1190.00	5950.00
			Total Cost of materials	Rs:	**55465.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	mazdoor	Day	7.00000	680.00	4760.00
			Total cost of Labour	Rs:	**5680.00**

labour component/unit qty		56.80
Add contractor's profit and overhead charges	13.615%	7.70
labour component/unit qty (including contractor's profit)		**64.50**

ABSTRACT:

A. Cost of Materials		Rs:	55465.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	5680.00
	Total	Rs:	61145.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	8324.89
Total cost for	100.00 sqm	Rs:	**69469.89**
Rate per sqm (A+B+C+D)/100.0		Rs.	**694.70**

IRR-CAW-5-11 (b) **Providing and laying filter media consisting of 2 layers of poly-propeline** nonwoven filter fabric and 200 mm thick 20 mm down graded coarse aggregate for embankment including cost of all materials, machinery, labour, forming toe drain etc., complete with lead upto 50 m for aggregate and **all leads for fabric and all lifts.**

b. **Using 250 gsm filter fabric.**

Data **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	PP filter fabric 250 gsm	sqm	210.00000	134.00	28140.00
2	20 - 10 mm CA @ 75 %	cum	15.00000	1635.00	24525.00
	10 mm down CA @ 25 %	cum	5.00000	1190.00	5950.00
			Total cost of Materials	Rs:	**58615.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	mazdoor	Day	7.00000	680.00	4760.00
			Total cost of Labour	Rs:	**5680.00**

labour component/unit qty		56.80
Add contractor's profit and overhead charges	13.615%	7.70
labour component/unit qty (including contractor's profit)		**64.50**

ABSTRACT:

A. Cost of Materials		Rs:	58615.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	5680.00
	Total	Rs:	64295.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	8753.76
Total cost for	100.00 sqm	Rs:	**73048.76**
Rate per sqm (A+B+C+D)/100.0		Rs.	**730.49**

IRR-CAW-6 **ROCK FILL WORKS :**

IRR-CAW-6-1 Providing and **constructing rockfill casing to canal embankment** with graded stones and spalls from **approved quarry** including cost of all materials, machinery, labour, spreading stones and spalls in layers, hand packing, wedging, finishing surface to required slopes etc., **complete with initial lead upto 50 m and all lifts.**

DATA **RATE ANALYSIS** UNIT : **100.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rubble stones (at quarry)	cum	100.00000	424.00	42400.00
2	Stone chips / spalls (at quarry)		15.00000	498.00	7470.00
			Total cost of Materials	Rs:	**49870.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	6.00000	730.00	4380.00
2	mazdoor	Day	8.00000	680.00	5440.00
			Total cost of Labour	Rs:	**9820.00**

labour component/unit qty		98.20
Add contractor's profit and overhead charges	13.615%	13.40
labour component/unit qty (including contractor's profit)		**111.60**

ABSTRACT:

A. Cost of Materials		Rs:	49870.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	9820.00
	Total	Rs:	59690.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	8126.79
Total cost for	100.00 cum	Rs:	**67816.79**
Rate per cum (A+B+C+D)/100.0		Rs.	**678.17**

IRR-CAW-6-2 Providing and **constructing rockfill casing to canal embankment** with graded stones and spalls **available in dump yard (spoil bank)** including cost of all materials, machinery, labour, spreading stones and spalls in layers, hand packing, wedging, finishing surface to required slopes etc., **complete with initial lead upto 50 m and all lifts.**

DATA **RATE ANALYSIS** UNIT : **100.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rubble stones at dump yard	cum	100.00000	219.00	21900.00
2	Stone chips (spalls) at dump yard		15.00000	254.00	3810.00
			Total cost of Materials	Rs:	**25710.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	6.00000	730.00	4380.00
2	Crowbarman	Day	2.00000	730.00	1460.00
3	mazdoor	Day	10.00000	680.00	6800.00
			Total cost of Labour	Rs:	**12640.00**

labour component/unit qty		126.40
Add contractor's profit and overhead charges	13.615%	17.20
labour component/unit qty (including contractor's profit)		**143.60**

ABSTRACT:

A. Cost of Materials		Rs:	25710.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	12640.00
	Total	Rs:	38350.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	5221.35
Total cost for	100.00 cum	Rs:	**43571.35**
Rate per cum (A+B+C+D)/100.0		Rs.	**435.71**

IRR-CAW-7 **CANAL LINING WORKS :**

IRR-CAW-7-1 **Providing cohesive non-swelling (CNS) soil lining to canals** using soil from **approved borrow area** including spreading soil in **layers of thickness not more than 15 cm**, breaking clods, watering, compacting to density control of **not less than 98 percent** or as stipulated, dressing to required profile etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **394.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shovel 0.5 cum	Hour	8.00000	1047.41	8379.28
	Fuel / Energy charges	Hour	8.00000	865.93	6927.44
2	Angle dozer 90 hp	Hour	3.00000	1610.29	4830.87
	Fuel / Energy charges	Hour	3.00000	1110.54	3331.62
3	Tipper 5 cum	Hour	24.00000	493.27	11838.48
	Fuel / Energy charges	Hour	24.00000	545.53	13092.72
4	Pump 5 hp (diesel)	Hour	4.00000	10.73	42.92
	Fuel / Energy charges	Hour	4.00000	144.33	577.32
5	Water tanker 8000 ltr	Hour	4.00000	458.01	1832.04
	Fuel / Energy charges	Hour	4.00000	545.53	2182.12
6	Diesel road roller 8-10 tonne	Hour	11.50000	194.64	2238.36
	Fuel / Energy charges	Hour	11.50000	1298.88	14937.12
7	Sundries	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**70420.29**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Shovel	Hour	8.00000	430.30	3442.40
2	Crew for Dozer	Hour	3.00000	430.30	1290.90
3	Crew for Tipper	Hour	24.00000	322.73	7745.52
4	Crew for Pump	Hour	4.00000	204.67	818.68
5	Crew for Water tanker	Hour	4.00000	316.88	1267.52
6	Crew for Road roller	Hour	11.50000	394.37	4535.26
7	work inspector	Day	2.00000	920.00	1840.00
8	mazdoor	Day	38.00000	680.00	25840.00
			Total cost of Labour	Rs:	**46780.28**

labour component/unit qty		118.70
Add contractor's profit and overhead charges	13.615%	16.20
labour component/unit qty (including contractor's profit)		**134.90**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	70420.29
C. Cost of Labour		Rs:	46780.28
	Total	Rs:	117200.57
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	15956.86
Total cost for	394.00 cum	Rs:	**133157.43**
Rate per cum (A+B+C+D)/394.0		Rs.	**337.96**

IRR-CAW-7-2 **Providing cohesive non-swelling (CNS) soil lining to canals using soil from approved borrow area** including spreading soil in layers of thickness **not more than 15 cm**, breaking clods, watering, compacting to density control of **not less than 95 percent** or as stipulated, dressing to required profile etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **394.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shovel 0.5 cum	Hour	8.00000	1047.41	8379.28
	Fuel / Energy charges	Hour	8.00000	865.93	6927.44
2	Angle dozer 90 hp	Hour	3.00000	1610.29	4830.87
	Fuel / Energy charges	Hour	3.00000	1110.54	3331.62
3	Tippers 5 cum	Hour	24.00000	493.27	11838.48
	Fuel / Energy charges	Hour	24.00000	545.53	13092.72
4	Pump 5 hp (diesel)	Hour	4.00000	10.73	42.92
	Fuel / Energy charges	Hour	4.00000	144.33	577.32
5	Water tanker 8000 ltr	Hour	4.00000	458.01	1832.04
	Fuel / Energy charges	Hour	4.00000	545.53	2182.12
6	Diesel road roller 8-10 tonnes	Hour	10.00000	194.64	1946.40
	Fuel / Energy charges	Hour	10.00000	1298.88	12988.80
7	Sundries	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**68180.01**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Shovel	Hour	8.00000	430.30	3442.40
2	Crew for Dozer	Hour	3.00000	430.30	1290.90
3	Crew for Tipper	Hour	24.00000	322.73	7745.52
4	Crew for Pump	Hour	4.00000	204.67	818.68
5	Crew for Water tanker	Hour	4.00000	316.88	1267.52
6	Crew for Road roller	Hour	10.00000	394.37	3943.70
7	work inspector	Day	2.00000	920.00	1840.00
8	mazdoor	Day	38.00000	680.00	25840.00
			Total cost of Labour	Rs:	**46188.72**

labour component/unit qty		117.20
Add contractor's profit and overhead charges	13.615%	16.00
labour component/unit qty (including contractor's profit)		**133.20**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	68180.01
C. Cost of Labour		Rs:	46188.72
	Total	Rs:	114368.73
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	15571.3
Total cost for	394.00 cum	Rs:	**129940.03**
Rate per cum (A+B+C+D)/394.0		Rs.	**329.80**

IRR-CAW-7-3 **Providing cohesive non-swelling (CNS) soil lining to canal** using **soil collected in heaps** along the edge of canal requiring CNS soil lining as part of the disposal of excavated soil from canal excavation in CNS soil reach including spreading in **layers of thickness not more than 15 cm**, breaking clods, watering, compacting to density control of **not less than 95 percent** or as stipulated, dressing to required profile etc., complete with **lead upto upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **394.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle Dozer 90 hp	Hour	1.50000	1610.29	2415.44
	Fuel / Energy charges	Hour	1.50000	1110.54	1665.81
2	Pump 5 hp (diesel)	Hour	5.00000	10.73	53.65
	Fuel / Energy charges	Hour	5.00000	144.33	721.65
3	Water tanker 8000 ltr	Hour	5.00000	458.01	2290.05
	Fuel / Energy charges	Hour	5.00000	545.53	2727.65
4	Diesel road roller 8-10 tonne	Hour	13.00000	194.64	2530.32
	Fuel / Energy charges	Hour	13.00000	1298.88	16885.44
5	Sundries	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**29500.01**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	1.50000	430.30	645.45
2	Crew for Pump	Hour	5.00000	204.67	1023.35
3	Crew for Water tanker	Hour	5.00000	316.88	1584.40
4	Crew for Road roller	Hour	13.00000	394.37	5126.81
5	work inspector	Day	2.00000	920.00	1840.00
6	mazdoor	Day	38.00000	680.00	25840.00
	Total cost of Labour			Rs:	**36060.01**

labour component/unit qty		91.50
Add contractor's profit and overhead charges	13.615%	12.50
labour component/unit qty (including contractor's profit)		**104.00**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	29500.01
C. Cost of Labour		Rs:	36060.01
	Total	Rs:	65560.02
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	8926
Total cost for	394.00 cum	Rs:	**74486.02**
Rate per cum (A+B+C+D)/394.0		Rs.	**189.05**

IRR-CAW-7-4 Providing and **fixing 20 x 20 x 75 cm size top surface neatly dressed canal bed level stones** including cost of all materials, labour, excavation, fixing in position to correct level etc., **complete with lead upto 50 m and all lifts.**

DATA **RATE ANALYSIS** UNIT : **32** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rough stone 20x20x75 cm	Each	32.00000	34.00	1088.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**1088.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	Stone chiseller Cl- I	Day	2.00000	830.00	1660.00
3	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**3940.00**

labour component/unit qty		123.10	
Add contractor's profit and overhead charges	13.615%	16.80	
labour component/unit qty (including contractor's profit)		**139.90**	

ABSTRACT:

A. Cost of Materials		Rs:	1088.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	3940.00
	Total	Rs:	5028.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	684.56
Total cost for	32.00 Nos.	Rs:	**5712.56**
Rate per each (A+B+C+D)/32.0		Rs.	**178.52**

IRR-CAW-7-5 Providing, fabricating and **placing in position reinforcement steel bars for RCC works** including cleaning, straightening, cutting, bending, hooking, lapping, tying with 1.25 mm dia. soft annealed steel wire, welding wherever required including cost of all materials, machinery, labour etc., complete **with initial lead upto 50 and all lifts.**

DATA **RATE ANALYSIS** UNIT : **1000.00** kg

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rein.Steel with 5 % wastage	kg	1050.00000	55.00	57750.00
2	Binding wire 1.25 mm dia	kg	8.00000	70.00	560.00
3	Sundries (chairs / spacers etc)	LS	10.00000	42.00	420.00
			Total cost of Materials	Rs:	**58730.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Bar bender	Day	6.00000	990.00	5940.00
2	mazdoor	Day	11.00000	680.00	7480.00
			Total cost of Labour	Rs:	**13420.00**

labour component/unit qty		13.40	
Add contractor's profit and overhead charges	13.615%	1.80	
labour component/unit qty (including contractor's profit)		**15.20**	

ABSTRACT:

A. Cost of Materials		Rs:	58730.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	13420.00
	Total	Rs:	72150.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	9823.22
Total cost for	1000.00 kg	Rs:	**81973.22**
Rate per kg (A+B+C+D)/1000.0		Rs.	**81.97**

IRR-CAW-7-6 Providing and **laying 75 mm thick in-situ M-15** (28 days cube compressive strength not less than 15 N / sqmm) grade cement concrete with **20 mm down size** approved, clean, hard, graded aggregates **for canal lining using vibrating cylinder type mechanical paver** including cost of all materials, machinery, labour, cleaning, batching, mixing, placing in position, finishing, forming contraction joints, fixing PVC joint sealing strips, curing, shifting of paver from one side to other side of canal etc., complete **with initial lead upto 1 km and all lifts. (43 Gr Cement content: 300 kg /cum (22.5 kg/ sqm) for use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum equivalent concrete volume:79.2 cum including the extra quantity of concrete for curvatures and bends etc.,)**

DATA: **RATE ANALYSIS** UNIT : **960** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate	Amount
				in Rs.	in Rs.
1	Cement 43 Gr	kg	23760.00000	4.22	100267.20
2	Coarse aggregate 20-10 mm	cum	41.18400	1635.00	67335.84
	Coarse aggregate 10-4.75 mm	cum	22.17600	1190.00	26389.44
3	Fine aggregate (Un-Screened)	cum	35.64000	0.00	0.00
4	Super plasticiser	kg	95.04000	64.00	6082.56
5	PVC sealing strip	Rm	640.00000	42.00	26880.00
6	Use rate of paving cylinder	sqm	960.00000	1.09	1046.40
7	Sundries	LS	5.00000	42.00	210.00
			Total cost of Materials	Rs:	**228211.44**

B. MACHINERY:					
Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Batching plant	Hour	8.00000	394.33	3154.64
	Fuel / Energy charges	Hour	8.00000	380.69	3045.52
2	Transit mixer 3 Nos	Hour	24.00000	791.29	18990.96
	Fuel / Energy charges	Hour	24.00000	1587.53	38100.72
3	Mechanical paver	Hour	8.00000	359.30	2874.40
	Lubricants etc @ 5 %	Hour	8.00000	17.97	143.72
4	DG set for batching plant 50 KVA	Hour	8.00000	84.94	679.52
	Fuel / Energy charges	Hour	8.00000	1731.84	13854.72
5	DG set for paver 30 KVA	Hour	8.00000	68.01	544.08
	Fuel / Energy charges	Hour	8.00000	1154.56	9236.48
6	Shovel 0.5 cum / Loader	Hour	2.00000	1047.41	2094.82
	Fuel / Energy charges	Hour	2.00000	865.93	1731.86
7	Water tanker	Hour	8.00000	458.01	3664.08
	Fuel / Energy charges	Hour	8.00000	545.53	4364.24
8	Pump 5 hp(diesel) 2 Nos. 4 hrs each	Hour	8.00000	10.73	85.84
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
9	Sundries (power line etc)	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**103930.24**

C. LABOUR:					
Sl No	Description	Unit	Quantity	Rate	Amount
				in Rs.	in Rs.
1	Crew for Batching plant	Hour	8.00000	621.38	4971.04
2	Crew for Transit mixer	Hour	24.00000	516.36	12392.64
3	Crew for Concrete paver	Hour	8.00000	773.76	6190.08
4	Crew for DG set	Hour	16.00000	241.80	3868.80
5	Crew for Shovel	Hour	2.00000	430.30	860.60
6	Crew for Water tanker	Hour	8.00000	316.88	2535.04
7	Crew for Pump	Hour	16.00000	204.67	3274.72
8	Mason Class I	Day	2.00000	840.00	1680.00
9	Mechanic	Day	1.00000	850.00	850.00
10	Fitter	Day	1.00000	850.00	850.00
11	Electrician	Day	1.00000	930.00	930.00
12	work inspector	Day	2.00000	920.00	1840.00
13	mazdoor (BP site)	Day	5.00000	680.00	3400.00
14	mazdoor (Paver site)	Day	10.00000	680.00	6800.00
			Total cost of Labour	Rs:	**50442.92**

labour component/unit qty		52.50
Add contractor's profit and overhead charges	13.615%	7.10
labour component/unit qty (including contractor's profit)		**59.60**

ABSTRACT:

A. Cost of Materials			Rs:	228211.44
B. Hire charges of Machinery			Rs:	103930.24
C. Cost of Labour			Rs:	50442.92
			Total Rs:	382584.6
Add for shifting & re-erection of BP @	2%		Rs:	7651.69
Add for LH / RH shifting & erection of Paver @	0.5%		Rs:	1912.92
Add for ledge cutting / erection of tracks etc @	1%		Rs:	3825.85
			Total Rs:	395975.06
D. Add for contractor's profit and overheads on (A+B+C+other percentages)		13.615%	Rs:	53912
Lead Charges for 1 Km for FA	35.64	cum @	46.4117275 Rs./Cum	1654.11
Lead Charges for 1 Km for CA	63.36	cum @	44.6166105 Rs./Cum	2826.91
Total cost for	960.00	sqm	Rs:	**454368.08**
Rate per sqm	(A+B+C+D)/960.0		Rs.	**473.30**

IRR-CAW-7-7 Providing and **laying 80 mm thick in-situ M-15** (28 days cube compressive strength not less than 15 N / sqmm) grade cement concrete with **20 mm down size** approved, clean, hard, graded aggregates **for canal lining using vibrating cylinder type mechanical paver** including cost of all materials, machinery, labour, cleaning, batching, mixing, placing in position, finishing, forming contraction joints, fixing PVC joint sealing strips, curing, shifting of paver from one side to other side of canal etc., complete **with initial lead upto 1 km and all lifts. (43 Gr Cement content: 300 kg /cum (24 kg/ sqm) for use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum equivalent concrete volume:84.48 cum including the extra quantity of concrete for curvatures and bends etc.,)**

DATA: **RATE ANALYSIS** UNIT : **960** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate	Amount
				in Rs.	in Rs.
1	Cement 43 Gr	kg	25344.00000	4.22	106951.68
2	Coarse aggregate 20-10 mm	cum	43.92960	1635.00	71824.90
	Coarse aggregate 10-4.75 mm	cum	23.65440	1190.00	28148.74
3	Fine aggregate (Un-Screened)	cum	38.01600	0.00	0.00
4	Super plasticiser	kg	101.37600	64.00	6488.06
5	PVC sealing strip	Rm	640.00000	42.00	26880.00
6	Use rate of paving cylinder	sqm	960.00000	1.09	1046.40
7	Sundries	LS	5.00000	42.00	210.00
			Total cost of Materials	Rs:	**241549.78**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate	Amount
				in Rs.	in Rs.
1	Batching plant	Hour	8.00000	394.33	3154.64
	Fuel / Energy charges	Hour	8.00000	380.69	3045.52
2	Transit mixer 3 Nos	Hour	24.00000	791.29	18990.96
	Fuel / Energy charges	Hour	24.00000	1587.53	38100.72
3	Mechanical paver	Hour	8.00000	359.30	2874.40
	Lubricants etc @ 5 %	Hour	8.00000	17.97	143.72
4	DG set for batching plant 50 KVA	Hour	8.00000	84.94	679.52
	Fuel / Energy charges	Hour	8.00000	1731.84	13854.72
5	DG set for paver 30 KVA	Hour	8.00000	68.01	544.08
	Fuel / Energy charges	Hour	8.00000	1154.56	9236.48
6	Shovel 0.5 cum / Loader	Hour	2.00000	1047.41	2094.82
	Fuel / Energy charges	Hour	2.00000	865.93	1731.86
7	Water tanker	Hour	8.00000	458.01	3664.08
	Fuel / Energy charges	Hour	8.00000	545.53	4364.24
8	Pump 5 hp(diesel) 2 Nos. 4 hrs each	Hour	8.00000	10.73	85.84
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
9	Sundries (power line etc)	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**103930.24**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate	Amount
				in Rs.	in Rs.
1	Crew for Batching plant	Hour	8.00000	621.38	4971.04
2	Crew for Transit mixer	Hour	24.00000	516.36	12392.64
3	Crew for Concrete paver	Hour	8.00000	773.76	6190.08
4	Crew for DG set	Hour	16.00000	241.80	3868.80
5	Crew for Shovel	Hour	2.00000	430.30	860.60
6	Crew for Water tanker	Hour	8.00000	316.88	2535.04
7	Crew for Pump	Hour	16.00000	204.67	3274.72
8	Mason Class I	Day	2.00000	840.00	1680.00
9	Mechanic	Day	1.00000	850.00	850.00
10	Fitter	Day	1.00000	850.00	850.00
11	Electrician	Day	1.00000	930.00	930.00
12	work inspector	Day	2.00000	920.00	1840.00
13	mazdoor (BP site)	Day	5.00000	680.00	3400.00
14	mazdoor (Paver site)	Day	10.00000	680.00	6800.00
			Total cost of Labour	Rs:	**50442.92**

labour component/unit qty		52.50
Add contractor's profit and overhead charges	13.615%	7.10
labour component/unit qty (including contractor's profit)		**59.60**

ABSTRACT:

A. Cost of Materials			Rs:	241549.78
B. Hire charges of Machinery			Rs:	103930.24
C. Cost of Labour			Rs:	50442.92
			Total Rs:	395922.94
Add for shifting & re-erection of BP @	2%		Rs:	7918.46
Add for LH / RH shifting & erection of Paver @	0.5%		Rs:	1979.61
Add for ledge cutting / erection of tracks etc @	1%		Rs:	3959.23
			Total Rs:	409780.24
D. Add for contractor's profit and overheads on (A+B+C+other percentages)		13.615%	Rs:	55791.58
Lead Charges for 1 Km for FA	38.02	cum @	46.4117275 Rs./Cum	1764.39
Lead Charges for 1 Km for CA	67.58	cum @	44.6166105 Rs./Cum	3015.37
Total cost for	960.00	sqm	Rs:	**470351.58**
Rate per sqm	(A+B+C+D)/960.0		Rs.	**489.95**

IRR-CAW-7-8 Providing and **laying 100 mm thick in situ M-15** (28 days cube compressive strength not less than 15 N /Sqmm) grade cement concrete with **20 mm down size** approved, clean, hard, graded aggregates **for canal lining using, vibrating, cylinder type mechanical paver** including cost of all materials, machinery, labour, cleaning, batching, mixing, placing in position, finishing, forming contraction joints, fixing PVC joint sealing strips, curing, shifting of paver from one side to othere side of canal etc., complete **with initial lead upto 1 Km and all lifts.**
(43 Gr Cement content: 300 kg /cum (30 kg/ sqm) for use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum equivalent concrete volume:88 cum including the extra quantity of concrete for curvatures and bends etc.,)

DATA: **RATE ANALYSIS** UNIT : **800** Sqm

A. MATERIALS:

Sl.No	Particulars	Unit	Qty	Rate in Rs.	Amount
1	Cement 43 Gr	Kg	26400.00000	4.22	111408.00
2	Coarse aggregate 20-10 mm	cum	45.76000	1635.00	74817.60
	Coarse aggregate 10-4.75 mm	cum	24.64000	1190.00	29321.60
3	Fine aggregate (Un-Screened)	cum	39.60000	0.00	0.00
4	Super plasticiser	kg	105.60000	64.00	6758.40
5	PVC sealing strip	Rm	533.00000	42.00	22386.00
6	Use rate of paving cylinder	sqm	800.00000	1.09	872.00
			Total cost of Materials	Rs.	**245563.60**

B. MACHINERY:

Sl.No	Particulars	Unit	Qty	Rate in Rs.	Amount
1	Batching plant	Hour	8.00000	394.33	3154.64
	Fuel / Energy charges	Hour	8.00000	380.69	3045.52
2	Transit mixer 3 Nos	Hour	24.00000	791.29	18990.96
	Fuel / Energy charges	Hour	24.00000	1587.53	38100.72
3	Mechanical paver	Hour	8.00000	359.30	2874.40
	lubricants etc @ 5%	Hour	8.00000	17.97	143.72
4	DG set for batching plant 50 KVA	Hour	8.00000	84.94	679.52
	Fuel / Energy charges	Hour	8.00000	1731.84	13854.72
5	DG set for paver 30 KVA	Hour	8.00000	68.01	544.08
	Fuel / Energy charges	Hour	8.00000	1154.56	9236.48
6	Shovel 0.5 cum / Loader	Hour	2.00000	1047.41	2094.82
	Fuel / Energy charges	Hour	2.00000	865.93	1731.86
7	Water tanker	Hour	8.00000	458.01	3664.08
	Fuel / Energy charges	Hour	8.00000	545.53	4364.24
8	Pump 5 hp (diesel) 2 Nos. 4 hrs each	Hour	8.00000	10.73	85.84
	Fuel / Energy charges		8.00000	144.33	1154.64
			Total hire charges of Machinery	Rs.	**103720.24**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Batching plant	Hour	8.00000	621.38	4971.04
2	Crew for Transit mixer	Hour	24.00000	516.36	12392.64
3	Crew for Concrete paver	Hour	8.00000	773.76	6190.08
4	Crew for DG set	Hour	16.00000	241.80	3868.80
5	Crew for Shovel	Hour	2.00000	430.30	860.60
6	Crew for Water tanker	Hour	8.00000	316.88	2535.04
7	Crew for Pump	Hour	8.00000	204.67	1637.36
8	Mason Class I	Day	2.00000	840.00	1680.00
9	Mechanic	Day	1.00000	850.00	850.00
10	Fitter	Day	1.00000	850.00	850.00
11	Electrician	Day	1.00000	930.00	930.00
12	work inspector	Day	2.00000	920.00	1840.00
13	mazdoor (BP site)	Day	5.00000	680.00	3400.00
14	mazdoor (Paver site)	Day	10.00000	680.00	6800.00
			Total cost of Labour	Rs:	**48805.56**

labour component/unit qty		61.00	
Add contractor's profit and overhead charges	13.615%	8.30	
labour component/unit qty (including contractor's profit)		**69.30**	

ABSTRACT

A. Cost of Materials			Rs.	245563.6
B. Hire charges of Machinery			Rs.	103720.24
C. Cost of Labour			Rs.	48805.56
			TOTAL Rs.	398089.4
Add for shifting & re-erection of BP @		2%	Rs.	7961.79
Add for LH / RH shifting & erection of Paver @		0.5%	Rs.	1990.45
Add for ledge cutting / erection of tracks etc @		1%	Rs.	3980.89
			Total Rs:	412022.53
D. Add for contractor's profit and overheads on (A+B+C+other percentages)		13.615%	Rs:	56096.87
Lead Charges for 1 Km for FA	39.60	cum @	46.4117275 Rs./Cum	1837.9
Lead Charges for 1 Km for CA	70.40	cum @	44.6166105 Rs./Cum	3141.01

Total cost for		800.00 Sqm	Rs:	**473098.31**
Rate per	**Sqm**	(A+B+C+D)/800.0	Rs.	**591.37**

IRR-CAW-7-9 **Dismantling, shifting and re-erecting mechanical concrete paver and DG set** with all accessories across canal CD work or other locations wherever shifting and re-erecting is necessary including aligning paver correctly for continuing canal lining work, cost of all materials, machinery, labour etc., complete **with all leads and lifts.**

DATA: **RATE ANALYSIS** UNIT : **1.00** Shifting

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper	Hour	4.00000	493.27	1973.08
	Fuel / Energy charges	Hour	1.00000	545.53	545.53
2	Sundries (ropes / rails etc)	LS	1.00000	42.00	42.00
			Total hire charges of Machinery	Rs:	**2560.61**

C. LABOUR:

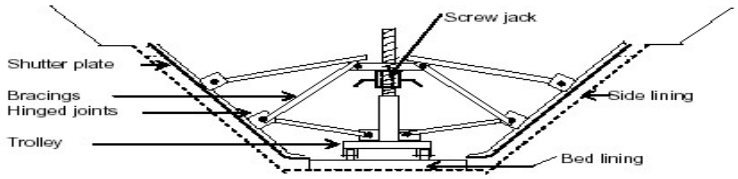
Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Tipper	Hour	4.00000	322.73	1290.92
2	Crew for Paver	Hour	8.00000	773.76	6190.08
3	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**11561.00**

labour component/unit qty	11561.00	
Add contractor's profit and overhead charges	13.615%	1574.00
labour component/unit qty (including contractor's profit)		**13135.00**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	2560.61
C. Cost of Labour		Rs:	11561.00
	Total	Rs:	14121.61
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	1922.66
Total cost for	1.00 Shifting	Rs:	**16044.27**
Rate per Shifting (A+B+C+D)/1.0		Rs.	**16044.27**

IRR-CAW-7-10 Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N /sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for bed and side lining of canal(150mm thick)** including finishing the junction of bed and sides to required curveture, cost of all materials, machinery, labour, formwork including supports, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content : 250 kg / cum) (43 Gr Cement content: 250 kg / cum for use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**



INDICATIVE ARRANGEMENT OF MANUAL PAVER

DATA **RATE ANALYSIS** UNIT : **28.17** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	7042.50000	4.22	29719.35
	Cement for incidentals @ 5 kg / cum	kg	140.85000	4.22	594.39
2	Coarse aggregate 40-20 mm	cum	12.67650	1562.00	19800.69
	Coarse aggregate 20-10 mm	cum	7.60590	1635.00	12435.65
	Coarse aggregate 10 mm below	cum	5.07060	1190.00	6034.01
3	Fine aggregate (Un-Screened)	cum	11.26800	0.00	0.00
4	Super Plasticizer	kg	28.17000	64.00	1802.88
6	Use rate of manual paver	sqm	180.00000	66.44	11959.20
7	Sundries	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**82430.17**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 600/400 ltr (diesel)	Hour	16.00000	94.27	1508.32
	Fuel / Energy charges	Hour	16.00000	288.64	4618.24
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Water tanker 8000 ltr	Hour	1.00000	458.01	458.01
	Fuel / Energy charges	Hour	1.00000	545.53	545.53
4	Needle vibrator 40 mm dia (petrol)	Hour	16.00000	8.50	136.00
	Fuel / Energy charges	Hour	16.00000	32.39	518.24
			Total hire charges of Machinery	Rs:	**7861.88**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	16.00000	403.00	6448.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Water tanker	Hour	1.00000	316.88	316.88
4	Crew for Needle vibrator	Hour	16.00000	290.10	4641.60
5	work inspector	Day	1.00000	920.00	920.00
6	Mason Class-I	Day	2.00000	840.00	1680.00
7	Fitter	Day	1.00000	850.00	850.00
8	mazdoor				
	for batching materials	Day	22.00000	680.00	14960.00
	for loading mortar pans	Day	8.00000	680.00	5440.00
	for laying and moving paver	Day	6.00000	680.00	4080.00
	for conveying concrete	Day	28.17000	680.00	19155.60
	for cleaning/ washing/ curing	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**59954.42**

labour component/unit qty 2128.30
Add contractor's profit and overhead charges 13.615% 289.80
labour component/unit qty (including contractor's profit) **2418.10**

ABSTRACT:

A. Cost of Materials	Rs:	82430.17
B. Hire charges of Machinery	Rs:	7861.88
C. Cost of Labour	Rs:	59954.42
Total	Rs:	150246.47
D. Add for contractor's profit and overheads on (A+B+C) 13.615%	Rs:	20456.06
Total cost for 28.17 cum	Rs:	**170702.53**
Rate per cum (A+B+C+D)/28.17	Rs.	**6059.73**

IRR-CAW-7-11 Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N/sqm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregate **for bed and side lining of canal(100 mm thick)** including, finishing the junction of bed and sides to required curvature, cost of all materials, machinery, labour, formwork including supports cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead up to 50 m and all lifts (Cement content: 250 kg/cum) (43 Gr Cement content: 250 kg / cum for use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**

DATA **RATE ANALYSIS** UNIT: **27** cum

A. MATERIALS:

Sl.No	Particulars	Unit	Qty	Rate in Rs.	Amount
1	Cement for mix	kg	6750.00000	4.22	28485.00
	Cement for incidentals @ 5 Kg / cum	kg	135.00000	4.22	569.70
2	Coarse aggregate 40mm	cum	12.15000	1562.00	18978.30
	Coarse aggregate 20 mm .	cum	7.29000	1635.00	11919.15
	Coarse aggregate 10 mm .	cum	4.86000	1190.00	5783.40
3	Fine aggregate (Un-Screened)	cum	10.80000	0.00	0.00
4	Super Plasticizer	kg	27.00000	64.00	1728.00
5	Use rate of manual paver	sqm	270.00000	66.44	17938.80
				Total Rs.	**85402.35**
			Total cost of Materials	Rs.	**85402.35**

B. MACHINERY:

Sl.No	Particulars	Unit	Qty	Rate in Rs.	Amount
1	Concrete mixer 600/400 ltr (diesel)	Hour	16.00000	94.27	1508.32
	Fuel / Energy charges	Hour	16.00000	288.64	4618.24
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Water tanker 8000 ltr	Hour	1.00000	458.01	458.01
	Fuel / Energy charges	Hour	1.00000	545.53	545.53
4	Needle vibrator 40 mm die (petrol)	Hour	4.00000	8.50	34.00
	Fuel / Energy charges	Hour	4.00000	32.39	129.56
			Total hire charges of Machinery	Rs.	**7371.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	16.00000	403.00	6448.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Water tanker	Hour	1.00000	316.88	316.88
4	Crew for Needle vibrator	Hour	16.00000	290.10	4641.60
5	work inspector	Day	1.00000	920.00	920.00
6	Mason Class-I	Day	2.00000	840.00	1680.00
7	Fitter	Day	1.00000	850.00	850.00
8	mazdoor				
	for batching materials	Day	22.00000	680.00	14960.00
	for loading mortar pans	Day	8.00000	680.00	5440.00
	for laying and moving paver	Day	6.00000	680.00	4080.00
	for conveying concrete	Day	27.00000	680.00	18360.00
	for cleaning/ washing/ curing	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**59158.82**

labour component/unit qty		2191.10
Add contractor's profit and overhead charges	13.615%	298.30
labour component/unit qty (including contractor's profit)		**2489.40**

ABSTRACT:

A. Cost of Materials including royalty charges	Rs.	85402.35
B. Hire charges of Machinery	Rs.	7371.20
C. Cost of Labour	Rs.	59158.82
	Total Rs.	151932.37

D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	20685.59
Total cost for	27.00 cum	Rs:	**172617.96**
Rate per cum (A+B+C+D)/27.0		Rs.	**6393.26**

IRR-CAW-7-12 Providing and **laying100mm thick insitu vibrated M-10** (28 days cube compressive strength-not less than 10.00 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for bed and side lining of canal lining using vibrating cylindertype mechanical paver** including cost of all materials mechinery labour batching mixing placing in position forming contraction joints fixing pvc joint seiling strips shifting of paver from one side of canal to other side etc.complete **with 1 km lead & all lifts.**

(Cement content: 250 kg / cum for use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

DATA: **RATE ANALYSIS** UNIT : **800** Sqm

A. MATERIALS:

Sl.No	Particulars	Unit	Qty	Rate in Rs.	Amount
1	Cement 43 Gr	Kg	22000.00000	4.22	92840.00
2	Coarse aggregate 40 mm	cum	39.60000	1562.00	61855.20
	Coarse aggregate 20 mm	cum	23.76000	1635.00	38847.60
	Coarse aggregate 10 mm	cum	15.84000	1190.00	18849.60
3	Fine aggregate (Un-Screened)	cum	35.20000	0.00	0.00
4	Super plasticiser	kg	88.00000	64.00	5632.00
5	PVC sealing strip	Rm	533.00000	42.00	22386.00
6	Use rate of paving cylinder	sqm	800.00000	1.09	872.00
			Total cost of Materials	Rs.	**241282.40**

B. MACHINERY:

Sl.No	Particulars	Unit	Qty	Rate in Rs.	Amount
1	Batching plant	Hour	8.00000	394.33	3154.64
2	Transit mixer 3 Nos	Hour	24.00000	791.29	18990.96
	Fuel / Energy charges	Hour	24.00000	1587.53	38100.72
3	Mechanical paver	Hour	5.00000	359.30	1796.50
	lubricants etc @ 5%	Hour	5.00000	17.97	89.83
4	DG set for batching plant 50 KVA	Hour	8.00000	84.94	679.52
	Fuel / Energy charges	Hour	8.00000	1731.84	13854.72
5	DG set for paver 30 KVA	Hour	8.00000	68.01	544.08
	Fuel / Energy charges	Hour	8.00000	1154.56	9236.48
6	Shovel 0.5 cum / Loader	Hour	2.00000	1047.41	2094.82
	Fuel / Energy charges	Hour	2.00000	865.93	1731.86
7	Water tanker	Hour	8.00000	458.01	3664.08
	Fuel / Energy charges	Hour	8.00000	545.53	4364.24
8	Pump 5 hp (diesel) 2 Nos. 4 hrs each	Hour	8.00000	10.73	85.84
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
			Total hire charges of Machinery	Rs.	**99542.93**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Batching plant	Hour	8.00000	621.38	4971.04
2	Crew for Transit mixer	Hour	24.00000	516.36	12392.64
3	Crew for Concrete paver	Hour	8.00000	773.76	6190.08
4	Crew for DG set	Hour	16.00000	241.80	3868.80
5	Crew for Shovel	Hour	2.00000	430.30	860.60
6	Crew for Water tanker	Hour	8.00000	316.88	2535.04
7	Crew for Pump	Hour	8.00000	204.67	1637.36
8	Mason Class I	Day	2.00000	840.00	1680.00
9	Mechanic	Day	1.00000	850.00	850.00
10	Fitter	Day	1.00000	850.00	850.00
11	Electrician	Day	1.00000	930.00	930.00
12	work inspector	Day	2.00000	920.00	1840.00
13	mazdoor (BP site)	Day	5.00000	680.00	3400.00
14	mazdoor (Paver site)	Day	10.00000	680.00	6800.00
			Total cost of Labour	Rs:	**48805.56**

labour component/unit qty		61.00
Add contractor's profit and overhead charges	13.615%	8.30
labour component/unit qty (including contractor's profit)		**69.30**

ABSTRACT:

A. Cost of Materials				Rs.	241282.40
B. Hire charges of Machinery				Rs.	99542.93
C. Cost of Labour				Rs.	48805.56
				TOTAL Rs.	389630.89
Add for shifting & re-erection of BP @			2%	Rs.	7792.62
Add for LH / RH shifting & erection of Paver @			0.5%	Rs.	1948.15
Add for ledge cutting / erection of tracks etc @			1%	Rs.	3896.31
				Total Rs:	403267.97
D. Add for contractor's profit and overheads on (A+B+C+other percentages)			13.615%	Rs:	54904.93
Lead Charges for 1 Km for FA	35.20	cum @	46.41 Rs./Cum		1633.69
Lead Charges for 1 Km for CA	79.20	cum @	44.62 Rs./Cum		3533.64
Total cost for		800.00 Sqm		Rs:	**463340.23**
Rate per Sqm	(A+B+C+D)/800.0			Rs.	**579.18**

IRR-CAW-7-13 Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N /sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for bed and side lining of canal** including finishing the junction of bed and sides to required curveture, cost of all materials, machinery, labour, formwork including supports, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content : 250 kg / cum) (Cement content: 250 kg / cum for use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**

DATA **RATE ANALYSIS** UNIT : **27.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	6750.00000	4.2200	28485.0000
	Cement for incidentals @ 5 kg / cum	kg	135.00000	4.2200	569.7000
2	Coarse aggregate 20-10 mm	cum	14.04000	1635.0000	22955.4000
	Coarse aggregate 10 mm below	cum	7.56000	1190.0000	8996.4000
3	Fine aggregate (Un-Screened)	cum	12.15000	0.0000	0.0000
4	Super Plasticizer	kg	27.00000	64.0000	1728.0000
5	Use rate of manual paver	sqm	270.00000	66.4400	17938.8000
6	Sundries	LS	2.00000	42.0000	84.0000
			Total cost of Materials	Rs:	**80757.30**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 600/400 ltr (diesel)	Hour	16.00000	94.27	1508.32
	Fuel / Energy charges	Hour	16.00000	288.64	4618.24
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Water tanker 8000 ltr	Hour	1.00000	458.01	458.01
	Fuel / Energy charges	Hour	1.00000	545.53	545.53
4	Needle vibrator 40 mm dia (petrol)	Hour	16.00000	8.50	136.00
	Fuel / Energy charges	Hour	16.00000	32.39	518.24
			Total hire charges of Machinery	Rs:	**7861.88**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	16.00000	403.00	6448.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Water tanker	Hour	1.00000	316.88	316.88
4	Crew for Vibrator	Hour	16.00000	290.10	4641.60
5	Mason Class-I	Day	2.00000	840.00	1680.00
6	work inspector	Day	1.00000	920.00	920.00
7	Fitter	Day	1.00000	850.00	850.00
8	mazdoor				
	for batching materials	Day	22.00000	680.00	14960.00
	for loading mortar pans	Day	8.00000	680.00	5440.00
	for laying and moving paver	Day	6.00000	680.00	4080.00
	for conveying concrete	Day	27.00000	680.00	18360.00
	for cleaning/ washing/ curing	Day	2.00000	680.00	1360.00
	Total cost of Labour			Rs:	**59158.82**

labour component/unit qty			2191.10
Add contractor's profit and overhead charges		13.615%	298.30
labour component/unit qty (including contractor's profit)			**2489.40**

ABSTRACT:

A. Cost of Materials				Rs:	80757.30
B. Hire charges of Machinery				Rs:	7861.88
C. Cost of Labour				Rs:	59158.82
				Total Rs:	147778.00
D. Add for contractor's profit and overheads on (A+B+C)			13.615%	Rs:	20119.97
Total cost for		27.00 cum		Rs:	**167897.97**
Rate per cum	(A+B+C+D)/27.0			Rs.	**6218.44**

IRR-CAW-7-14 Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N /sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for bed and side lining of canal (150 mm thick)** including finishing the junction of bed and sides to required curveture, cost of all materials, machinery, labour, formwork including supports, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., **complete with initial lead upto 50 m and all lifts.**
(Cement content: 290 kg / cum for use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

DATA **RATE ANALYSIS** UNIT : **24.92** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	7226.80000	4.22	30497.10
	Cement for incidentals @ 5 kg / cum	kg	124.60000	4.22	525.81
2	Coarse aggregate 40-20 mm	cum	11.21400	1562.00	17516.27
	Coarse aggregate 20-10 mm	cum	6.72840	1635.00	11000.93
	Coarse aggregate 10 mm below	cum	4.48560	1190.00	5337.86
3	Fine aggregate (Un-Screened)	cum	9.96800	0.00	0.00
4	Super Plasticizer	kg	28.90720	64.00	1850.06
5	Use rate of manual paver	sqm	166.14000	66.44	11038.34
6	Sundries	LS	2.00000	42.00	84.00
	Total cost of Materials			Rs:	**77850.37**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 600/400 ltr (diesel)	Hour	16.00000	94.27	1508.32
	Fuel / Energy charges	Hour	16.00000	288.64	4618.24
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Water tanker 8000 ltr	Hour	1.00000	458.01	458.01
	Fuel / Energy charges	Hour	1.00000	545.53	545.53
4	Needle vibrator 40 mm dia (petrol)	Hour	16.00000	8.50	136.00
	Fuel / Energy charges	Hour	16.00000	32.39	518.24
			Total hire charges of Machinery	Rs:	**7861.88**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	16.00000	403.00	6448.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Water tanker	Hour	1.00000	316.88	316.88
4	Crew for Vibrator	Hour	16.00000	290.10	4641.60
5	Mason Class-I	Day	2.00000	840.00	1680.00
6	work inspector	Day	1.00000	920.00	920.00
7	Fitter	Day	1.00000	850.00	850.00
8	mazdoor				
	for batching materials	Day	22.00000	680.00	14960.00
	for loading mortar pans	Day	8.00000	680.00	5440.00
	for laying	Day	6.00000	680.00	4080.00
	for conveying concrete	Day	24.92000	680.00	16945.60
	for cleaning/ washing/ curing	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**57744.42**

labour component/unit qty		2317.20
Add contractor's profit and overhead charges	13.615%	315.50
labour component/unit qty (including contractor's profit)		**2632.70**

ABSTRACT:

A. Cost of Materials		Rs:	77850.37
B. Hire charges of Machinery		Rs:	7861.88
C. Cost of Labour		Rs:	57744.42
	Total	Rs:	143456.67
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	19531.63
Total cost for	24.92 cum	Rs:	**162988.30**
Rate per cum (A+B+C+D)/24.92		Rs.	**6540.46**

IRR-CAW-7-15 Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N /sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for bed and side lining of canal(100 mm thick)** including finishing the junction of bed and sides to required curveture, cost of all materials, machinery, labour, formwork including supports, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**
(Cement content: 300 kg / cum for use of super plasticiser(0.4% by wt. of cement), CA : 0.80 cum, Blending Ratio of CA--65:35, FA : 0.45 cum)

DATA **RATE ANALYSIS** UNIT : **23.10** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	6930.00000	4.22	29244.60
	Cement for incidentals @ 5 kg / cum	kg	115.50000	4.22	487.41
2	Coarse aggregate 20-10 mm	cum	12.01200	1635.00	19639.62
	Coarse aggregate 10 mm below	cum	6.46800	1190.00	7696.92
3	Fine aggregate (Un-Screened)	cum	10.39500	0.00	0.00
4	Super Plasticizer	kg	27.72000	64.00	1774.08
6	Use rate of manual paver	sqm	231.00000	66.44	15347.64
7	Sundries	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**74274.27**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 600/400 ltr (diesel)	Hour	16.00000	94.27	1508.32
	Fuel / Energy charges	Hour	16.00000	288.64	4618.24
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Water tanker 8000 ltr	Hour	1.00000	458.01	458.01
	Fuel / Energy charges	Hour	1.00000	545.53	545.53
4	Needle vibrator 40 mm dia (petrol)	Hour	16.00000	8.50	136.00
	Fuel / Energy charges	Hour	16.00000	32.39	518.24
			Total hire charges of Machinery	Rs:	**7861.88**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	16.00000	403.00	6448.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Water tanker	Hour	1.00000	316.88	316.88
4	Crew for Vibrator	Hour	16.00000	290.10	4641.60
5	Mason Class-I	Day	2.00000	840.00	1680.00
6	work inspector	Day	1.00000	920.00	920.00
7	Fitter	Day	1.00000	850.00	850.00
8	mazdoor				
	for batching materials	Day	22.00000	680.00	14960.00
	for loading mortar pans	Day	8.00000	680.00	5440.00
	for laying and moving paver	Day	6.00000	680.00	4080.00
	for conveying concrete	Day	23.10000	680.00	15708.00
	for cleaning/ washing/ curing	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**56506.82**

labour component/unit qty		2446.20
Add contractor's profit and overhead charges	13.615%	333.10
labour component/unit qty (including contractor's profit)		**2779.30**

ABSTRACT:

A. Cost of Materials		Rs:	74274.27
B. Hire charges of Machinery		Rs:	7861.88
C. Cost of Labour		Rs:	56506.82
	Total	Rs:	138642.97
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	18876.24
Total cost for	23.10 cum	Rs:	**157519.21**
Rate per cum	(A+B+C+D)/23.10	Rs.	**6819.01**

IRR-CAW-7-16 Providing and **laying150mm thick insitu vibrated M-15** (28 days cube compressive strength-not less than 15.00 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for bed and side lining of canal lining using vibrating cylindertype mechanical paver** including cost of all materials mechinery labour batching mixing placing in position forming contractiom joints fixing pvc joint seiling strips shifting of paver from one side of canal to other side etc.complete **with 1km lead & all lifts**.
(43 Gr Cement content: 300 kg /cum (45 kg/ sqm) for use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.44 cum equivalent concrete volume:132 cum including the extra quantity of concrete for curvatures and bends etc.,)

DATA: **RATE ANALYSIS** UNIT : **800** Sqm

A. MATERIALS:

Sl.No	Particulars	Unit	Qty	Rate in Rs.	Amount
1	Cement 43 Gr	Kg	39600.00000	4.22	167112.00
2	Coarse aggregate 20 mm	cum	68.64000	1635.00	112226.40
	Coarse aggregate 10 mm	cum	36.96000	1190.00	43982.40
3	Fine aggregate (Un-Screened)	cum	58.08000	0.00	0.00
4	Super plasticiser	kg	158.40000	64.00	10137.60
5	PVC sealing strip	Rm	533.00000	42.00	22386.00
6	Use rate of paving cylinder	sqm	800.00000	1.09	872.00
			Total cost of Materials	Rs.	**356716.40**

B. MACHINERY:

Sl.No	Particulars	Unit	Qty	Rate in Rs.	Amount
1	Batching plant	Hour	8.00000	394.33	3154.64
2	Transit mixer 3 Nos	Hour	24.00000	791.29	18990.96
	Fuel / Energy charges	Hour	24.00000	1587.53	38100.72
3	Mechanical paver	Hour	5.00000	359.30	1796.50
	lubricants etc @ 5%	Hour	5.00000	17.97	89.83
4	DG set for batching plant 50 KVA	Hour	8.00000	84.94	679.52
	Fuel / Energy charges	Hour	8.00000	1731.84	13854.72
5	DG set for paver 30 KVA	Hour	8.00000	68.01	544.08
	Fuel / Energy charges	Hour	8.00000	1154.56	9236.48
6	Shovel 0.5 cum / Loader	Hour	2.00000	1047.41	2094.82
	Fuel / Energy charges	Hour	2.00000	865.93	1731.86
7	Water tanker	Hour	8.00000	458.01	3664.08
	Fuel / Energy charges	Hour	8.00000	545.53	4364.24
8	Pump 5 hp (diesel) 2 Nos. 4 hrs each	Hour	8.00000	10.73	85.84
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
			Total hire charges of Machinery	Rs.	**99542.93**

C. LABOUR:					
Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Batching plant	Hour	8.00000	621.38	4971.04
2	Crew for Transit mixer	Hour	24.00000	516.36	12392.64
3	Crew for Concrete paver	Hour	8.00000	773.76	6190.08
4	Crew for DG set	Hour	16.00000	241.80	3868.80
5	Crew for Shovel	Hour	2.00000	430.30	860.60
6	Crew for Water tanker	Hour	8.00000	316.88	2535.04
7	Crew for Pump	Hour	8.00000	204.67	1637.36
8	Mason Class I	Day	2.00000	840.00	1680.00
9	Mechanic	Day	1.00000	850.00	850.00
10	Fitter	Day	1.00000	850.00	850.00
11	Electrician	Day	1.00000	930.00	930.00
12	work inspector	Day	2.00000	920.00	1840.00
13	mazdoor (BP site)	Day	5.00000	680.00	3400.00
14	mazdoor (Paver site)	Day	10.00000	680.00	6800.00
			Total cost of Labour	Rs:	**48805.56**

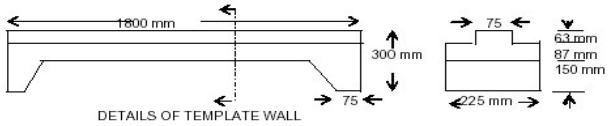
labour component/unit qty		61.00	
Add contractor's profit and overhead charges	13.615%	8.30	
labour component/unit qty (including contractor's profit)		**69.30**	

ABSTRACT

A. Cost of Materials			Rs.	356716.40
B. Hire charges of Machinery			Rs.	99542.93
C. Cost of Labour			Rs.	48805.56
			TOTAL Rs.	505064.89
Add for shifting & re-erection of BP @		2%	Rs.	10101.3
Add for LH / RH shifting & erection of Paver @		0.5%	Rs.	2525.32
Add for ledge cutting / erection of tracks etc @		1%	Rs.	5050.65
			Total Rs:	522742.16
D. Add for contractor's profit and overheads on (A+B+C+other percentages)		13.615%	Rs:	71171.35
Lead Charges for 1 Km for FA	58.08	cum @	46.4117275 Rs./Cum	2695.59
Lead Charges for 1 Km for CA	105.60	cum @	44.6166105 Rs./Cum	4711.51

Total cost for			800.00 Sqm	Rs:	**601320.61**
Rate per	**Sqm**	(A+B+C+D)/800.0		Rs.	**751.65**

IRR-CAW-7-17 Providing and **fixing pre-cast RCC template walls** consisting of 0.05 cum **M-15** grade concrete using **20 mm down size** coarse aggregates and 10 kg reinforcement steel moulded as per specifications and drawing in CM 1:4 proportion including cost of all materials, machinery, labour, formwork, fabricating and placing reinforcement steel, mixing, laying, conveying and fixing in position including necessary excavation for seating, finishing joints in CM 1:4, curing etc., complete **with initial lead upto 1 km and all lifts.**



DETAILS OF TEMPLATE WALL

DATA **RATE ANALYSIS** UNIT : **20.00** templete

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	kg	310.00000	4.22	1308.20
2	Sand (Un-Screened)	cum	0.50000	0.00	0.00
3	Coarse aggregate 20-10 mm	cum	0.50000	1635.00	817.50
	Coarse aggregate 10-4.75 mm	cum	0.30000	1190.00	357.00
4	Reinforcement steel	kg	200.00000	55.00	11000.00
5	Binding wire	kg	3.00000	70.00	210.00
6	Use rate of mould	set	20.00000	97.13	1942.60
7	Sundries(water charges & misc.)	LS	1.00000	42.00	42.00
			Total cost of Materials	Rs:	**15677.30**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hand mixer	Hour	8.00000	5.66	45.28
			8.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**45.28**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	Mason Class I for fixing	Day	1.00000	840.00	840.00
3	Mason Class II for casting	Day	2.00000	730.00	1460.00
4	Bar bender	Day	1.00000	990.00	990.00
5	mazdoor (casting yard)	Day	4.00000	680.00	2720.00
	mazdoor (for fixing)	Day	2.00000	680.00	1360.00
	mazdoor for conveying	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**9650.00**

labour component/unit qty		482.50	
Add contractor's profit and overhead charges	13.615%	65.70	
labour component/unit qty (including contractor's profit)		**548.20**	

ABSTRACT:

A. Cost of Materials including serignorage charges				Rs:	15677.30
B. Hire charges of Machinery				Rs:	45.28
C. Cost of Labour				Rs:	9650.00
				Total Rs:	25372.58
D. Add for contractor's profit and overheads on (A+B+C)			13.615%	Rs:	3454.48
Lead Charges for 1 Km for FA	0.50	cum @	46.4117275 Rs./Cum		23.21
Lead Charges for 1 Km for CA	0.80	cum @	44.6166105 Rs./Cum		35.69
Lead Charges for 1Km for Steel (including Loading and Unloading Charges)	0.20	tonne @	317.622094 Rs./Tonne		63.52
Total cost for	20.00	templete		Rs:	**28949.48**
Rate per templete	(A+B+C+D)/20.0			Rs.	**1447.47**

IRR-CAW-7-18 Providing and **fixing 50 mm dia perforated GI pressure relief pipes 12.50 cm long** with one end closed with perforated GI plate and other end provided with alluminium lid hinged to pipe including cost of all materials, labour, drilling 8 mm dia holes etc., **complete with all leads and lifts.**

DATA: Consider 10 Nos perforated 50 mm dia GI pipes 12.50 cm long each.

DATA **RATE ANALYSIS** UNIT : **10** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	GI pipe 50 mm dia 10 Nos	Rm	1.25000	259.00	323.75
2	GI plate & Alluminium lid (hinged)	LS	10.00000	42.00	420.00
			Total cost of Materials	Rs:	**743.75**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling 8 mm dia holes	LS	0.50000	42.00	21.00
			0.00000	0.00	0.00
	Total hire charges of Machinery			Rs:	**21.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Pipe fitter	Day	0.50000	935.00	467.50
	mazdoor	Day	0.50000	680.00	340.00
			Total cost of Labour	Rs:	**807.50**

labour component/unit qty		80.80	
Add contractor's profit and overhead charges	13.615%	11.00	
labour component/unit qty (including contractor's profit)		**91.80**	

ABSTRACT:

A. Cost of Materials				Rs:	743.75
B. Hire charges of Machinery				Rs:	21.00
C. Cost of Labour				Rs:	807.50
				Total Rs:	1572.25
D. Add for contractor's profit and overheads on (A+B+C)			13.615%	Rs:	214.06
Total cost for	10.00	Nos.		Rs:	**1786.31**
Rate per each	(A+B+C+D)/10.0			Rs.	**178.63**

IRR-CAW-7-19 Providing and **fixing 50 mm dia perforated GI pressure relief pipes 22.50 cm long** with one end closed with perforated GI plate and other end provided with alluminium lid hinged to pipe including cost of all materials, labour, drilling 8 mm dia holes etc., complete with all **leads and lifts.**

DATA

RATE ANALYSIS UNIT : **10** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	GI pipe 50 mm dia 10 Nos	Rm	2.25000	259.00	582.75
2	GI plate & Alluminium lid (hinged)	LS	10.00000	42.00	420.00
			Total cost of Materials	Rs:	**1002.75**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling 8 mm dia holes	LS	5.00000	42.00	210.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**210.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Pipe fitter	Day	0.50000	935.00	467.50
	mazdoor	Day	0.50000	680.00	340.00
			Total cost of Labour	Rs:	**807.50**

labour component/unit qty		80.80	
Add contractor's profit and overhead charges	13.615%	11.00	
labour component/unit qty (including contractor's profit)		**91.80**	

ABSTRACT:

A. Cost of Materials		Rs:	1002.75
B. Hire charges of Machinery		Rs:	210.00
C. Cost of Labour		Rs:	807.50
	Total	Rs:	2020.25
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	275.06
Total cost for	10.00 Nos.	Rs:	**2295.31**
Rate per No. (A+B+C+D)/10.0		Rs.	**229.53**

IRR-CAW-7-20 Providing and **fixing 50 mm dia perforated GI pressure relief pipes 30 cm long** with one end closed with perforated GI plate and other end provided with alluminium lid hinged to pipe including cost of all materials, labour, drilling 8 mm dia holes etc., complete with all **leads and lifts.**

DATA

RATE ANALYSIS UNIT : **10** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	GI pipe 50 mm dia 10 Nos	Rm	3.00000	259.00	777.00
2	GI plate & Alluminium lid (hinged)	LS	10.00000	42.00	420.00
			Total cost of Materials	Rs:	**1197.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling 8 mm dia holes	LS	7.00000	42.00	294.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**294.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Pipe fitter	Day	0.50000	935.00	467.50
	mazdoor	Day	0.50000	680.00	340.00
			Total cost of Labour	Rs:	**807.50**

labour component/unit qty		80.80	
Add contractor's profit and overhead charges	13.615%	11.00	
labour component/unit qty (including contractor's profit)		**91.80**	

ABSTRACT:

A. Cost of Materials		Rs:	1197.00
B. Hire charges of Machinery		Rs:	294.00
C. Cost of Labour		Rs:	807.50
	Total	Rs:	2298.50
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	312.94
Total cost for	10.00 Nos.	Rs:	**2611.44**
Rate per No. (A+B+C+D)/10.0		Rs.	**261.14**

IRR-CAW-7-21 Providing and **fixing 50 mm dia perforated GI pressure relief pipes 45 cm long** with one end closed with perforated GI plate and other end provided with alluminium lid hinged to pipe including cost of all materials, labour, drilling 8 mm dia holes etc., complete with all **leads and lifts.**

DATA

RATE ANALYSIS UNIT : **10** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	GI pipe 50 mm dia 10 Nos	Rm	4.50000	259.00	1165.50
2	GI plate & Alluminium lid (hinged)	LS	10.00000	42.00	420.00
			Total cost of Materials	Rs:	**1585.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling 8 mm dia holes	LS	10.00000	42.00	420.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**420.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Pipe fitter	Day	0.50000	935.00	467.50
	mazdoor	Day	0.50000	680.00	340.00
			Total cost of Labour	Rs:	**807.50**

labour component/unit qty		80.80
Add contractor's profit and overhead charges	13.615%	11.00
labour component/unit qty (including contractor's profit)		**91.80**

ABSTRACT:

A. Cost of Materials		Rs:	1585.50
B. Hire charges of Machinery		Rs:	420.00
C. Cost of Labour		Rs:	807.50
	Total	Rs:	2813.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	382.99
Total cost for	10.00 Nos.	Rs:	**3195.99**
Rate per No. (A+B+C+D)/10.0		Rs.	**319.60**

IRR-CAW-7-22 Providing and **fixing 50 mm dia perforated GI pressure relief pipes 75 cm long** with one end closed with perforated GI plate and other end provided with alluminium lid hinged to pipe including cost of all materials, labour, drilling 8 mm dia holes etc., complete with all **leads and lifts.**

DATA

RATE ANALYSIS UNIT : **10** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	GI pipe 50 mm dia	Rm	7.50000	259.00	1942.50
2	GI plate & Alluminium lid (hinged)	LS	10.00000	42.00	420.00
			Total cost of Materials	Rs:	**2362.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling 8 mm dia holes	LS	15.00000	42.00	630.00
			0.00000		0.00
			Total hire charges of Machinery	Rs:	**630.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Pipe fitter	Day	0.50000	935.00	467.50
2	mazdoor	Day	0.50000	680.00	340.00
			Total cost of Labour	Rs:	**807.50**

labour component/unit qty		80.80
Add contractor's profit and overhead charges	13.615%	11.00
labour component/unit qty (including contractor's profit)		**91.80**

ABSTRACT:

A. Cost of Materials		Rs:	2362.50
B. Hire charges of Machinery		Rs:	630.00
C. Cost of Labour		Rs:	807.50
	Total	Rs:	3800.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	517.37
Total cost for	10.00 Nos.	Rs:	**4317.37**
Rate per No. (A+B+C+D)/10.0		Rs.	**431.74**

IRR-CAW-7-23 Providing and **fixing 100 mm dia perforated PVC pipes 40 cm long for Weep holes** including cost of all materials, labour, drilling 8 mm dia holes etc. complete with all **leads and lifts.**

DATA **RATE ANALYSIS** UNIT: **10** Nos.

A. MATERIALS:

Sl.No	Particulars	Unit	Qty	Rate in Rs	Amount in Rs.
1	PVC pipe 100 mm dia 10 Nos	Rm	10.00000	156.00	1560.00
			Total cost of Materials	Rs.	**1560.00**

B. MACHINERY

Sl.No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire chargs of Machinery	Rs.	0.00

C. LABOUR

Sl.No	Particulars	Unit	Qty	Rate in Rs	Amount in Rs.
1	Pipe fitter	Day	0.25000	935.00	233.75
2	Mazdoor	Day	0.25000	680.00	170.00
	Total cost of Labour			Rs.	**403.75**

labour component/unit qty 40.40
Add contractor's profit and overhead charges 13.615% 5.50
labour component/unit qty (including contractor's profit) **45.90**

ABSTRACT

A. Cost of Materials	Rs.		1560.00
B. Hire charges of Machinery	Rs.		0.00
C. Cost of Labour	Rs.		403.75
		Total Rs:	1963.75
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	267.36
Total cost for	10.00 Nos.	Rs:	**2231.11**
Rate per No. (A+B+C+D)/10.0		Rs.	**223.11**

IRR-CAW-7-24 **Drilling 32 mm dia pressure relief hole below pressure relief pipe** for bed and side lining of canal laid on rock including cost of all materials, machinery, labour etc., complete with all **leads and lifts.**

DATA: **RATE ANALYSIS** UNIT : **10** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of drill rod 1.6 m long	Rm	10.00000	31.71	317.10
	Reconditioning charges @		10%		31.71
2	Use rate of air hose 2 Nos.	Hour	2.00000	12.00	24.00
			Total cost of Materials	Rs:	**372.81**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air compressor 8.5 cmm diesel	Hour	1.00000	288.50	288.50
	Fuel / Energy charges	Hour	1.00000	1623.60	1623.60
2	Jack hammer 2 Nos.	Hour	2.00000	19.11	38.22
	Fuel / Energy charges	Hour	2.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**1950.32**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Air compressor	Hour	1.00000	386.88	386.88
2	Crew for Jack hammer	Hour	2.00000	604.50	1209.00
			Total cost of Labour	Rs:	**1595.88**

labour component/unit qty 159.60
Add contractor's profit and overhead charges 13.615% 21.70
labour component/unit qty (including contractor's profit) **181.30**

ABSTRACT:

A. Cost of Materials		Rs:	372.81
B. Hire charges of Machinery		Rs:	1950.32
C. Cost of Labour		Rs:	1595.88
		Total Rs:	3919.01
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	533.57
Total cost for	10.00 Nos.	Rs:	**4452.58**
Rate per No. (A+B+C+D)/10.0		Rs.	**445.26**

IRR-CAW-7-25 Providing and **forming 35 x 35 x 40 cm deep filter drain** consisting of 75 mm thick 10 mm down coarse aggregate around pressure relief pipe and 75 mm thick sand around coarse aggregate filter including cost of all materials, labour, excavation of pit etc., complete with **lead upto 50 m and all lifts.**

DATA

RATE ANALYSIS UNIT : **10** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Coarse aggregate 10-4.75 mm	cum	0.15000	1190.00	178.50
2	Sand (Un-Screened)	cum	0.35000	0.00	0.00
			Total cost of Materials	Rs:	**178.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
					0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	0.10000	730.00	73.00
2	mazdoor	Day	0.10000	680.00	68.00
			Total cost of Labour	Rs:	**141.00**

labour component/unit qty		14.10
Add contractor's profit and overhead charges	13.615%	1.90
labour component/unit qty (including contractor's profit)		**16.00**

ABSTRACT:

A. Cost of Materials		Rs:	178.50
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	141.00
	Total	Rs:	319.50
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	43.5
Total cost for	10.00 Nos.	Rs:	**363.00**
Rate per No. (A+B+C+D)/10.0		Rs.	**36.30**

IRR-CAW-7-26 Providing and **fixing 25 to 40 mm thick Shahabad / Talikota / other similar stone slabs with pointing and finishing joints** neatly in **CM 1:3** proportion for canal / field channel lining including cutting slabs to required size, mixing mortar, finishing joints neatly, curing etc., **complete with lead upto 50 m and all lifts.**

DATA:

RATE ANALYSIS UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shahabad Stone slabs	sqm	105.00000	321.00	33705.00
2	Cement 43 Gr	kg	200.00000	4.22	844.00
3	Sand (Screened)	cum	0.40000	128.00	51.20
	Total cost of Materials			Rs:	**34600.20**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	5 hp pump (diesel)	Hour	2.00000	10.73	21.46
	Fuel / Energy charges	Hour	2.00000	144.33	288.66
			Total hire charges of Machinery	Rs:	**310.12**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Operator pump	Hour	2.00000	204.67	409.34
2	work inspector	Day	1.00000	920.00	920.00
3	Mason Class I	Day	4.00000	840.00	3360.00
4	Mason Class II	Day	2.00000	730.00	1460.00
5	mazdoor	Day	8.00000	680.00	5440.00
6	Cartman with Double Bullock cart for water	Day	1.00000	810.00	810.00
			Total cost of Labour	Rs:	**12399.34**

labour component/unit qty		124.00
Add contractor's profit and overhead charges	13.615%	16.90
labour component/unit qty (including contractor's profit)		**140.90**

ABSTRACT:

A. Cost of Materials		Rs:	34600.20
B. Hire charges of Machinery		Rs:	310.12
C. Cost of Labour		Rs:	12399.34
	Total	Rs:	47309.66
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	6441.21
Total cost for	100.00 sqm	Rs:	**53750.87**
Rate per sqm (A+B+C+D)/100.0		Rs.	**537.51**

IRR-CAW-7-27 **Fixing PCC slabs** of various sizes in **CM 1 : 3** proportion to the side slopes of canal including preparing bed, flush pointing joints in CM 1 : 3 propn, cost of all materials (excluding PCC slabs), labour, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	kg	240.00000	4.22	1012.80
2	Sand (Screened)	cum	0.50000	128.00	64.00
			Total cost of Materials	Rs:	**1076.80**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	5 hp pump (diesel)	Hour	2.00000	10.73	21.46
	Fuel / Energy charges	Hour	2.00000	144.33	288.66
			Total hire charges of Machinery	Rs:	**310.12**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Operator pump	Hour	2.00000	204.67	409.34
2	work inspector	Day	1.00000	920.00	920.00
3	Mason Class I	Day	4.00000	840.00	3360.00
4	mazdoor	Day	9.00000	680.00	6120.00
5	Cartman with Double Bullock cart for water	Day	1.00000	810.00	810.00
			Total cost of Labour	Rs:	**11619.34**

labour component/unit qty		116.20
Add contractor's profit and overhead charges	13.615%	15.80
labour component/unit qty (including contractor's profit)		**132.00**

ABSTRACT:

A. Cost of Materials		Rs:	1076.80
B. Hire charges of Machinery		Rs:	310.12
C. Cost of Labour		Rs:	11619.34
	Total	Rs:	13006.26
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	1770.8
Total cost for	100.00 sqm	Rs:	**14777.06**
Rate per sqm (A+B+C+D)/100.0		Rs.	**147.77**

IRR-CAW-7-28 **Fixing PCC lug slabs** of various sizes in **CM 1 : 3** proportion for supporting PCC slab lining including necessary excavation, refilling, flush pointing joints in CM 1 : 3 propn, cost of all materials (excluding PCC lug slabs), labour, finishing, curing etc., complete with initial lead **upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	kg	58.00000	4.22	244.76
2	Sand (Screened)	cum	0.1200	128.00	15.36
			Total cost of Materials	Rs:	**260.12**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	5 hp pump (diesel)	Hour	1.00000	10.73	10.73
	Fuel / Energy charges	Hour	1.00000	144.33	144.33
			Total hire charges of Machinery	Rs:	**155.06**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Operator pump	Hour	1.00000	204.67	204.67
2	work inspector	Day	1.00000	920.00	920.00
3	Mason Class I	Day	2.00000	840.00	1680.00
4	Mason Class II	Day	1.00000	730.00	730.00
5	mazdoor	Day	5.00000	680.00	3400.00
6	Cartman with Double Bullock cart for water	Day	1.00000	810.00	810.00
			Total cost of Labour	Rs:	**7744.67**

labour component/unit qty		77.40
Add contractor's profit and overhead charges	13.615%	10.50
labour component/unit qty (including contractor's profit)		**87.90**

ABSTRACT:

A. Cost of Materials			Rs:	260.12
B. Hire charges of Machinery			Rs:	155.06
C. Cost of Labour			Rs:	7744.67
		Total	Rs:	8159.85
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	1110.96
Total cost for	100.00 Rm		Rs:	**9270.81**
Rate per Rm	(A+B+C+D)/100.0		Rs.	**92.71**

IRR-CAW-7-29 **Fixing 30 cm height pre-cast drops for field channels** as directed including excavation, etc., **complete with all leads and lifts.**

DATA: **RATE ANALYSIS** UNIT : **7** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
		Total cost of Materials		Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
		Total hire charges of Machinery		Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	Mason Cl- II	Day	1.00000	730.00	730.00
3	mazdoor	Day	1.00000	680.00	680.00
	Total cost of Labour			Rs:	**2330.00**

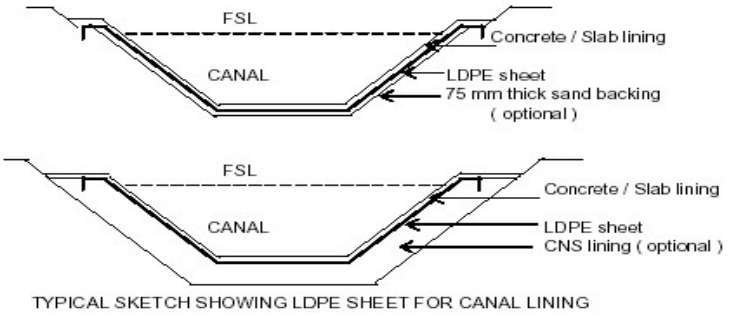
labour component/unit qty		332.90
Add contractor's profit and overhead charges	13.615%	45.30
labour component/unit qty (including contractor's profit)		**378.20**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2330.00
		Total	Rs:	2330.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	317.23
Total cost for	7.00 Nos.		Rs:	**2647.23**
Rate per No.	(A+B+C+D)/7.00		Rs.	**378.18**

IRR-CAW-7-30 Providing and **fixing LDPE sheet for bed and sides of canal** including cost of all materials, labour, laying, joining etc., complete **with all leads and lifts.**

a. **Using 500 micron thick LDPE sheet.**



TYPICAL SKETCH SHOWING LDPE SHEET FOR CANAL LINING

DATA: **RATE ANALYSIS** UNIT : **250.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	LDPE sheet 500 micron thick	sqm	275.00000	105.00	28875.00
2	Bitumen 85 / 25 and 80 / 100 Gr	kg	4.00000	53.00	212.00
		Total cost of Materials		Rs:	**29087.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
		Total hire charges of Machinery		Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Joining & laying @ 10 % of sheet cost	sqm	250.00000	10.50	2625.00
2	mazdoor	Day	1.00000	680.00	680.00
			Total cost of Labour	Rs:	**3305.00**

labour component/unit qty 13.20
Add contractor's profit and overhead charges 13.615% 1.80
labour component/unit qty (including contractor's profit) **15.00**

ABSTRACT:

A. Cost of Materials			Rs:	29087.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	3305.00
		Total	Rs:	32392.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	4410.17
Total cost for	250.00 sqm		Rs:	**36802.17**
Rate per sqm	(A+B+C+D)/250.0		Rs.	**147.21**

Note : i) If the surface on which the LDPE sheet is to be laid is too rough and undulating provide average 75 mm thick sand backing to LDPE sheet.

For providing average 75 mm thick sand backing :

RATE ANALYSIS UNIT : **250.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Sand for filling	cum	18.75000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**4080.00**

labour component/unit qty 16.30
Add contractor's profit and overhead charges 13.615% 2.20
labour component/unit qty (including contractor's profit) **18.50**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	4080.00
		Total	Rs:	4080.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	555.49
Total cost for	250.00 sqm		Rs:	**4635.49**
Rate per sqm	(A+B+C+D)/250.0		Rs.	**18.54**

IRR-CAW-7-31 Providing and **fixing LDPE sheet for bed and sides of canal** including cost of all materials, labour, laying, joining etc., complete **with all leads and lifts.**

b. **Using 750 micron thick LDPE sheet.**

DATA:

RATE ANALYSIS UNIT : **250.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	LDPE sheet 750 micron thick	sqm	275.00000	149.00	40975.00
2	Bitumen 85 / 25 and 80 / 100 Gr	kg	4.00000	53.00	212.00
			Total cost of Materials	Rs:	**41187.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Joining & laying @ 10 % of sheet cost	sqm	250.00000	14.90	3725.00
2	mazdoor	Day	1.00000	680.00	680.00
			Total cost of Labour	Rs:	**4405.00**

labour component/unit qty 17.60
Add contractor's profit and overhead charges 13.615% 2.40
labour component/unit qty (including contractor's profit) **20.00**

ABSTRACT:

A. Cost of Materials		Rs:	41187.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	4405.00
	Total	Rs:	45592.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	6207.35
Total cost for	250.00 sqm	Rs:	**51799.35**
Rate per sqm	(A+B+C+D)/250.0	Rs.	**207.20**

Note : i) If the surface on which the LDPE sheet is to be laid is too rough and undulating provide average 75 mm thick unscreened sand backing to LDPE sheet.
For providing average 75 mm thick sand backing add per sqm Rs: **18.54**

IRR-CAW-7-32 Providing and **fixing LDPE sheet for bed and sides of canal** including cost of all materials, labour, laying, joining etc., complete **with all leads and lifts.**
Using 1000 micron thick LDPE sheet.

DATA: **RATE ANALYSIS** UNIT : **250.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	LDPE sheet 1000 micron thick	sqm	275.00000	207.00	56925.00
2	Bitumen 85 / 25 and 80 / 100 Gr	kg	4.00000	53.00	212.00
			Total cost of Materials	Rs:	**57137.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Joining & laying @ 10 % of sheet cost	sqm	250.00000	20.70	5175.00
2	mazdoor	Day	1.00000	680.00	680.00
			Total cost of Labour	Rs:	**5855.00**

labour component/unit qty		23.40
Add contractor's profit and overhead charges	13.615%	3.20
labour component/unit qty (including contractor's profit)		**26.60**

ABSTRACT:

A. Cost of Materials		Rs:	57137.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	5855.00
	Total	Rs:	62992.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	8576.36
Total cost for	250.00 sqm	Rs:	**71568.36**
Rate per sqm	(A+B+C+D)/250.0	Rs.	**286.27**

Note : i) If the surface on which the LDPE sheet is to be laid is too rough and undulating provide average 75 mm thick unscreened sand backing to LDPE sheet.
For providing average 75 mm thick sand backing add per sqm Rs: **18.54**

IRR-CAW-7-33 Providing and **fixing 12 mm thick 380 mm depth tarfelt expansion joint filler boards for stone masonry lining of canal** including cost of all materials, labour etc., complete with all **leads and lifts.**

DATA: Consider 100 m length of expansion joint.
Tarfelt joint filler board with 2 % wastage (100 x 0.38 x 1.02) : 38.75 sqm

DATA **RATE ANALYSIS** UNIT : **100.00** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tarfelt joint filler board 12 mm thick	sqm	38.75000	462.00	17902.50
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**17902.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Carpenter Cl- II	Day	1.00000	730.00	730.00
2	mazdoor	Day	1.00000	680.00	680.00
			Total cost of Labour	Rs:	**1410.00**

labour component/unit qty 14.10
Add contractor's profit and overhead charges 13.615% 1.90
labour component/unit qty (including contractor's profit) **16.00**

ABSTRACT:

A. Cost of Materials	Rs:	17902.50
B. Hire charges of Machinery	Rs:	0.00
C. Cost of Labour	Rs:	1410.00
Total	Rs:	19312.50
D. Add for contractor's profit and overheads on (A+B+C) 13.615%	Rs:	2629.4
Total cost for 100.00 Rm	Rs:	**21941.90**
Rate per Rm (A+B+C+D)/100.00	Rs.	**219.42**

IRR-CAW-7-34 Providing and **fixing 20 mm thick 100 mm depth tarfelt expansion joint filler boards for cement concrete lining of canal** including cost of all materials, labour etc., complete with all **leads and lifts.**

DATA: Consider 100 m length of expansion joint.
Tarfelt joint filler board (100 x 0.10) : 10.00 sqm

DATA **RATE ANALYSIS** UNIT : **100.00** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tarfelt joint filler board 20 mm thick	sqm	10.00000	713.00	7130.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**7130.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Carpenter Cl- II	Day	1.00000	730.00	730.00
2	mazdoor	Day	1.00000	680.00	680.00
			Total cost of Labour	Rs:	**1410.00**

labour component/unit qty 14.10
Add contractor's profit and overhead charges 13.615% 1.90
labour component/unit qty (including contractor's profit) **16.00**

ABSTRACT:

A. Cost of Materials	Rs:	7130.00
B. Hire charges of Machinery	Rs:	0.00
C. Cost of Labour	Rs:	1410.00
Total	Rs:	8540.00
D. Add for contractor's profit and overheads on (A+B+C) 13.615%	Rs:	1162.72
Total cost for 100.00 Rm	Rs:	**9702.72**
Rate per Rm (A+B+C+D)/100.00	Rs.	**97.00**

IRR-CAW-7-35 Providing and **fixing 20 mm thick 150 mm depth tarfelt expansion joint filler boards for cement concrete lining of canal** including cost of all materials, labour etc., complete with all **leads and lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tarfelt joint filler board 20 mm thick	sqm	15.30000	713.00	10908.90
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**10908.90**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Carpenter Cl- II	Day	1.00000	730.00	730.00
2	mazdoor	Day	1.00000	680.00	680.00
			Total cost of Labour	Rs:	**1410.00**

labour component/unit qty 14.10
Add contractor's profit and overhead charges 13.615% 1.90
labour component/unit qty (including contractor's profit) **16.00**

ABSTRACT:

A. Cost of Materials	Rs:	10908.90
B. Hire charges of Machinery	Rs:	0.00
C. Cost of Labour	Rs:	1410.00
Total	Rs:	12318.90
D. Add for contractor's profit and overheads on (A+B+C) 13.615%	Rs:	1677.22
Total cost for 100.00 Rm	Rs:	**13996.12**
Rate per Rm (A+B+C+D)/100.00	Rs.	**139.96**

IRR-CAW-7-36 Providing and **forming 35 mm wide and 10 mm thick construction / contraction joints for concrete lining by mastic filler** including cost of all materials, labour etc., complete with **all leads and lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Asphalt 80/100 Gr	kg	35.00000	53.00	1855.00
	Sand (Screened)	cum	0.04000	128.00	5.12
			Total cost of Materials	Rs:	**1860.12**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	0.50000	730.00	365.00
2	mazdoor	Day	1.00000	680.00	680.00
			Total cost of Labour	Rs:	**1045.00**

labour component/unit qty 10.50
Add contractor's profit and overhead charges 13.615% 1.40
labour component/unit qty (including contractor's profit) **11.90**

ABSTRACT:

A. Cost of Materials	Rs:	1860.12
B. Hire charges of Machinery	Rs:	0.00
C. Cost of Labour	Rs:	1045.00
Total	Rs:	2905.12
D. Add for contractor's profit and overheads on (A+B+C) 13.615%	Rs:	395.53
Total cost for 100.00 Rm	Rs:	**3300.65**
Rate per Rm (A+B+C+D)/100.00	Rs.	**33.01**

IRR-CAW-7-37 **Manufacturing 550 x 550 x 55 mm size PCC lining slabs in M-15** grade (28 days cube compressive strength not less than 15 N /sqmm) cement concrete using **20 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts. (Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement), CA : 0.80 cum, Blending Ratio of CA : 65:35, FA : 0.45cum equivalent concrete volume: 3.74 cum)**

DATA: **RATE ANALYSIS** UNIT : **225** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	1122.00000	4.22	4734.84
	Cement for incidentals @ 1 kg / slab	kg	225.00000	4.22	949.50
2	Coarse aggregate 20-10 mm	cum	1.94480	1635.00	3179.75
	Coarse aggregate 10 mm below	cum	1.04720	1190.00	1246.17
3	Fine aggregate (Un-Screened)	cum	1.68300	0.00	0.00
4	Super Plasticizer	kg	4.48800	64.00	287.23
5	Use rate of moulds for 500 uses	No.	225.00000	7.29	1640.25
			Total cost of Materials	Rs:	**12037.74**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.10000	10.73	1.07
	Fuel / Energy charges	Hour	0.10000	144.33	14.43
3	Water tanker 8000 ltr	Hour	0.20000	458.01	91.60
	Fuel / Energy charges	Hour	0.20000	545.53	109.11
	Total hire charges of Machinery			Rs:	1814.05
	Aportioned hire charges of machinery for lining slab		90%	**Rs:**	**1632.65**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.10000	204.67	20.47
3	Crew for Water tanker	Hour	0.20000	316.88	63.38
4	Mason Class-I	Day	2.00000	840.00	1680.00
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor				
	for batching materials / laying CC	Day	3.00000	680.00	2040.00
	for demoulding / oiling / laying	Day	2.00000	680.00	1360.00
	for shifting slabs to curing pond	Day	1.00000	680.00	680.00
	for stacking after curing	Day	1.00000	680.00	680.00
	for cleaning & miscellaneous	Day	1.00000	680.00	680.00
	Total cost of Labour			Rs:	11347.85
	Aportioned cost of labour for lining slabs		90%	**Rs:**	**10213.07**

labour component/unit qty		45.40
Add contractor's profit and overhead charges	13.615%	6.20
labour component/unit qty (including contractor's profit)		**51.60**

ABSTRACT:

A. Cost of Materials			Rs:	12037.74
B. Hire charges of Machinery			Rs:	1632.65
C. Cost of Labour			Rs:	10213.07
		Total	Rs:	23883.46
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	3251.73
Total cost for	225.00	Nos.	Rs:	**27135.19**
Rate per each	(A+B+C+D)/225.0		Rs.	**120.60**

IRR-CAW-7-38 **Manufacturing 550 x 300 x 55 mm size PCC lug slabs in M-15 grade** (28 days cube compressive strength not less than 15 N / sqmm) cement concrete using **20 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts. (Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement), CA : 0.80 cum, Blending Ratio of CA : 65:35, FA : 0.45cum, equivalent concrete volume: 0.23 cum)**

DATA: **RATE ANALYSIS** UNIT : **25** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	69.00000	4.22	291.18
	Cement for incidentals @ 0.5 kg/slab	kg	12.50000	4.22	52.75
2	Coarse aggregate 20-10 mm	cum	0.11960	1635.00	195.55
	Coarse aggregate 10 mm below	cum	0.06440	1190.00	76.64
3	Fine aggregate (Un-Screened)	cum	0.10350	0.00	0.00
4	Super Plasticizer	kg	0.27600	64.00	17.66
5	Use rate of moulds for 500 uses	No.	25.00000	4.54	113.50
			Total cost of Materials	Rs:	**747.28**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.10000	10.73	1.07
	Fuel / Energy charges	Hour	0.10000	144.33	14.43
3	Water tanker 8000 ltr	Hour	0.20000	458.01	91.60
	Fuel / Energy charges	Hour	0.20000	545.53	109.11
			Total hire charges of Machinery	Rs:	1814.05
	Aportioned hire charges of machinery for lug slabs		10%	Rs:	**181.41**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.10000	204.67	20.47
3	Crew for Water tanker	Hour	0.20000	316.88	63.38
4	Mason Class-I	Day	2.00000	840.00	1680.00
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor				
	for batching materials / laying CC	Day	3.00000	680.00	2040.00
	for demoulding / oiling / laying	Day	2.00000	680.00	1360.00
	for shifting slabs to curing pond	Day	1.00000	680.00	680.00
	for stacking after curing	Day	1.00000	680.00	680.00
	for cleaning & miscellaneous	Day	1.00000	680.00	680.00
	Total cost of Labour			Rs:	11347.85
	Aportioned cost of labour for lug slabs		10%	Rs:	**1134.79**

labour component/unit qty 45.40
Add contractor's profit and overhead charges 13.615% 6.20
labour component/unit qty (including contractor's profit) **51.60**

ABSTRACT:

A. Cost of Materials		Rs:	747.28
B. Hire charges of Machinery		Rs:	181.41
C. Cost of Labour		Rs:	1134.79
	Total	Rs:	2063.48
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	280.94
Total cost for	25.00 Nos.	Rs:	**2344.42**
Rate per each (A+B+C+D)/25.0		Rs.	**93.78**

IRR-CAW-7-39 **Manufacturing 450 x 300 x 30 mm size PCC lining slabs in M-15** grade (28 days cube compressive strength not less than 15 N / sqmm) cement concrete using **10 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts.**
(Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement),
CA : 0.68 cum, FA : 0.43cum)

DATA: **RATE ANALYSIS** UNIT : **225** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	270.00000	4.22	1139.40
	Cement for incidentals @ 0.5 kg/slab	kg	112.50000	4.22	474.75
2	Coarse aggregate 10 mm below	cum	0.61200	1190.00	728.28
3	Fine aggregate (Un-Screened)	cum	0.38700	0.00	0.00
4	Super Plasticizer	kg	1.08000	64.00	69.12
5	Use rate of moulds for 250 uses	No.	225.00000	3.03	681.75
			Total cost of Materials	Rs:	**3093.30**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hand mixer 45 / 30 ltr	Hour	8.00000	5.66	45.28
	Fuel / Energy charges	Hour	8.00000	0.00	0.00
2	5 hp pump (diesel)	Hour	0.10000	10.73	1.07
	Fuel / Energy charges	Hour	0.10000	144.33	14.43
3	Water tanker 8000 ltr	Hour	0.20000	458.01	91.60
	Fuel / Energy charges	Hour	0.20000	545.53	109.11
			Total hire charges of Machinery	Rs:	261.49
	Aportioned hire charges of machinery for lining slab		90%	Rs:	**235.34**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Pump	Hour	0.10000	204.67	20.47
2	Crew for Water tanker	Hour	0.20000	316.88	63.38
3	Mason Class-I	Day	2.00000	840.00	1680.00
4	work inspector	Day	1.00000	920.00	920.00
5	mazdoor				
	for batching / mixing / laying	Day	2.00000	680.00	1360.00
	for demoulding / cleaning / oiling	Day	2.00000	680.00	1360.00
	for shifting slabs to curing pond	Day	1.00000	680.00	680.00
	for stacking after curing	Day	1.00000	680.00	680.00
	for cleaning & miscellaneous	Day	1.00000	680.00	680.00
	Total cost of Labour			Rs:	7443.85
	Aportioned cost of labour for lining slabs		90%	Rs:	**6699.47**

labour component/unit qty 29.80
Add contractor's profit and overhead charges 13.615% 4.10
labour component/unit qty (including contractor's profit) **33.90**

ABSTRACT:

A. Cost of Materials		Rs:	3093.30
B. Hire charges of Machinery		Rs:	235.34
C. Cost of Labour		Rs:	6699.47
	Total	Rs:	10028.11
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	1365.33
Total cost for	225.00 Nos.	Rs:	**11393.44**
Rate per each (A+B+C+D)/225.0		Rs.	**50.64**

IRR-CAW-7-40 **Manucturing 450 x 150 x 30 mm size PCC lug slabs in M-15** grade (28 days cube compressive strength not less than 15 N / sqmm) cement concrete using **10 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts.**
(Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement),
CA : 0.68 cum, FA : 0.43cum)

DATA: **RATE ANALYSIS** UNIT : **25** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	15.00000	4.22	63.30
	Cement for incidentals @ 0.3 kg/slab	kg	7.50000	4.22	31.65
2	Coarse aggregate 10 mm below	cum	0.03400	1190.00	40.46
3	Fine aggregate (Un-Screened)	cum	0.02150	0.00	0.00
4	Super Plasticizer	kg	0.06000	64.00	3.84
5	Use rate of moulds for 250 uses	No.	25.00000	1.66	41.50
			Total cost of Materials	Rs:	**180.75**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hand mixer 45 / 30 ltr	Hour	8.00000	5.66	45.28
	Fuel / Energy charges	Hour	8.00000	0.00	0.00
2	5 hp pump (diesel)	Hour	0.10000	10.73	1.07
	Fuel / Energy charges	Hour	0.10000	144.33	14.43
3	Water tanker 8000 ltr	Hour	0.20000	458.01	91.60
	Fuel / Energy charges	Hour	0.20000	545.53	109.11
			Total hire charges of Machinery	Rs:	261.49
	Aportioned hire charges of machinery for lug slabs		10%	Rs:	**26.15**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Pump	Hour	0.10000	204.67	20.47
2	Crew for Water tanker	Hour	0.20000	316.88	63.38
3	Mason Class-I	Day	2.00000	840.00	1680.00
4	work inspector	Day	1.00000	920.00	920.00
5	mazdoor				
	for batching / mixing / laying	Day	2.00000	680.00	1360.00
	for demoulding / cleaning / oiling	Day	2.00000	680.00	1360.00
	for shifting slabs to curing pond	Day	1.00000	680.00	680.00
	for stacking after curing	Day	1.00000	680.00	680.00
	for cleaning & miscellaneous	Day	1.00000	680.00	680.00
	Total cost of Labour			Rs:	7443.85
	Aportioned cost of labour for lug slabs		10%	Rs:	**744.39**

labour component/unit qty		29.80
Add contractor's profit and overhead charges	13.615%	4.10
labour component/unit qty (including contractor's profit)		**33.90**

ABSTRACT:

A. Cost of Materials		Rs:	180.75
B. Hire charges of Machinery		Rs:	26.15
C. Cost of Labour		Rs:	744.39
	Total	Rs:	951.29
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	129.52
Total cost for	25.00 Nos.	Rs:	**1080.81**
Rate per each (A+B+C+D)/25.0		Rs.	**43.23**

IRR-CAW-7-41 **Manufacturing 600 x 300 x 100mm size PCC lining slabs in M-15** grade (28 days cube compressive strength not less than 15 N/Sqmm) cement concrete using **20mm down grades** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc., complete with **initial lead upto 50 m and all lifts.**
(Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement),
CA : 0.80 cum, FA : 0.45cum, Blending Ratio of CA--65:35)

DATA: **RATE ANALYSIS** UNIT: **225** Nos.

A. MATERIALS :

Sl. No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	Kg	1215.00000	4.22	5127.30
2	Cement for incidentals @ 0.5kg/slab	Kg	112.50000	4.22	474.75
3	Coarse aggregate 20 mm below	Cum	2.10600	1635.00	3443.31
4	Coarse aggregate 10 mm below	Cum	1.13400	1190.00	1349.46
5	Fine aggregate (Un-Screened)	Cum	1.82250	0.00	0.00
6	Super Plasticizer	kg	4.86000	64.00	311.04
7	Use rate of moulds for 250 uses	No.	225.00000	7.16	1611.00
			Total Cost of Materials	Rs.	**12316.86**

B. MACHINERY :

Sl. No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Diesel mixer 300/200	Hour	8.00000	55.40	443.20
	Fuel/Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.10000	10.73	1.07
	Fuel/Energy charges	Hour	0.10000	144.33	14.43
3	Water tanker 8000 ltr	Hour	0.20000	458.01	91.60
	Fuel/Energy charges	Hour	0.20000	545.53	109.11
			Total hire charges of Machinery	Rs.	1814.05
	Aportioned hire charges of machinery @ 90% for lining slab Rs.		90%		**1632.65**

C.LABOUR :

Sl. No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Pump	Hour	0.10000	204.67	20.47
2	Crew for water tanker	Hour	0.20000	316.88	63.38
3	Mason Class-I	Day	2.00000	840.00	1680.00
4	Class II Mason	Day	1.00000	730.00	730.00
5	Mazdoor				
	For batching materials/laying	Day	2.00000	680.00	1360.00
	For demoulding/cleaning/oiling		2.00000	680.00	1360.00
	For shifting slabs to curing pond		1.00000	680.00	680.00
	For stacking after curing		1.00000	680.00	680.00
	For cleaning & miscellaneous	Day	1.00000	680.00	680.00
	Total Cost of Labour			Rs.	7253.85
	Aportioned cost of labour for lining slabs Rs.		90%		**6528.47**

labour component/unit qty		29.00	
Add contractor's profit and overhead charges	13.615%	3.90	
labour component/unit qty (including contractor's profit)		**32.90**	

ABSTRACT :

A. Cost of Materials		Rs.	12316.86
B. Hire Charges of machinery		Rs.	1632.65
C. Cost of Labour		Rs.	6528.47
	Total	Rs:	20477.98
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	2788.08
Total cost for	225.00 Nos.	Rs:	**23266.06**
Rate per each	(A+B+C+D)/225.0	Rs.	**103.40**

IRR-CAW-7-42 **Manucturing 400 x 400 x 30 mm size PCC lining slabs in M-15** grade (28 days cube compressive strength not less than 15 N / sqmm)cement concrete using **10 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts. (Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement), CA : 0.68 cum, FA : 0.43cum)**

DATA: **RATE ANALYSIS** UNIT : **225** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	324.00000	4.22	1367.28
	Cement for incidentals @ 0.5 kg/slab	kg	112.50000	4.22	474.75
2	Coarse aggregate 10 mm below	cum	0.73440	1190.00	873.94
3	Fine aggregate (Un-Screened)	cum	0.46440	0.00	0.00
4	Super Plasticizer	kg	1.29600	64.00	82.94
5	Use rate of moulds for 250 uses	No.	225.00000	3.06	688.50
			Total cost of Materials	Rs:	**3487.41**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hand mixer 45 / 30 ltr	Hour	8.00000	5.66	45.28
	Fuel / Energy charges	Hour	8.00000	0.00	0.00
2	5 hp pump (diesel)	Hour	0.10000	10.73	1.07
	Fuel / Energy charges	Hour	0.10000	144.33	14.43
3	Water tanker 8000 ltr	Hour	0.20000	458.01	91.60
	Fuel / Energy charges	Hour	0.20000	545.53	109.11
			Total hire charges of Machinery	Rs:	261.49
	Aportioned hire charges of machinery for lining slab		90%	Rs:	**235.34**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Pump	Hour	0.10000	204.67	20.47
2	Crew for Water tanker	Hour	0.20000	316.88	63.38
3	Mason Class-I	Day	2.00000	840.00	1680.00
4	work inspector	Day	1.00000	920.00	920.00
5	mazdoor				
	for batching / mixing / laying	Day	2.00000	680.00	1360.00
	for demoulding / cleaning / oiling	Day	2.00000	680.00	1360.00
	for shifting slabs to curing pond	Day	1.00000	680.00	680.00
	for stacking after curing	Day	1.00000	680.00	680.00
	for cleaning & miscellaneous	Day	1.00000	680.00	680.00
			Total cost of Labour	Rs:	7443.85
	Aportioned cost of labour for lining slabs		90%	Rs:	**6699.47**

labour component/unit qty		29.80	
Add contractor's profit and overhead charges	13.615%	4.10	
labour component/unit qty (including contractor's profit)		**33.90**	

ABSTRACT:

A. Cost of Materials		Rs:	3487.41
B. Hire charges of Machinery		Rs:	235.34
C. Cost of Labour		Rs:	6699.47
	Total	Rs:	10422.22
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	1418.99
Total cost for	225.00 Nos.	Rs:	**11841.21**
Rate per each (A+B+C+D)/225.0		Rs.	**52.63**

IRR-CAW-7-43 **Manufacturing 400 x 150 x 30 mm size PCC lug slabs in M-15** grade (28 days cube compressive strength not less than 15 N /sqmm) cement concrete using **10 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts. (Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement), CA : 0.68 cum, FA : 0.43cum)**

DATA: **RATE ANALYSIS** UNIT : **25** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	13.50000	4.22	56.97
	Cement for incidentals @ 0.3 kg/slab	kg	7.50000	4.22	31.65
2	Coarse aggregate 10 mm below	cum	0.03060	1190.00	36.41
3	Fine aggregate (Un-Screened)	cum	0.019350	0.00	0.00
4	Super Plasticizer	kg	0.05400	64.00	3.46
5	Use rate of moulds for 250 uses	No.	25.00000	1.62	40.50
			Total cost of Materials	Rs:	**168.99**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hand mixer 45 / 30 ltr	Hour	8.00000	5.66	45.28
	Fuel / Energy charges	Hour	8.00000	0.00	0.00
2	5 hp pump (diesel)	Hour	0.10000	10.73	1.07
	Fuel / Energy charges	Hour	0.10000	144.33	14.43
3	Water tanker 8000 ltr	Hour	0.20000	458.01	91.60
	Fuel / Energy charges	Hour	0.20000	545.53	109.11
			Total hire charges of Machinery	Rs:	261.49
	Aportioned hire charges of machinery for lug slabs		10%	Rs:	**26.15**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Pump	Hour	0.10000	204.67	20.47
2	Crew for Water tanker	Hour	0.20000	316.88	63.38
3	Mason Class-I	Day	2.00000	840.00	1680.00
4	work inspector	Day	1.00000	920.00	920.00
5	mazdoor				
	for batching / mixing / laying	Day	2.00000	680.00	1360.00
	for demoulding / cleaning / oiling	Day	2.00000	680.00	1360.00
	for shifting slabs to curing pond	Day	1.00000	680.00	680.00
	for stacking after curing	Day	1.00000	680.00	680.00
	for cleaning & miscellaneous	Day	1.00000	680.00	680.00
	Total cost of Labour			Rs:	7443.85
	Aportioned cost of labour for lug slabs		10%	Rs:	**744.39**

labour component/unit qty		29.80	
Add contractor's profit and overhead charges	13.615%	4.10	
labour component/unit qty (including contractor's profit)		**33.90**	

ABSTRACT:

A. Cost of Materials			Rs:	168.99
B. Hire charges of Machinery			Rs:	26.15
C. Cost of Labour			Rs:	744.39
		Total	Rs:	939.53
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	127.92
Total cost for	25.00	Nos.	Rs:	**1067.45**
Rate per each	(A+B+C+D)/25.0		Rs.	**42.70**

IRR-CAW-7-44 Providing and **laying uncoursed rubble stone masonry** in **CM 1 : 5** proportion **for canal side** lining using stones and chips from **approved quarry** including cost of all materials, machinery, labour, forming weep holes at specified intervals, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**
(Thickness of the masonry assumed: 0.3 m, rubble stones : 0.96 cum, Stone Chips : 0.15cum, Through Stones 20 x 20 x 30cm : 1/sqm)

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	kg	1152.00000	4.22	4861.44
2	Sand (Screened)	cum	4.00000	128.00	512.00
3	Uncoursed rubble stones at quarry	cum	9.60000	424.00	4070.40
4	Through stones 20x20x30 cm	Nos	32.00000	32.00	1024.00
5	Stone chips at quarry	cum	1.50000	498.00	747.00
			Total cost of Materials	Rs:	**11214.84**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	5 hp pump (diesel)	Hour	4.00000	10.73	42.92
	Fuel / Energy charges	Hour	4.00000	144.33	577.32
			Total hire charges of Machinery	Rs:	**620.24**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Operator pump	Hour	4.00000	204.67	818.68
2	work inspector	Day	1.00000	920.00	920.00
3	Mason Class I	Day	2.00000	840.00	1680.00
4	Mason Class II	Day	2.00000	730.00	1460.00
5	mazdoor	Day	8.00000	680.00	5440.00
6	Cartman with Double Bullock cart for water	Day	1.00000	810.00	810.00
			Total cost of Labour	Rs:	**11128.68**

labour component/unit qty		1112.90	
Add contractor's profit and overhead charges	13.615%	151.50	
labour component/unit qty (including contractor's profit)		**1264.40**	

ABSTRACT:

A. Cost of Materials			Rs: 11214.84
B. Hire charges of Machinery			Rs: 620.24
C. Cost of Labour			Rs: 11128.68
		Total	Rs: 22963.76
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs: 3126.52
Total cost for	10.00 cum		Rs: **26090.28**
Rate per cum	(A+B+C+D)/10.0		Rs. **2609.03**

IRR-CAW-7-45 Providing and **laying uncoursed rubble stone masonry** in **CM 1:5** proportion **for canal side lining using stones** from approved quarry including cost of all materials, machinery, labour, forming weep holes at specified intervals, finishing, curing etc., complete **with initial lead upto 50m and all lifts.(without pin headers) : 1.1 cum)**
(Thickness of the Masonry assumed: 0.3 m , rubble stones

DATA: **RATE ANALYSIS** UNIT: **10** Cum

A. MATERIALS :

Sl. No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	Kg	979.20000	4.22	4132.22
2	Sand (Screened)	Cum	3.40000	128.00	435.20
3	Uncoursed rubble stones at quarry	Cum	11.00000	424.00	4664.00
			Total Cost of Materials	Rs.	**9231.42**

B. MACHINERY :

Sl. No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hand Mixing Charges	Hour	8.00000	5.66	45.28
2	5 hp pump (diesel)	Hour	4.00000	10.73	42.92
	Fuel / Energy charges	Hour	5.00000	144.33	721.65
			Total hire charges of Machinery	Rs.	**809.85**

C. LABOUR :

Sl. No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Operator pump	Hour	4.00000	204.67	818.68
2	Mason Class I	Day	13.00000	840.00	10920.00
3	Mason Class II	Day	6.00000	730.00	4380.00
4	Mazdoor	Day	29.00000	680.00	19720.00
5	Cartman with Double Bullock cart for water	Day	1.00000	810.00	810.00
			Total Cost of Labour	Rs.	**36648.68**

labour component/unit qty		3664.90
Add contractor's profit and overhead charges	13.615%	499.00
labour component/unit qty (including contractor's profit)		**4163.90**

ABSTRACT :

A. Cost of Materials			Rs. 9231.42
B. Hire Charges of Machinery			Rs. 809.85
C. Cost of Labour			Rs. 36648.68
		Total	Rs: 46689.95
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs: 6356.84
Total cost for	10.00 Cum		Rs: **53046.79**
Rate per Cum	(A+B+C+D)/10.0		Rs. **5304.68**

IRR-CAW-7-46 Providing and **laying uncoursed rubble stone masonry** in **CM 1 : 5** proportion **for canal side lining using stones** and chips from canal excavation including cost of all materials, machinery, labour, forming weep holes at specified interval, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**
(rubble stones : 0.96 cum, Stone Chips : 0.15cum, Through Stones 20 x 20 x 30cm : 1/sqm)

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	kg	1144.00000	4.22	4827.68
2	Sand (Screened)	cum	4.00000	128.00	512.00
3	Uncoursed rubble at dump yard	cum	9.60000	219.00	2102.40
4	Through stones 20x20x30 cm	Nos	32.00000	32.00	1024.00
5	Stone chips at dump yard	cum	1.50000	254.00	381.00
			Total cost of Materials	Rs:	**8847.08**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	5 hp pump (diesel)	Hour	4.00000	10.73	42.92
	Fuel / Energy charges	Hour	4.00000	144.33	577.32
			Total hire charges of Machinery	Rs:	**620.24**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Operator pump	Hour	4.00000	204.67	818.68
2	work inspector	Day	1.00000	920.00	920.00
3	Mason Class I	Day	2.00000	840.00	1680.00
4	Mason Class II	Day	2.00000	730.00	1460.00
5	Crowbarman	Day	1.00000	730.00	730.00
6	mazdoor	Day	9.00000	680.00	6120.00
7	Cartman with Double Bullock cart for water	Day	1.00000	810.00	810.00
			Total cost of Labour	Rs:	**12538.68**

labour component/unit qty		1253.90	
Add contractor's profit and overhead charges	13.615%	170.70	
labour component/unit qty (including contractor's profit)		**1424.60**	

ABSTRACT:

A. Cost of Materials		Rs:	8847.08
B. Hire charges of Machinery		Rs:	620.24
C. Cost of Labour		Rs:	12538.68
	Total	Rs:	22006.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	2996.12
Total cost for	10.00 cum	Rs:	**25002.12**
Rate per cum (A+B+C+D)/10.0		Rs.	**2500.21**

IRR-CAW-7-47 Providing and **laying uncoursed rubble stone masonry** in **CM 1:5** proportion **for canal side lining** using stones from canal excavation including cost of all materials, machinery, labour, forming weep holes at specified intervals, finishing, curing etc., complete **with initial lead upto 50m and all lifts.**
(rubble stones : 1.1cum, cement : 98kg, sand 0.34 cum)

DATA: **RATE ANALYSIS** UNIT: **10** Cum

A. MATERIALS :

Sl. No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	Kg	980.00000	4.22	4135.60
2	Sand (Screened)	Cum	3.40000	128.00	435.20
3	Uncoursed rubble at dump yard	Cum	11.00000	219.00	2409.00
			Total Cost of Materials	Rs.	**6979.80**

B. MACHINERY :

Sl. No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hand Mixing Charges	Hour	8.00000	5.66	45.28
2	5 hp pump (diesel)	Hour	4.00000	10.73	42.92
	Fuel / Energy charges	Hour	5.00000	144.33	721.65
			Total hire charges of Machinery	Rs.	**809.85**

C. LABOUR :

Sl. No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Operator pump	Hour	4.00000	204.67	818.68
2	Mason Class I	Day	13.00000	840.00	10920.00
3	Mason Class II	Day	6.00000	730.00	4380.00
4	Mazdoor	Day	29.00000	680.00	19720.00
5	Cartman with double bullock cart	Day	1.00000	810.00	810.00
			Total Cost of Labour	Rs.	**36648.68**

labour component/unit qty		3664.90	
Add contractor's profit and overhead charges	13.615%	499.00	
labour component/unit qty (including contractor's profit)		**4163.90**	

ABSTRACT :

A. Cost of Materials		Rs.	6979.8
B. Hire Charges of Machinery		Rs.	809.85
C. Cost of Labour		Rs.	36648.68
	Total	Rs:	44438.33
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	6050.28
Total cost for	10.00 Cum	Rs:	**50488.61**
Rate per Cum (A+B+C+D)/10.0		Rs.	**5048.86**

IRR-CAW-8 **ROCK PITCHING:**

IRR-CAW-8-1 Providing and **constructing 25 cm thick dry rubble stone pitching with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete with initial **lead upto 50 m and all lifts.**
(rubble stones : 0.23 cum/sqm, Stone Chips : 0.0375cum/sqm, Pin Headers 30cm : 2/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Uncoursed rubble stones at quarry	cum	23.00000	424.00	9752.00
2	Pin header (Through stone) 30 cm	Nos	200.00000	32.00	6400.00
3	Stone chips at quarry	cum	3.75000	498.00	1867.50
			Total cost of Materials	Rs:	**18019.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	Mason Class II	Day	5.00000	730.00	3650.00
3	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**8650.00**

labour component/unit qty		86.50
Add contractor's profit and overhead charges	13.615%	11.80
labour component/unit qty (including contractor's profit)		**98.30**

ABSTRACT:

A. Cost of Materials	Rs:	18019.50
B. Hire charges of Machinery	Rs:	0.00
C. Cost of Labour	Rs:	8650.00
Total	Rs:	26669.50
D. Add for contractor's profit and overheads on (A+B+C) 13.615%	Rs:	3631.05
Total cost for 100.00 sqm	Rs:	**30300.55**
Rate per sqm (A+B+C+D)/100.0	Rs.	**303.01**

Note: If 15 cm thick murum bed is to be provided below pitching (Murum : 0.18 cum/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Murum	cum	18.00000	258.00	4644.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**4644.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**2720.00**

labour component/unit qty		27.20
Add contractor's profit and overhead charges	13.615%	3.70
labour component/unit qty (including contractor's profit)		**30.90**

ABSTRACT:

A. Cost of Materials	Rs:	4644.00
B. Hire charges of Machinery	Rs:	0.00
C. Cost of Labour	Rs:	2720.00
Total	Rs:	7364.00
D. Add for contractor's profit and overheads on (A+B+C) 13.615%	Rs:	1002.61
Total cost for 100.00 sqm	Rs:	**8366.61**
Rate per sqm (A+B+C+D)/100.0	Rs.	**83.67**

IRR-CAW-8-1-A (New Item4 - 2011-12) Providing and **constructing 22.5 cm thick dry rubble stone pitching with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete with initial **lead upto 50 m and all lifts.**
(rubble stones : 0.207 cum/sqm, Stone Chips : 0.03375cum/sqm, Pin Headers 30cm : 2/sqm)
(For Maintenance works)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Uncoursed rubble stones at quarry	cum	20.70000	424.00	8776.80
2	Pin header (Through stone) 30 cm	Nos	200.00000	32.00	6400.00
3	Stone chips at quarry	cum	3.37500	498.00	1680.75
	Total cost of Materials			Rs:	**16857.55**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	Mason Class II	Day	5.00000	730.00	3650.00
3	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**8650.00**

labour component/unit qty		86.50
Add contractor's profit and overhead charges	13.615%	11.80
labour component/unit qty (including contractor's profit)		**98.30**

ABSTRACT:

A. Cost of Materials	Rs:	16857.55
B. Hire charges of Machinery	Rs:	0.00
C. Cost of Labour	Rs:	8650.00
Total	Rs:	25507.55
D. Add for contractor's profit and overheads on (A+B+C) 13.615%	Rs:	3472.85
Total cost for 100.00 sqm	Rs:	**28980.40**
Rate per sqm (A+B+C+D)/100.0	Rs.	**289.80**

IRR-CAW-8-2 Providing and **constructing 25 cm thick dry rubble stone pitching** including cost of all materials, labour, hand packing, finishing etc., complete
(rubble stones : 0.275 cum/sqm)

DATA: **RATE ANALYSIS** UNIT: **100** Sqm.

A. MATERIALS :

Sl. No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Uncoursed rubble stones at quarry	Cum	27.50000	424.00	11660.00
			Total Cost of Materials	Rs.	**11660.00**

B. MACHINERY :

Sl. No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs.	**0.00**

C. LABOUR :

Sl. No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Class II	Day	5.50000	730.00	4015.00
2	Mazdoor	Day	24.75000	680.00	16830.00
			Total Cost of Labour	Rs.	**20845.00**

labour component/unit qty		208.50
Add contractor's profit and overhead charges	13.615%	28.40
labour component/unit qty (including contractor's profit)		**236.90**

ABSTRACT :

A. Cost of Materials		Rs.	11660
B. Hire Charges of Machinery		Rs.	0
C. Cost of Labour		Rs.	20845.00
	Total	Rs:	32505.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	4425.56
Total cost for	100.00 Sqm.	Rs:	**36930.56**
Rate per Sqm.	(A+B+C+D)/100.0	Rs.	**369.31**
NOTE: If 15 cm thick murum bed is to be provided below pitching add (As per rate analysis under item IRR-CAW-8-1- Note)		in Rs.	**83.67**

IRR-CAW-8-2-A (New Item5 - 2011-12) Providing and **constructing 225 mm thick dry rubble stone pitching** including cost of all materials, labour, hand packing, finishing etc., complete
(rubble stones : 0.2475 cum/sqm) (For Maintenance Works)

DATA

Requirement of materials for constructing 100 Sqm pitching :

Uncoursed rubble stones	: 24.75	cum
Requirement of labour for 100 sqm pitching:		
Mason Cl II for laying pitching	: 0.20	per cum
Mazdoor	: 0.90	per cum

DATA: **RATE ANALYSIS** UNIT: **100** Sqm.

A. MATERIALS :

Sl. No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rough Stone for Revetment	Cum	24.75000	201.00	4974.75
2	Stone Chips at Quarry	Cum	3.40000	498.00	1693.20
			Total Cost of Materials .	Rs	**6667.95**

B. MACHINERY :

Sl. No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs.	**0.00**

C. LABOUR :

Sl. No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Class II	Day	4.95000	730.00	3613.50
2	Mazdoor	Day	22.27500	680.00	15147.00
			Total Cost of Labour	Rs.	**18760.50**

labour component/unit qty		187.60
Add contractor's profit and overhead charges	13.615%	25.50
labour component/unit qty (including contractor's profit)		**213.10**

ABSTRACT :

A. Cost of Materials		Rs.	6667.95
B. Hire Charges of Machinery		Rs.	0
C. Cost of Labour		Rs.	18760.50
	Total	Rs:	25428.45
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	3462.08
Total cost for	100.00 Sqm.	Rs:	**28890.53**
Rate per Sqm.	(A+B+C+D)/100.0	Rs.	**288.91**

IRR-CAW-8-3 Providing and **constructing 30 cm thick dry rubble stone pitching with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete with initial **lead upto 50 m and all lifts.**
(rubble stones : 0.275 cum/sqm, Stone Chips : 0.045cum/sqm, Pin Headers 30cm : 2/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Uncoursed rubble stones at quarry	cum	27.50000	424.00	11660.00
2	Pin header (Through stone) 30 cm	Nos	200.00000	32.00	6400.00
3	Stone chips at quarry	cum	4.50000	498.00	2241.00
			Total cost of Materials	Rs:	**20301.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	Mason Class II	Day	5.00000	730.00	3650.00
3	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**8650.00**

labour component/unit qty			86.50	
Add contractor's profit and overhead charges		13.615%	11.80	
labour component/unit qty (including contractor's profit)			**98.30**	

ABSTRACT:

A. Cost of Materials		Rs:	20301.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	8650.00
	Total	Rs:	28951.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	3941.68
Total cost for	100.00 sqm	Rs:	**32892.68**
Rate per sqm (A+B+C+D)/100.0		Rs.	**328.93**
NOTE: If 15 cm thick murum bed is to be provided below pitching add (As per rate analysis under item IRR-CAW-8-1- Note)		Rs.	**83.67**

IRR-CAW-8-4 Providing and **Constructing 30 cm thick dry rubble stone pitching** including cost of all materials,labour,hand packing,finishing etc.,complete **(rubble stones : 0.33 cum/sqm)**

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS :

Sl No	Particulars	Unit	Quantity	Rate	in Rs	Amount in Rs
1	Uncoursed rubble stones at Quarry	Cum	33.00000	424.00		13992.00
	(Included in material Rate)					
	Total Cost of materials Rs :					**13992.00**

B.MACHINERY :

Sl No	Description	Unit	Quantity	Rate	in Rs	Amount in Rs
1	Nill		0.00000	0.00		0.00
			0.00000	0.00		0.00
			Total hire charges of machinery		Rs :	**0.00**

C.LABOUR :

Sl No	Description	Unit	Quantity	Rate	in Rs	Amount in Rs
1	Mason Class II	Day	6.60000	730.00		4818.00
2	Mazdoor	Day	29.70000	680.00		20196.00
			Total cost of labour		Rs :	**25014.00**

labour component/unit qty		250.10	
Add contractor's profit and overhead charges	13.615%	34.10	
labour component/unit qty (including contractor's profit)		**284.20**	

ABSTRACT

A.Cost of Materials including ryolty charges		Rs:	13992.00
B. Hire charges of Machinery		Rs:	0.00
C.Cost of Labour		Rs:	25014.00
	Total	Rs:	39006.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	5310.67
Total cost for	100.00 sqm	Rs:	**44316.67**
Rate per sqm (A+B+C+D)/100.0		Rs.	**443.17**
NOTE: If 15 cm thick murum bed is to be provided below pitching Add (As per rate analysis under item IRR-CAW-8-1 - Note)		Rs :	**83.67**

IRR-CAW-8-5 Providing and **constructing 45 cm thick dry rubble stone pitching with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete with initial **lead upto 50 m and all lifts.**

(rubble stones : 0.40 cum/sqm, Stone Chips : 0.0675cum/sqm, Pin Headers 45cm : 2/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Uncoursed rubble stones at quarry	cum	40.00000	424.00	16960.00
2	Pin header (Through stone) 45 cm	Nos	200.00000	54.00	10800.00
3	Stone chips at quarry	cum	6.75000	498.00	3361.50
			Total cost of Materials	Rs:	**31121.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	Mason Class II	Day	7.00000	730.00	5110.00
3	mazdoor	Day	9.00000	680.00	6120.00
			Total cost of Labour	Rs:	**12150.00**

labour component/unit qty		121.50
Add contractor's profit and overhead charges	13.615%	16.50
labour component/unit qty (including contractor's profit)		**138.00**

ABSTRACT:

A. Cost of Materials		Rs:	31121.50
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	12150.00
	Total	Rs:	43271.50
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	5891.41
Total cost for	100.00 sqm	Rs:	**49162.91**
Rate per sqm (A+B+C+D)/100.0		Rs.	**491.63**
NOTE: If 15 cm thick murum bed is to be provided below pitching add (As per rate analysis under item IRR-CAW-8-1 - Note)		Rs.	**83.67**

IRR-CAW-8-6 Providing and **Constructing 45 cm thick dry rubble stone pitching** including cost of all materials,labour,hand packing,finishing etc.,complete **(rubble stones : 0.495 cum/sqm)**

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS :

Sl No	Particulars	Unit	Quantity	Rate	in Rs	Amount in Rs
1	Uncoursed rubble stones at Quarry	Cum	49.50000	424.00		20988.00
	(Included in material Rate)					
			Total Cost of materials	Rs :		**20988.00**

B.MACHINERY :

Sl No	Description	Unit	Quantity	Rate	in Rs	Amount in Rs
1	Nill		0.00000	0.00		0.00
			0.00000	0.00		0.00
			Total hire charges of machinery	Rs :		**0.00**

C.LABOUR :

Sl No	Description	Unit	Quantity	Rate	in Rs	Amount in Rs
1	Mason Class II	Day	9.90000	730.00		7227.00
2	Mazdoor	Day	44.55000	680.00		30294.00
			Total cost of labour	Rs :		**37521.00**

labour component/unit qty		375.20
Add contractor's profit and overhead charges	13.615%	51.10
labour component/unit qty (including contractor's profit)		**426.30**

ABSTRACT

A.Cost of Materials including ryolty charges			Rs:	20988.00
B. Hire charges of Machinery			Rs:	0.00
C.Cost of Labour			Rs:	37521.00
		Total	Rs:	58509.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	7966
Total cost for	100.00 sqm		Rs:	**66475.00**
Rate per sqm	(A+B+C+D)/100.0		Rs.	**664.75**
NOTE: If 15 cm thick murum bed is to be provided below pitching Add (As per rate analysis under item IRR-CAW-8-1 - Note)			Rs :	**83.67**

IRR-CAW-8-7 Providing and **constructing 30 cm thick rubble stone pitching** set in **CM 1: 5** proportion with **pin headers at 2 per sqm** in including cost of all materials, labour, packing chips and mortar, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**
(rubble stones : 0.275 cum/sqm, Stone Chips : 0.045cum/sqm, Pin Headers 30cm : 2/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Uncoursed rubble stones at quarry	cum	27.50000	424.00	11660.00
2	Pin header (Through stone) 30 cm	Nos	200.00000	32.00	6400.00
3	Stone chips @ 15 % at quarry	cum	4.50000	498.00	2241.00
4	Cement	kg	3000.00000	4.22	12660.00
5	Sand (Screened)	cum	10.50000	128.00	1344.00
			Total cost of Materials	Rs:	**34305.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	5 hp pump (diesel)	Hour	2.00000	10.73	21.46
	Fuel / Energy charges	Hour	2.00000	144.33	288.66
			Total hire charges of Machinery	Rs:	**310.12**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Pump	Hour	2.00000	204.67	409.34
2	work inspector	Day	1.00000	920.00	920.00
3	Mason Class II	Day	5.00000	730.00	3650.00
4	mazdoor	Day	12.00000	680.00	8160.00
5	Catrman with double bullock cart	Day	2.00000	810.00	1620.00
			Total cost of Labour	Rs:	**14759.34**

labour component/unit qty		147.60
Add contractor's profit and overhead charges	13.615%	20.10
labour component/unit qty (including contractor's profit)		**167.70**

ABSTRACT:

A. Cost of Materials			Rs:	34305.00
B. Hire charges of Machinery			Rs:	310.12
C. Cost of Labour			Rs:	14759.34
		Total	Rs:	49374.46
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	6722.33
Total cost for	100.00 sqm		Rs:	**56096.79**
Rate per sqm	(A+B+C+D)/100.0		Rs.	**560.97**
NOTE: If 15 cm thick murum bed is to be provided below pitching add (As per rate analysis under item IRR-CAW-8-1 - Note)			Rs.	**83.67**

IRR-CAW-8-8 Providing and **Constructing 30 cm thick rubble stone pitching** set in **CM 1:5** Proportion including cost of all materials,labour, packing chips and mortar ,finishing etc.,complete
(rubble stones : 0.33 cum/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** Sqm

A. MATERIALS :

Sl No	Particulars	Unit	Quantity	Rate in Rs	Amount in Rs
1	Uncoursed rubble stones at Quarry	Cum	33.00000	424.00	13992.00
2	Cement	Kg	3232.00000	4.22	13639.04
3	Sand (Screened)	Cum	11.22000	128.00	1436.16
			Total Cost of materials	Rs :	**29067.20**

B.MACHINERY :

Sl No	Description	Unit	Quantity	Rate in Rs	Amount in Rs
1	Nill		0.00000	0.00	0.00
			Total hire charges of machinery	Rs :	**0.00**

C.LABOUR :

Sl No	Description	Unit	Quantity	Rate in Rs	Amount in Rs
1	Mason Class I	Day	0.54000	840.00	453.60
2	Mason Class II	Day	1.26000	730.00	919.80
3	Mazdoor	Day	2.80000	680.00	1904.00
			Total cost of labour	Rs :	**3277.40**

labour component/unit qty		32.80
Add contractor's profit and overhead charges	13.615%	4.50
labour component/unit qty (including contractor's profit)		**37.30**

ABSTRACT

A.Cost of Materials		Rs:	29067.20
B. Hire charges of Machinery		Rs:	0.00
C.Cost of Labour		Rs:	3277.40
	Total	Rs:	32344.60
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	4403.72
Total cost for	100.00 Sqm	Rs:	**36748.32**
Rate per Sqm (A+B+C+D)/100.0		Rs.	**367.48**
NOTE: If 15 cm thick murum bed is to be provided below pitching Add (As per rate analysis under item IRR-CAW-8-1 - Note)		Rs.	**83.67**

IRR-CAW-8-9 Providing and **constructing 30 cm thick dry khandki stone pitching using 20 to 25 cm size khandki stones with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete **with initial lead upto 50 m and all lifts.**
(Khandki stones 20- 25 cm height : 1200 Nos/sqm, Stone Chips : 0.045cum/sqm, Pin Headers 30cm : 2/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Khandki stones 20-25 cm height	Nos	1200.00000	23.00	27600.00
2	Pin header (Through stone) 30 cm	Nos	200.00000	32.00	6400.00
3	Stone chips	cum	4.50000	498.00	2241.00
			Total cost of Materials	Rs:	**36241.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	Mason Class II	Day	5.00000	730.00	3650.00
3	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**8650.00**

labour component/unit qty		86.50
Add contractor's profit and overhead charges	13.615%	11.80
labour component/unit qty (including contractor's profit)		**98.30**

ABSTRACT:

A. Cost of Materials		Rs:	36241.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	8650.00
	Total	Rs:	44891.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	6111.91
Total cost for	100.00 sqm	Rs:	**51002.91**
Rate per sqm (A+B+C+D)/100.0		Rs.	**510.03**
NOTE: If 15 cm thick murum bed is to be provided below pitching add (As per rate analysis under item IRR-CAW-8-1 - Note)		Rs.	**83.67**

IRR-CAW-8-10 Providing and **constructing 45 cm thick dry khandki stone pitching using 25 to 30 cm size khandki stones with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete **with initial lead upto 50 m and all lifts.**
(Khandki stones 25- 30 cm height : 1200 Nos/sqm, Stone Chips : 0.0675cum/sqm, Pin Headers 45cm : 2/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Khandki stones 25-30 cm height	Nos	730.00000	24.00	17520.00
2	Pin headers 45 cm	Nos	200.00000	54.00	10800.00
3	Stone chips	cum	6.75000	498.00	3361.50
			Total cost of Materials	Rs:	**31681.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	Mason Class II	Day	7.00000	730.00	5110.00
3	mazdoor	Day	9.00000	680.00	6120.00
			Total cost of Labour	Rs:	**12150.00**

labour component/unit qty		121.50
Add contractor's profit and overhead charges	13.615%	16.50
labour component/unit qty (including contractor's profit)		**138.00**

ABSTRACT:

A. Cost of Materials		Rs:	31681.50
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	12150.00
	Total	Rs:	43831.50
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	5967.66
Total cost for	100.00 sqm	Rs:	**49799.16**
Rate per sqm (A+B+C+D)/100.0		Rs.	**497.99**
NOTE: If 15 cm thick murum bed is to be provided below pitching add (As per rate analysis under item IRR-CAW-8-1 - Note)		Rs.	**83.67**

IRR-CAW-8-11 Providing and **constructing 30 cm thick khandki stone pitching using 20 to 25 cm size khandki stones with pin headers at 2 per sqm** set in **CM 1 : 5** proportion with pointing joints in CM 1:3 proportion including cost of all materials, labour, packing chips and mortar, finishing, curing etc.complete with **initial lead upto 50 m and all lifts.**
(Khandki stones 20- 25 cm height : 1200 Nos/sqm, Stone Chips : 0.045cum/sqm, Pin Headers 30cm : 2/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Khandki stones 20-25 cm height	Nos	1200.00000	23.00	27600.00
2	Pin headers 30 cm long	Nos	200.00000	32.00	6400.00
3	Stone chips @ 15 % at quarry	cum	4.50000	498.00	2241.00
4	Cement	kg	2902.00000	4.22	12246.44
5	Sand (Screened)	cum	9.67000	128.00	1237.76
			Total cost of Materials	Rs:	**49725.20**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	5 hp diesel pump	Hour	2.00000	10.73	21.46
	Fuel / Energy charges	Hour	2.00000	144.33	288.66
			Total hire charges of Machinery	Rs:	**310.12**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Pump	Hour	2.00000	204.67	409.34
2	work inspector	Day	1.00000	920.00	920.00
3	Cartman with double bullock cart	Day	2.00000	810.00	1620.00
4	Mason Class II	Day	5.00000	730.00	3650.00
5	mazdoor	Day	11.00000	680.00	7480.00
			Total cost of Labour	Rs:	**14079.34**

labour component/unit qty		140.80
Add contractor's profit and overhead charges	13.615%	19.20
labour component/unit qty (including contractor's profit)		**160.00**

ABSTRACT:

A. Cost of Materials			Rs:	49725.20
B. Hire charges of Machinery			Rs:	310.12
C. Cost of Labour			Rs:	14079.34
	Total		Rs:	64114.66
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	8729.21
Total cost for	100.00 sqm		Rs:	**72843.87**
Rate per sqm	(A+B+C+D)/100.0		Rs.	**728.44**
NOTE: If 15 cm thick murum bed is to be provided below pitching add (As per rate analysis under item IRR-CAW-8-1 - Note)			Rs.	**83.67**

IRR-CAW-8-12 Providing and **constructing 45 cm thick khandki stone pitching using 25 to 30 cm stones with pin headers at 2 per sqm** set in **CM 1 : 5** proportion with pointing joints in CM 1 : 3 proportion including cost of all materials, labour, packing chips and mortar, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**
(Khandki stones 25- 30 cm height : 730 Nos/sqm, Stone Chips : 0.0675cum/sqm, Pin Headers 45cm : 2/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Khandki stones 25-30 cm height	Nos	730.00000	24.00	17520.00
2	Pin headers 45 cm	Nos	200.00000	54.00	10800.00
3	Stone chips @ 15 % at quarry	cum	6.75000	498.00	3361.50
4	Cement	kg	4050.00000	4.22	17091.00
5	Sand (Screened)	cum	13.99000	128.00	1790.72
			Total cost of Materials	Rs:	**50563.22**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	5 hp diesel pump	Hour	4.00000	10.73	42.92
	Fuel / Energy charges	Hour	4.00000	144.33	577.32
			Total hire charges of Machinery	Rs:	**620.24**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Pump	Hour	4.00000	204.67	818.68
2	work inspector	Day	1.00000	920.00	920.00
3	Cartman with double bullock cart	Day	2.00000	810.00	1620.00
4	Mason Class II	Day	7.00000	730.00	5110.00
5	mazdoor	Day	16.00000	680.00	10880.00
			Total cost of Labour	Rs:	**19348.68**

labour component/unit qty		193.50
Add contractor's profit and overhead charges	13.615%	26.30
labour component/unit qty (including contractor's profit)		**219.80**

ABSTRACT:

A. Cost of Materials			Rs:	50563.22
B. Hire charges of Machinery			Rs:	620.24
C. Cost of Labour			Rs:	19348.68
	Total		Rs:	70532.14
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	9602.95
Total cost for	100.00 sqm		Rs:	**80135.09**
Rate per sqm	(A+B+C+D)/100.0		Rs.	**801.35**
NOTE: If 15 cm thick murum bed is to be provided below pitching add (As per rate analysis under item IRR-CAW-8-1 - Note)			Rs.	**83.67**

IRR-CAW-8-13 **Providing 10 cm thick approved type grass turfing** to the side slopes of canal including cost of all materials, labour, watering for minimum 15 days etc.,complete **with lead 50 m and all lifts.**
(FA : 2 cum/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Turfing sods	sqm	100.00000	358.00	35800.00
2	Sand for filling	cum	2.00000	0.00	0.00
			Total cost of Materials	Rs:	**35800.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.10000	920.00	92.00
2	Cartman with double bullock cart	Day	2.00000	810.00	1620.00
3	mazdoor	Day	14.00000	680.00	9520.00
			Total cost of Labour	Rs:	**11232.00**

labour component/unit qty		112.30
Add contractor's profit and overhead charges	13.615%	15.30
labour component/unit qty (including contractor's profit)		**127.60**

ABSTRACT:

A. Cost of Materials		Rs:	35800.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	11232.00
	Total	Rs:	47032.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	6403.41
Total cost for	100.00 sqm	Rs:	**53435.41**
Rate per sqm (A+B+C+D)/100.0		Rs.	**534.35**

IRR-CAW-8-14 **Providing 10 cm Thick approved type gross turfing** to the side slopes of canal including cost of all materials, labour, watering for minimum 15 days etc.,, complete.
with initial lead upto 50 m and all lifts (WITHOUT USING SAND)

DATA: **RATE ANALYSIS** UNIT : **100.00** Sqm

A. MATERIALS :

Sl No	Particulars	Unit	Quantity	Rate	in Rs	Amount in Rs
1	Turfing Sods	Sqm	100.00000	358.00		35800.00
			Total Cost of materials	Rs :		**35800.00**

B.MACHINERY :

Sl No	Description	Unit	Quantity	Rate	in Rs	Amount in Rs
1	Nill		0.00000	0.00		0.00
			0.00000	0.00		0.00
			Total hire charges of machinery	Rs :		**0.00**

C.LABOUR :

Sl No	Description	Unit	Quantity	Rate	in Rs	Amount in Rs
1	Mazdoor	Day	7.00000	680.00		4760.00
2	Cart men with double bullock cart	Day	2.00000	810.00		1620.00
			Total cost of labour	Rs		**6380.00**

labour component/unit qty		63.80
Add contractor's profit and overhead charges	13.615%	8.70
labour component/unit qty (including contractor's profit)		**72.50**

ABSTRACT

A.Cost of Materials including ryolty charges		Rs:	35800.00
B. Hire charges of Machinery		Rs:	0.00
C.Cost of Labour		Rs:	6380.00
	Total	Rs:	42180.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	5742.81
Total cost for	100.00 Sqm	Rs:	**47922.81**
Rate per Sqm (A+B+C+D)/100.0		Rs.	**479.23**

CHAPTER - IV

CANAL CROSS DRAINAGE WORKS - Standard Data

(WILL BE WITH E-N-C & TO INCORPORATE CHANGES YEARLY / AS NEEDED)

FOR THE YEAR : 2026-27

Index- code
IRR-CCDW **CANAL CROSS DRAINAGE WORKS - DATA RATES**

Directions to add Seigniorage Charges and Additional Lead Charges

Seigniorage Charges:
1. The unit rate for work item in the Standard Data is **exclusive of Seigniorage Charges** wherever applicable.
2. The appropriate Seigniorage Charges for relevant materials are to be added in the Part-B of the estimate

Additional Lead and Lift Charges:
1. Unless otherwise specified the basic rates are inclusive of all lifts.

2. For concrete, masonry and reinforcement items **wherever** initial lead of 1km is considered in the basic rate, the additional lead as follows:
Additional lead charges for Steel, sand, coarse aggregate, stones and stone chips shall be worked out for total lead involved and 1 km lead charges included in basic rate shall be deducted from total lead charges. No loading and unloading charges shall be allowed for any item.
In case of Cement and Steel, Loading and unloading charges are already added in the work item while arriving the unit rate and hence should not be added again
Example:

Total lead for sand from approved sand quarry :			15	Km
Initial lead included in the basic rate in the basic item rate in the data (i.e., item specification) :			1	Km
Additional lead charges :	Lead charges for 5	Rs.	123.75	
	Lead charges for next 10 km	Rs.	185.64691	
	Total lead charges for 15 km	Rs.	309.40	
	Less 1 km initial lead charge	Rs.	46.41	(-)
	Net additional lead charges /	Rs.	262.98	

3. The Leads for Steel shall be from the nearest market place to the Project area

4. For earth/rockfill embankments **wherever** initial lead of 1km is considered in the basic rate, the additional lead charges are to be added as follows:

Additional lead charges for Earth, Murrum etc., shall be worked out for total lead involved and 1 km lead charges included in basic rate shall be deducted from total lead charges. No loading and unloading charges shall be allowed for any item. (same as above)

Example:

Total lead for earth from approved borrow area :			15	Km
Initial lead included in the basic rate in the basic item rate in the data (i.e., item specification) :			1	Km
Additional lead charges :	Lead charges for 5	Rs.	123.75	
	Lead charges for next 10 km	Rs.	185.64691	
	Total lead charges for 15 km	Rs.	309.40	
	Less 1 km initial lead charge	Rs.	46.41	(-)
	Net additional lead charges /	Rs.	262.98	

5. The initial lead up to 50 m as mentioned in some standard data items is meant for manual lead within the working area. For conveyance of materials, the lead required from quarry/Borrow area/ Dump Area to worksite shall be added to the data without deducting the 50 m initial lead charges

CCDW - Work Items

IRR-CCDW-1 **EXCAVATION & FOUNDATION TREATMENT WORKS :**

IRR-CCDW-1-1 Excavation **in all kinds of soil** including boulders **upto 0.30 m dia.** for foundations of canal cross drainage and other appurtenant structures and placing the excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete with initial lead upto **50 m and initial lift upto 3 m.**

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.25000	920.00	230.00
2	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**4310.00**

labour component/unit qty		431.00
Add contractor's profit and overhead charges	13.615%	58.70
labour component/unit qty (including contractor's profit)		**489.70**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	4310.00
		Total	Rs:	4310.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	586.81
Total cost for	10.00 cum		Rs:	**4896.81**
Rate per cum	(A+B+C+D)/10.0		Rs.	**489.68**

IRR-CCDW-1-2 **Excavation for Structures- Mechanical Means** **(Data adopted from MORTH)**

Earth work in excavation **in all kinds of soils** of foundation of structures as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material.

Depth upto 3 m

Unit = cum

DATA: Taking output = 240 cum **Unit** **240.00** cum

A. Materials:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
	NIL		0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. Machinery:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hydraulic excavator 1.0 cum bucket capacity	hour	6.00000	1749.78	10498.68
	Fuel/ Energy charges	hour	6.00000	1587.53	9525.18
			Total hire charges of Machinery	Rs:	**20023.86**

C. Labour:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	day	0.32000	920.00	294.40
2	Mazdoor	day	8.00000	680.00	5440.00
3	crew for excavator	hour	6.00000	430.30	2581.80
			Total cost of Labour	Rs:	**8316.20**

labour component/unit qty		34.70
Add contractor's profit and overhead charges	13.615%	4.70
labour component/unit qty (including contractor's profit)		**39.40**

Abstract

a) Material			Rs	0.00
b) Machinery			Rs	20023.86
c) Labour			Rs	8316.20
Total			Rs	28340.06
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	3858.5
Total cost for	240.00 cum		Rs:	**32198.56**
Rate per cum	(A+B+C+D)/240.0		Rs.	**134.16**

IRR-CCDW-1-3 Excavation in **ordnary rock (including HDR) without blasting** including boulders **above 0.3 m upto 0.60 m di** for foundations of canal cross drainage and other appurtenant structures and placing the excavated stuff neatly in specified dump area or disposing off the same as directed etc., **complete with initial lead upto 50 m and initial lift upto 3 m.**

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crowbarman	Day	1.25000	730.00	912.50
2	Stone breaker	Day	1.25000	730.00	912.50
3	work inspector	Day	0.25000	920.00	230.00
4	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**6135.00**

labour component/unit qty		613.50
Add contractor's profit and overhead charges	13.615%	83.50
labour component/unit qty (including contractor's profit)		**697.00**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	6135.00
		Total	Rs:	6135.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	835.28
Total cost for	10.00 cum		Rs:	**6970.28**
Rate per cum	(A+B+C+D)/10.0		Rs.	**697.03**

IRR-CCDW-1-4 Excavation in **ordnary rock without blasting** for foundations of canal cross drainage and other appurtenant structures and placing the excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete with initial **lead upto 50 m and initial lift upto 3 m.**

DATA: Taking output = 180 cum Unit: **180.00** cum

A. Materials:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. Machinery:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hydraulic excavator 1.0 cum bucket capacity	hour	6.00000	1749.78	10498.68
	Fuel/ Energy charges	hour	6.00000	1587.53	9525.18
			Total hire charges of Machinery	Rs:	**20023.86**

C. Labour:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	day	0.24000	920.00	220.80
2	Mazdoor	day	6.00000	680.00	4080.00
3	crew for excavator	hour	6.00000	430.30	2581.80
			Total cost of Labour	Rs:	**6882.60**

labour component/unit qty		38.20
Add contractor's profit and overhead charges	13.615%	5.20
labour component/unit qty (including contractor's profit)		**43.40**

Abstract

a) Material			Rs	0.00
b) Machinery			Rs	20023.86
c) Labour			Rs	6882.60
Total			Rs	26906.46
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	3663.31
Total cost for	180.00	cum	Rs:	**30569.77**
Rate per cum	(A+B+C+D)/180.0		Rs.	**169.83**

IRR-CCDW-1-5 Excavation **in hard rock requiring blasting** including boulders **above 0.6 m upto 1.2 m dia.** for foundations of canal cross drainage and other appurtenant structures and placing the excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete **with initial lead upto 50 m and initial lift upto 3 m.**

DATA: **RATE ANALYSIS** UNIT : **100** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of drill rod 1.6 m length	Rm	43.50000	23.79	1034.87
	Reconditioning charges @	10%			103.49
2	Use rate of air hose 2 Nos.	Hour	6.00000	12.00	72.00
3	Explosive small dia (Kelvex-220)	kg	20.00000	75.00	1500.00
4	Electric detonators	Nos	29.00000	12.00	348.00
5	Detonating fuse coil	Rm	70.00000	11.00	770.00
6	Sundries	LS	0.50000	42.00	21.00
			Total cost of Materials	Rs:	**3849.36**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air compressor 8.5 cmm (diesel)	Hour	3.00000	288.50	865.50
	Fuel / Energy charges	Hour	3.00000	1623.60	4870.80
2	Jack hammers 2 Nos.	Hour	6.00000	19.11	114.66
	Fuel / Energy charges	Hour	6.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**5850.96**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Air compressor	Hour	3.00000	386.88	1160.64
2	Crew for Jack hammer	Hour	6.00000	604.50	3627.00
3	work inspector	Day	1.00000	920.00	920.00
4	Blaster	Day	0.50000	925.00	462.50
5	Helper blaster	Day	0.50000	730.00	365.00
6	Crowbarman	Day	6.00000	730.00	4380.00
7	Stone breaker	Day	3.00000	730.00	2190.00
8	mazdoor	Day	51.00000	680.00	34680.00
			Total cost of Labour	Rs:	**47785.14**

labour component/unit qty		477.90
Add contractor's profit and overhead charges	13.615%	65.10
labour component/unit qty (including contractor's profit)		**543.00**

ABSTRACT:

A. Cost of Materials			Rs:	3849.36
B. Hire charges of Machinery			Rs:	5850.96
C. Cost of Labour			Rs:	47785.14
		Total	Rs:	57485.46
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	7826.65
Total cost for	100.00 cum		Rs:	**65312.11**
Rate per cum	(A+B+C+D)/100.0		Rs.	**653.12**

IRR-CCDW-1-6 Excavation **in hard rock of all toughness by blasting** including boulders **above 1.2 m dia.** for foundations of canal cross drainage and other appurtenant structures and placing the excavated rock neatly in specified dump area or stack yard as directed etc., complete with **initial lead upto 50 m and initial lift upto 3 m.**

DATA: **RATE ANALYSIS** UNIT : **100.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Explosive small dia (Kelvex-220)	kg	32.00000	75.00	2400.00
2	Ordinary detonator	No.	8.00000	9.00	72.00
3	Electric detonator	No.	104.00000	12.00	1248.00
4	Detonating fuse coil	Rm	150.00000	11.00	1650.00
5	Use rate of air hose 2 Nos.	Hour	16.00000	12.00	192.00
6	Use rate of drill rod	Rm	98.30000	31.71	3117.09
	Reconditioning charges @	10%			311.71
			Total cost of Materials	Rs:	**8990.80**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air compressor 8.5 cmm (diesel)	Hour	8.00000	288.50	2308.00
	Fuel / Energy charges	Hour	8.00000	1623.60	12988.80
2	Jack hammer 2 Nos	Hour	16.00000	19.11	305.76
	Fuel / Energy charges	Hour	16.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**15602.56**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Air compressor	Hour	8.00000	386.88	3095.04
2	Crew for Jack hammer	Hour	16.00000	604.50	9672.00
3	Blaster licensed	Day	1.00000	925.00	925.00
4	Helper blasting	Day	1.00000	730.00	730.00
5	work inspector	Day	1.00000	920.00	920.00
6	Crowbarman	Day	6.00000	730.00	4380.00
7	Stone breaker	Day	6.00000	730.00	4380.00
8	mazdoor	Day	51.00000	680.00	34680.00
			Total cost of Labour	Rs:	**58782.04**

labour component/unit qty		587.80
Add contractor's profit and overhead charges	13.615%	80.00
labour component/unit qty (including contractor's profit)		**667.80**

ABSTRACT:

A. Cost of Materials			Rs:	8990.80
B. Hire charges of Machinery			Rs:	15602.56
C. Cost of Labour			Rs:	58782.04
		Total	Rs:	83375.40
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	11351.56
Total cost for	100.00 cum		Rs:	**94726.96**
Rate per cum	(A+B+C+D)/100.0		Rs.	**947.27**

IRR-CCDW-1-7 Excavation **in hard rock with blasting prohibited** for foundations of canal cross drainage and other appurtenant structures and placing the excavated rock neatly in or stack yard as directed etc., complete with specified dump area **initial lead upto 50 m and initial lift upto 3 m.**

Hard Rock (blasting prohibited) **(Data adopted from MORTH)**

Unit = cum

DATA: Taking output = 10 cum

Mechanical Means **10.00** cum

A.Materials:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
	NIL		0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

b) Machinery

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air Compressor 250 cft with 2 leads of pneumatic breaker	hour	6.00000	246.16	1476.96
	Fuel/ Energy charges	hour	6.00000	1298.88	7793.28
			Total hire charges of Machinery	Rs:	**9270.24**

c) Labour

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	day	0.20000	920.00	184.00
2	Mazdoor	day	5.00000	680.00	3400.00
3	crew for compressor	hour	6.00000	386.88	2321.28
			Total cost of Labour	Rs:	**5905.28**

labour component/unit qty		590.50
Add contractor's profit and overhead charges	13.615%	80.40
labour component/unit qty (including contractor's profit)		**670.90**

Abstract

a) Material			Rs	0.00
b) Machinery			Rs	9270.24
c) Labour			Rs	5905.28
Total			Rs	15175.52
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	2066.15
Total cost for	10.00 cum		Rs:	**17241.67**
Rate per cum	(A+B+C+D)/10.0		Rs.	**1724.17**

IRR-CCDW-1-8 Providing and **fixing 25 mm dia 2.50 m long cold twisted deformed steel anchor rods** with 1.25 m length driven into 32 mm dia hole drilled in bed rock and remaining length embedded in concrete / masonry including cost of all materials, machinery, labour, drilling and cleaning hole, driving anchor rod, grouting hole with thick cement slurry etc., complete with initial lead **upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **10.00** Nos.

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for grouting	kg	5.00000	4.22	21.10
2	25 mm dia steel	kg	101.00000	55.00	5555.00
3	Use rate of 32 mm dia drill rod	Rm	12.50000	31.71	396.38
	Reconditioning charges @	10%			39.64
4	Use rate of air hose	Hour	2.00000	12.00	24.00
			Total cost of Materials	Rs:	**6036.12**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air compressor 8.5 cmm (diesel)	Hour	1.00000	288.50	288.50
	Fuel / Energy charges	Hour	1.00000	1623.60	1623.60
2	Jack hammer 2 Nos	Hour	2.00000	19.11	38.22
	Fuel / Energy charges	Hour	2.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**1950.32**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Air compressor	Hour	1.00000	386.88	386.88
2	Crew for Jack hammer	Hour	2.00000	604.50	1209.00
3	Mason Class-II	Day	0.50000	730.00	365.00
4	Bar bender	Day	0.50000	990.00	495.00
5	work inspector	Day	0.50000	920.00	460.00
6	mazdoor	Day	1.00000	680.00	680.00
			Total cost of Labour	Rs:	**3595.88**

labour component/unit qty		359.60
Add contractor's profit and overhead charges	13.615%	49.00
labour component/unit qty (including contractor's profit)		**408.60**

ABSTRACT:

A. Cost of Materials			Rs:	6036.12
B. Hire charges of Machinery			Rs:	1950.32
C. Cost of Labour			Rs:	3595.88
		Total	Rs:	11582.32
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1576.93
Total cost for	10.00 Nos.		Rs:	**13159.25**
Rate per each	(A+B+C+D)/10.0		Rs.	**1315.93**

IRR-CCDW-2 **STEEL AND CEMENT CONCRETE WORKS :**

IRR-CCDW-2-1 Providing, fabricating and **placing in position reinforcement steel bars for RCC works** including cleaning, straightening, cutting, bending, hooking, lapping, welding wherever required,tying with 1.25 mm dia soft annealed steel wire, including cost of all materials, machinery, labour etc., **complete with initial lead upto 50 and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **1000.00** kg

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rein.Steel with 5 % wastage	kg	1050.00000	55.00	57750.00
2	Binding wire 1.25 mm dia	kg	8.00000	70.00	560.00
3	Sundries (chairs / spacers etc)	LS	3.00000	42.00	126.00
			Total cost of Materials	Rs:	**58436.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

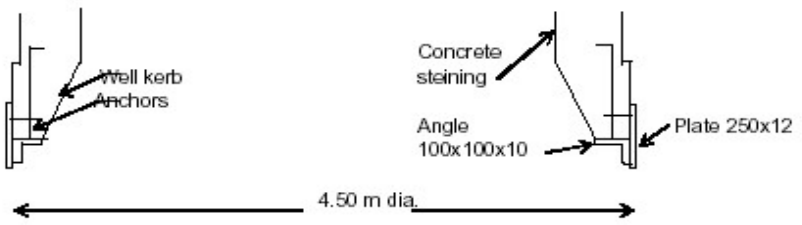
Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	Bar bender	Day	6.00000	990.00	5940.00
3	mazdoor	Day	11.00000	680.00	7480.00
			Total cost of Labour	Rs:	**14340.00**

labour component/unit qty		14.30
Add contractor's profit and overhead charges	13.615%	1.90
labour component/unit qty (including contractor's profit)		**16.20**

ABSTRACT:

A. Cost of Materials			Rs:	58436.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	14340.00
		Total	Rs:	72776.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	9908.45
Total cost for	1000.00 kg		Rs:	**82684.45**
Rate per kg	(A+B+C+D)/1000.0		Rs.	**82.68**

IRR-CCDW-2-2 Providing, fabricating and **fixing in position structural steel cutting edge** consisting of 100 x 100 x 10 mm angle and 250 x 12 mm plate for sinking for sinking 4.50 m outer diameter foundation wells foundation wells including cost of all materials, machinery, labour, bending, welding, providing anchors etc., complete **with initial lead upto 50 m and all lifts.**



DATA:

RATE ANALYSIS UNIT : **615.00** kg

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Str.Steel angle with 2.5 % wastage	kg	216.10000	56.00	12101.60
2	Str.Steel plate with 2.5 % wastage	kg	342.30000	61.00	20880.30
3	Steel for anchors	kg	56.60000	55.00	3113.00
4	Acetyline gas	cum	0.50000	385.00	192.50
5	Oxygen gas	cum	1.50000	47.00	70.50
6	Welding electrodes	Nos	300.00000	17.00	5100.00
7	Sundries	LS	5.00000	42.00	210.00
			Total cost of Materials	Rs:	**41667.90**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Bending machine	Hour	8.00000	44.50	356.00
	Fuel / Energy charges	Hour	8.00000	126.90	1015.20
2	Welding set	Hour	30.00000	17.57	527.10
	Fuel / Energy charges	Hour	30.00000	101.52	3045.60
3	Sundries	LS	10.00000	42.00	420.00
			Total hire charges of Machinery	Rs:	**5363.90**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Str. Steel fabricator	Day	2.00000	990.00	1980.00
2	Welder / Gas cutter	Day	5.00000	820.00	4100.00
3	work inspector	Day	1.00000	920.00	920.00
4	mazdoor	Day	5.00000	680.00	3400.00
			Total cost of Labour	Rs:	**10400.00**

labour component/unit qty		16.90
Add contractor's profit and overhead charges	13.615%	2.30
labour component/unit qty (including contractor's profit)		**19.20**

ABSTRACT:

A. Cost of Materials			Rs:	41667.90
B. Hire charges of Machinery			Rs:	5363.90
C. Cost of Labour			Rs:	10400.00
		Total	Rs:	57431.80
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	7819.34
Total cost for	615.00 kg		Rs:	**65251.14**
Rate per kg	(A+B+C+D)/615.0		Rs.	**106.10**

IRR-CCDW-2-3 Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N /sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates for foundation filling including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., **complete with initial lead upto 50 m and all lifts.**
(Cement content: 260 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

Data

RATE ANALYSIS UNIT : **15.38** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	3998.80000	4.22	16874.94
	Cement for incidentals @ 3 kg / cum	kg	46.14000	4.22	194.71
2	Coarse aggregate 40-20 mm	cum	6.92100	1562.00	10810.60
	Coarse aggregate 20-10 mm	cum	4.15260	1635.00	6789.50
	Coarse aggregate 10 mm below	cum	2.76840	1190.00	3294.40
3	Fine aggregate (Un-Screened)	cum	6.15200	0.00	0.00
4	Super Plasticizer	kg	15.99520	64.00	1023.69
5	Use rate of shuttering for 40 uses	sqm	15.38000	321.62	4946.52
	Scaffolding @ of shuttering	10%			494.65
6	Sundries	LS	0.50000	42.00	21.00
			Total cost of Materials	Rs:	**44450.01**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Water tanker 8000 ltr	Hour	1.00000	458.01	458.01
	Fuel / Energy charges	Hour	1.00000	545.53	545.53
4	Needle vibrator 40 mm dia (petrol)	Hour	8.00000	8.50	68.00
	Fuel / Energy charges	Hour	8.00000	32.39	259.12
			Total hire charges of Machinery	Rs:	**3006.04**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Water tanker	Hour	1.00000	316.88	316.88
4	Crew for Needle vibrator	Hour	8.00000	290.10	2320.80
5	work inspector	Day	1.00000	920.00	920.00
6	Mason Class-I	Day	1.00000	840.00	840.00
7	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	3.00000	680.00	2040.00
	for conveying concrete	Day	15.38000	680.00	10458.40
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
8	Labour cost for shuttering	sqm	15.38000	167.70	2579.23
	Labour cost for scaffolding @	10%			257.92
			Total cost of Labour	Rs:	**33939.57**

labour component/unit qty		2206.70
Add contractor's profit and overhead charges	13.615%	300.40
labour component/unit qty (including contractor's profit)		**2507.10**

ABSTRACT:

A. Cost of Materials			Rs:	44450.01
B. Hire charges of Machinery			Rs:	3006.04
C. Cost of Labour			Rs:	33939.57
		Total	Rs:	81395.62
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	11082.01
Total cost for	15.38 cum		Rs:	**92477.63**
Rate per cum	(A+B+C+D)/15.38		Rs.	**6012.85**

IRR-CCDW-2-4 Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates for foundation filling including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., **complete with initial lead upto 50 m and all lifts.**

(Cement content: 250 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.98cum, Blending Ratio of CA--35:30:20:15, FA : 0.35 cum)

DATA: **RATE ANALYSIS** UNIT : **14.40** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	3600.00000	4.22	15192.00
	Cement for incidentals @ 3 kg / cum	kg	43.20000	4.22	182.30
2	Coarse aggregate 80-40 mm	cum	4.93920	848.00	4188.44
	Coarse aggregate 40-20 mm	cum	4.23360	1562.00	6612.88
	Coarse aggregate 20-10 mm	cum	2.82240	1635.00	4614.62
	Coarse aggregate 10 mm below	cum	2.11680	1190.00	2518.99
3	Fine aggregate (Un-Screened)	cum	5.04000	0.00	0.00
4	Super Plasticizer	kg	14.40000	64.00	921.60
5	Use rate of shuttering for 40 uses	sqm	14.40000	321.62	4631.33
	Scaffolding @ of shuttering	10%			463.13
6	Sundries	LS	0.50000	42.00	21.00
			Total cost of Materials	Rs:	**39346.29**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 600/400 ltr (diesel)	Hour	8.00000	94.27	754.16
	Fuel / Energy charges	Hour	8.00000	288.64	2309.12
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Water tanker 8000 ltr	Hour	1.00000	458.01	458.01
	Fuel / Energy charges	Hour	1.00000	545.53	545.53
4	Needle vibrator 60 mm dia (petrol)	Hour	8.00000	10.39	83.12
	Fuel / Energy charges	Hour	8.00000	48.59	388.72
			Total hire charges of Machinery	Rs:	**4616.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Water tanker	Hour	1.00000	316.88	316.88
4	Crew for Needle vibrator	Hour	8.00000	290.10	2320.80
5	Mason Class-I	Day	1.00000	840.00	840.00
6	work inspector	Day	1.00000	920.00	920.00
7	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	3.00000	680.00	2040.00
	for conveying concrete	Day	14.40000	680.00	9792.00
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
8	Labour cost for shuttering	sqm	14.40000	167.70	2414.88
	Labour cost for scaffolding @	10%			241.49
			Total cost of Labour	Rs:	**33092.39**

labour component/unit qty		2298.10	
Add contractor's profit and overhead charges	13.615%	312.90	
labour component/unit qty (including contractor's profit)		**2611.00**	

ABSTRACT:

A. Cost of Materials			Rs:	39346.29
B. Hire charges of Machinery			Rs:	4616.20
C. Cost of Labour			Rs:	33092.39
		Total	Rs:	77054.88
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	10491.02
Total cost for	14.40 cum		Rs:	**87545.90**
Rate per cum	(A+B+C+D)/14.40		Rs.	**6079.58**

IRR-CCDW-2-5 Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates for foundation filling including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., **complete with initial lead upto 50 m and all lifts.**
(Cement content: 220 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

DATA: **RATE ANALYSIS** UNIT : **16.36** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	3599.20000	4.22	15188.62
	Cement for incidentals @ 3 kg / cum	kg	49.08000	4.22	207.12
2	Coarse aggregate 40-20 mm	cum	7.36200	1562.00	11499.44
	Coarse aggregate 20-10 mm	cum	4.41720	1635.00	7222.12
	Coarse aggregate 10 mm below	cum	2.94480	1190.00	3504.31
3	Fine aggregate (Un-Screened)	cum	6.54400	0.00	0.00
4	Super Plasticizer	kg	14.39680	64.00	921.40
5	Use rate of shuttering for 40 uses	sqm	16.36000	321.62	5261.70
	Scaffolding @ of shuttering	10%			526.17
6	Sundries	LS	0.50000	42.00	21.00
			Total cost of Materials	Rs:	**44351.88**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Water tanker 8000 ltr	Hour	1.00000	458.01	458.01
	Fuel / Energy charges	Hour	1.00000	545.53	545.53
4	Needle vibrator 40 mm dia (petrol)	Hour	8.00000	8.50	68.00
	Fuel / Energy charges	Hour	8.00000	32.39	259.12
			Total hire charges of Machinery	Rs:	**3006.04**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Water tanker	Hour	1.00000	316.88	316.88
4	Crew for Vibrator	Hour	8.00000	290.10	2320.80
5	Mason Class-I	Day	1.00000	840.00	840.00
6	work inspector	Day	1.00000	920.00	920.00
7	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	3.00000	680.00	2040.00
	for conveying concrete	Day	16.36000	680.00	11124.80
8	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
9	Labour cost for shuttering	sqm	16.36000	167.70	2743.57
10	Labour cost for scaffolding @	10%			274.36
			Total cost of Labour	Rs:	**34786.75**

labour component/unit qty		2126.30
Add contractor's profit and overhead charges	13.615%	289.50
labour component/unit qty (including contractor's profit)		**2415.80**

ABSTRACT:

A. Cost of Materials			Rs:	44351.88
B. Hire charges of Machinery			Rs:	3006.04
C. Cost of Labour			Rs:	34786.75
		Total	Rs:	82144.67
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:		11184
Total cost for	16.36 cum	Rs:		**93328.67**
Rate per cum	(A+B+C+D)/16.36	Rs.		**5704.69**

IRR-CCDW-2-6 Providing and laying **insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates for foundation filling including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., **complete with initial lead upto 50 m and all lifts.**
(Cement content: 220 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.98cum, Blending Ratio of CA--35:30:20:15, FA : 0.35 cum)

DATA: **RATE ANALYSIS** UNIT : **14.55** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	3201.00000	4.22	13508.22
	Cement for incidentals @ 3 kg / cum	kg	43.65000	4.22	184.20
2	Coarse aggregate 80-40 mm	cum	4.99065	848.00	4232.07
	Coarse aggregate 40-20 mm	cum	4.27770	1562.00	6681.77
	Coarse aggregate 20-10 mm	cum	2.85180	1635.00	4662.69
	Coarse aggregate 10 mm below	cum	2.13885	1190.00	2545.23
3	Fine aggregate (Un-Screened)	cum	5.09250	0.00	0.00
4	Super Plasticizer	kg	12.80400	64.00	819.46
5	Use rate of shuttering for 40 uses	sqm	14.55000	321.62	4679.57
	Scaffolding @ of shuttering	10%			467.96
6	Sundries	LS	0.50000	42.00	21.00
			Total cost of Materials	Rs:	**37802.17**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 600/400 ltr (diesel)	Hour	8.00000	94.27	754.16
	Fuel / Energy charges	Hour	8.00000	288.64	2309.12
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Water tanker 8000 ltr	Hour	1.00000	458.01	458.01
	Fuel / Energy charges	Hour	1.00000	545.53	545.53
4	Needle vibrator 60 mm dia (petrol)	Hour	8.00000	10.39	83.12
	Fuel / Energy charges	Hour	8.00000	48.59	388.72
			Total hire charges of Machinery	Rs:	**4616.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Water tanker	Hour	1.00000	316.88	316.88
4	Crew for Vibrator	Hour	8.00000	290.10	2320.80
5	Mason Class-I	Day	1.00000	840.00	840.00
6	work inspector	Day	1.00000	920.00	920.00
7	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	3.00000	680.00	2040.00
	for conveying concrete	Day	14.55000	680.00	9894.00
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
8	Labour cost for shuttering	sqm	14.55000	167.70	2440.04
	Labour cost for scaffolding @	10%			244.00
			Total cost of Labour	Rs:	**33222.06**

labour component/unit qty		2283.30
Add contractor's profit and overhead charges	13.615%	310.90
labour component/unit qty (including contractor's profit)		**2594.20**

ABSTRACT:

A. Cost of Materials			Rs:	37802.17
B. Hire charges of Machinery			Rs:	4616.20
C. Cost of Labour			Rs:	33222.06
		Total	Rs:	75640.43
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:		10298.44
Total cost for	14.55 cum	Rs:		**85938.87**
Rate per cum	(A+B+C+D)/14.55	Rs.		**5906.45**

IRR-CCDW-2-7 Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates for foundation filling including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content : 220 kg / cum) (Cement content: 310 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**

DATA: **RATE ANALYSIS** UNIT : **14.19** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	4398.90000	4.22	18563.36
	Cement for incidentals @ 3 kg / cum	kg	42.57000	4.22	179.65
2	Coarse aggregate 40-20 mm	cum	6.38550	1562.00	9974.15
	Coarse aggregate 20-10 mm	cum	3.83130	1635.00	6264.18
	Coarse aggregate 10 mm below	cum	2.55420	1190.00	3039.50
3	Fine aggregate (Un-Screened)	cum	5.67600	0.00	0.00
4	Super Plasticizer	kg	17.59560	64.00	1126.12
5	Use rate of shuttering for 40 uses	sqm	14.19000	321.62	4563.79
	Scaffolding @ of shuttering	10%			456.38
6	Sundries	LS	0.50000	42.00	21.00
			Total cost of Materials	Rs:	**44188.13**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Water tanker 8000 ltr	Hour	1.00000	458.01	458.01
	Fuel / Energy charges	Hour	1.00000	545.53	545.53
4	Needle vibrator 40 mm dia (petrol)	Hour	8.00000	8.50	68.00
	Fuel / Energy charges	Hour	8.00000	32.39	259.12
			Total hire charges of Machinery	Rs:	**3006.04**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Water tanker	Hour	1.00000	316.88	316.88
4	Crew for Vibrator	Hour	8.00000	290.10	2320.80
5	Mason Class-I	Day	1.00000	840.00	840.00
6	work inspector	Day	1.00000	920.00	920.00
7	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	3.00000	680.00	2040.00
	for conveying concrete	Day	14.19000	680.00	9649.20
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
8	Labour cost for shuttering	sqm	14.19000	167.70	2379.66
	Labour cost for scaffolding @	10%			237.97
			Total cost of Labour	Rs:	**32910.85**

labour component/unit qty		2319.30
Add contractor's profit and overhead charges	13.615%	315.80
labour component/unit qty (including contractor's profit)		**2635.10**

ABSTRACT:

A. Cost of Materials			Rs:	44188.13
B. Hire charges of Machinery			Rs:	3006.04
C. Cost of Labour			Rs:	32910.85
		Total	Rs:	80105.02
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	10906.3
Total cost for	14.19 cum		Rs:	**91011.32**
Rate per cum	(A+B+C+D)/14.19		Rs.	**6413.76**

IRR-CCDW-2-8 Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for sub-structure / super- structure works** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 320 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**

DATA: **RATE ANALYSIS** UNIT : **15.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	4800.00000	4.22	20256.00
	Cement for incidentals @ 5 kg / cum	kg	75.00000	4.22	316.50
2	Coarse aggregate 40-20 mm	cum	6.75000	1562.00	10543.50
	Coarse aggregate 20-10 mm	cum	4.05000	1635.00	6621.75
	Coarse aggregate 10 mm below	cum	2.70000	1190.00	3213.00
3	Fine aggregate (Un-Screened)	cum	6.00000	0.00	0.00
4	Super Plasticizer	kg	19.20000	64.00	1228.80
5	Use rate of shuttering	sqm	30.00000	321.62	9648.60
	Scaffolding @ of shuttering	25%			2412.15
6	Sundries	LS	0.50000	42.00	21.00
			Total cost of Materials	Rs:	**54261.30**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Water tanker 8000 ltr	Hour	1.00000	458.01	458.01
	Fuel / Energy charges	Hour	1.00000	545.53	545.53
4	Needle vibrator 40 mm dia (petrol)	Hour	8.00000	8.50	68.00
	Fuel / Energy charges	Hour	8.00000	32.39	259.12
			Total hire charges of Machinery	Rs:	**3006.04**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Water tanker	Hour	1.00000	316.88	316.88
4	Crew for Vibrator	Hour	8.00000	290.10	2320.80
5	Mason Class-I	Day	1.00000	840.00	840.00
6	work inspector	Day	1.00000	920.00	920.00
7	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying including lifting	Day	4.00000	680.00	2720.00
	for conveying concrete	Day	15.00000	680.00	10200.00
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
8	Labour cost for shuttering	sqm	15.00000	167.70	2515.50
	Labour cost for scaffolding @	25%			628.88
	Total cost of Labour			Rs:	**34668.40**

labour component/unit qty		2311.20	
Add contractor's profit and overhead charges	13.615%	314.70	
labour component/unit qty (including contractor's profit)		**2625.90**	

ABSTRACT:

A. Cost of Materials			Rs:	54261.30
B. Hire charges of Machinery			Rs:	3006.04
C. Cost of Labour			Rs:	34668.40
		Total	Rs:	91935.74
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	12517.05
Total cost for	15.00 cum		Rs:	**104452.79**
Rate per cum	(A+B+C+D)/15.0		Rs.	**6963.52**

IRR-CCDW-2-9 Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for sub-structure / super- structure works** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**

DATA: **RATE ANALYSIS** UNIT : **15.76** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	5200.80000	4.22	21947.38
	Cement for incidentals @ 5 kg / cum	kg	78.80000	4.22	332.54
2	Coarse aggregate 20-10 mm	cum	8.19520	1635.00	13399.15
	Coarse aggregate 10 mm below	cum	4.41280	1190.00	5251.23
3	Fine aggregate (Un-Screened)	cum	7.09200	0.00	0.00
4	Super Plasticizer	kg	20.80320	64.00	1331.40
5	Use rate of shuttering	sqm	31.52000	321.62	10137.46
	Scaffolding @ of shuttering	25%			2534.37
6	Sundries	LS	0.50000	42.00	21.00
			Total cost of Materials	Rs:	**54954.53**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Water tanker 8000 ltr	Hour	1.00000	458.01	458.01
	Fuel / Energy charges	Hour	1.00000	545.53	545.53
4	Needle vibrator 40 mm dia (petrol)	Hour	8.00000	8.50	68.00
	Fuel / Energy charges	Hour	8.00000	32.39	259.12
			Total hire charges of Machinery	Rs:	**3006.04**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Water tanker	Hour	1.00000	316.88	316.88
4	Crew for Vibrator	Hour	8.00000	290.10	2320.80
5	Mason Class-I	Day	1.00000	840.00	840.00
6	work inspector	Day	1.00000	920.00	920.00
7	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	4.00000	680.00	2720.00
	for conveying concrete	Day	15.76000	680.00	10716.80
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
8	Labour cost for shuttering	sqm	31.52000	167.70	5285.90
	Labour cost for scaffolding @	25%			1321.48
			Total cost of Labour	Rs:	**38648.20**

labour component/unit qty		2452.30	
Add contractor's profit and overhead charges	13.615%	333.90	
labour component/unit qty (including contractor's profit)		**2786.20**	

ABSTRACT:

A. Cost of Materials			Rs:	54954.53
B. Hire charges of Machinery			Rs:	3006.04
C. Cost of Labour			Rs:	38648.20
		Total	Rs:	96608.77
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	13153.28
Total cost for	15.76 cum		Rs:	**109762.05**
Rate per cum	(A+B+C+D)/15.76		Rs.	**6964.60**

IRR-CCDW-2-10 Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for sub-structure / super- structure works** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 280 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**

DATA: **RATE ANALYSIS** UNIT : **15.71** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	4398.80000	4.22	18562.94
	Cement for incidentals @ 5 kg / cum	kg	78.55000	4.22	331.48
2	Coarse aggregate 20-10 mm	cum	8.16920	1635.00	13356.64
	Coarse aggregate 10 mm below	cum	4.39880	1190.00	5234.57
3	Fine aggregate (Un-Screened)	cum	7.06950	0.00	0.00
4	Super Plasticizer	kg	17.59520	64.00	1126.09
5	Use rate of shuttering for 40 uses	sqm	31.42000	321.62	10105.30
	Scaffolding @ of shuttering	25%			2526.33
6	Sundries	LS	0.50000	42.00	21.00
			Total cost of Materials	Rs:	**51264.35**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Water tanker 8000 ltr	Hour	1.00000	458.01	458.01
	Fuel / Energy charges	Hour	1.00000	545.53	545.53
4	Needle vibrator 40 mm dia (petrol)	Hour	8.00000	8.50	68.00
	Fuel / Energy charges	Hour	8.00000	32.39	259.12
			Total hire charges of Machinery	Rs:	**3006.04**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Water tanker	Hour	1.00000	316.88	316.88
4	Crew for Vibrator	Hour	8.00000	290.10	2320.80
5	Mason Class-I	Day	1.00000	840.00	840.00
6	work inspector	Day	1.00000	920.00	920.00
7	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	4.00000	680.00	2720.00
	for conveying concrete	Day	15.71000	680.00	10682.80
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
8	Labour cost for shuttering	sqm	31.42000	167.70	5269.13
	Labour cost for scaffolding @	25%			1317.28
			Total cost of Labour	Rs:	**38593.23**

labour component/unit qty		2456.60	
Add contractor's profit and overhead charges	13.615%	334.50	
labour component/unit qty (including contractor's profit)		**2791.10**	

ABSTRACT:

A. Cost of Materials			Rs:	51264.35
B. Hire charges of Machinery			Rs:	3006.04
C. Cost of Labour			Rs:	38593.23
		Total	Rs:	92863.62
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	12643.38
Total cost for	15.71 cum		Rs:	**105507**
Rate per cum	(A+B+C+D)/15.71		Rs.	**6715.91**

IRR-CCDW-2-11 Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for sub-structure / super- structure works** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 220 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**

DATA: **RATE ANALYSIS** UNIT : **18.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	3960.00000	4.22	16711.20
	Cement for incidentals @ 5 kg / cum	kg	90.00000	4.22	379.80
2	Coarse aggregate 20-10 mm	cum	9.36000	1635.00	15303.60
	Coarse aggregate 10 mm below	cum	5.04000	1190.00	5997.60
3	Fine aggregate (Un-Screened)	cum	8.10000	0.00	0.00
4	Super Plasticizer	kg	15.84000	64.00	1013.76
5	Use rate of shuttering for 40 uses	sqm	36.00000	321.62	11578.32
	Scaffolding @ of shuttering	25%			2894.58
6	Sundries	LS	0.50000	42.00	21.00
			Total cost of Materials	Rs:	**53899.86**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Water tanker 8000 ltr	Hour	1.00000	458.01	458.01
	Fuel / Energy charges	Hour	1.00000	545.53	545.53
4	Needle vibrator 40 mm dia (petrol)	Hour	8.00000	8.50	68.00
	Fuel / Energy charges	Hour	8.00000	32.39	259.12
			Total hire charges of Machinery	Rs:	**3006.04**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Water tanker	Hour	1.00000	316.88	316.88
4	Crew for Vibrator	Hour	8.00000	290.10	2320.80
5	Mason Class-I	Day	1.00000	840.00	840.00
6	work inspector	Day	1.00000	920.00	920.00
7	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	4.00000	680.00	2720.00
	for conveying concrete	Day	18.00000	680.00	12240.00
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
8	Labour cost for shuttering	sqm	36.00000	167.70	6037.20
	Labour cost for scaffolding @	25%			1509.30
			Total cost of Labour	Rs:	**41110.52**

labour component/unit qty		2283.90	
Add contractor's profit and overhead charges	13.615%	311.00	
labour component/unit qty (including contractor's profit)		**2594.90**	

ABSTRACT:

A. Cost of Materials			Rs:	53899.86
B. Hire charges of Machinery			Rs:	3006.04
C. Cost of Labour			Rs:	41110.52
		Total	Rs:	98016.42
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	13344.94
Total cost for	18.00 cum		Rs:	**111361.36**
Rate per cum	(A+B+C+D)/18.0		Rs.	**6186.74**

IRR-CCDW-2-12 Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for well kerb** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing **etc., complete with initial lead upto 50 m and all lifts.**

Note: If water is to be brought from other place add only lead charges @ 500 ltr / cum. (Cement content: 350 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)

DATA: **RATE ANALYSIS** UNIT : **15.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	5250.0000	4.22	22155.00
2	Coarse aggregate 20-10 mm	cum	7.8000	1635.00	12753.00
	Coarse aggregate 10 mm below	cum	4.2000	1190.00	4998.00
3	Fine aggregate (Un-Screened)	cum	6.7500	0.00	0.00
4	Super Plasticizer	kg	21.0000	64.00	1344.00
5	Use rate of curved shutter (40 uses)	sqm	82.5000	353.78	29186.85
6	Sundries	LS	0.5000	42.00	21.00
			Total cost of Materials	Rs:	**70457.85**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.0000	55.40	443.20
	Fuel / Energy charges	Hour	8.0000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.5000	10.73	5.37
	Fuel / Energy charges	Hour	0.5000	144.33	72.17
3	Needle vibrator 40 mm dia (petrol)	Hour	8.0000	8.50	68.00
	Fuel / Energy charges	Hour	8.0000	32.39	259.12
			Total hire charges of Machinery	Rs:	**2002.50**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.0000	403.00	3224.00
2	Crew for Pump	Hour	0.5000	204.67	102.34
3	Crew for Vibrator	Hour	8.0000	290.10	2320.80
4	Mason Class-I	Day	1.0000	840.00	840.00
5	work inspector	Day	1.0000	920.00	920.00
6	mazdoor				
	for batching materials	Day	11.0000	680.00	7480.00
	for loading mortar pans	Day	4.0000	680.00	2720.00
	for laying	Day	3.0000	680.00	2040.00
	for conveying concrete	Day	15.0000	680.00	10200.00
	for cleaning/ washing/ curing	Day	1.0000	680.00	680.00
7	Labour cost for shuttering	sqm	82.5000	167.70	13835.25
	Total cost of Labour			Rs:	**44362.39**

labour component/unit qty		2957.50
Add contractor's profit and overhead charges	13.615%	402.70
labour component/unit qty (including contractor's profit)		**3360.20**

ABSTRACT:

A. Cost of Materials			Rs:	70457.85
B. Hire charges of Machinery			Rs:	2002.50
C. Cost of Labour			Rs:	44362.39
		Total	Rs:	116822.74
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	15905.42
Total cost for	15.00 cum		Rs:	**132728.16**
Rate per cum	(A+B+C+D)/15.0		Rs.	**8848.54**

IRR-CCDW-2-13 Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for well steining** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing **etc., complete with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**
(Cement content: 320 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

DATA: **RATE ANALYSIS** UNIT : **15.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	4800.00000	4.22	20256.00
	Cement for incidentals @ 2 kg / cum	kg	30.00000	4.22	126.60
2	Coarse aggregate 40-20 mm	cum	6.75000	1562.00	10543.50
	Coarse aggregate 20-10 mm	cum	4.05000	1635.00	6621.75
	Coarse aggregate 10 mm below	cum	2.70000	1190.00	3213.00
3	Fine aggregate (Un-Screened)	cum	6.00000	0.00	0.00
4	Super Plasticizer	kg	19.20000	64.00	1228.80
5	Use rate of curved shutter (40 uses)	sqm	60.00000	353.78	21226.80
6	Sundries	LS	0.50000	42.00	21.00
			Total cost of Materials	Rs:	**63237.45**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Needle vibrator 40 mm dia (petrol)	Hour	8.00000	8.50	68.00
	Fuel / Energy charges	Hour	8.00000	32.39	259.12
			Total hire charges of Machinery	Rs:	**2002.50**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Vibrator	Hour	8.00000	290.10	2320.80
4	Mason Class-I	Day	1.00000	840.00	840.00
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	3.00000	680.00	2040.00
	for conveying concrete	Day	15.00000	680.00	10200.00
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
7	Labour cost for shuttering	sqm	60.00000	167.70	10062.00
			Total cost of Labour	Rs:	**40589.14**

labour component/unit qty		2705.90
Add contractor's profit and overhead charges	13.615%	368.40
labour component/unit qty (including contractor's profit)		**3074.30**

ABSTRACT:

A. Cost of Materials			Rs:	63237.45
B. Hire charges of Machinery			Rs:	2002.50
C. Cost of Labour			Rs:	40589.14
		Total	Rs:	105829.09
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	14408.63
Total cost for	15.00 cum		Rs:	**120237.72**
Rate per cum	(A+B+C+D)/15.0		Rs.	**8015.85**

IRR-CCDW-2-14 Providing and **laying insitu M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for well bottom plug by tremie or skip box method** including cost of all materials, machinery, labour, batching, mixing, placing in position as per detailed specifications etc., **complete with initial lead upto 50 m and all lifts. (Cement content : 350 kg / cum) (Cement content: 350 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**

DATA: **RATE ANALYSIS** UNIT : **14.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	4900.00000	4.22	20678.00
2	Coarse aggregate 20-10 mm	cum	7.28000	1635.00	11902.80
	Coarse aggregate 10 mm below	cum	3.92000	1190.00	4664.80
3	Fine aggregate (Un-Screened)	cum	6.30000	0.00	0.00
4	Super Plasticizer	kg	19.60000	64.00	1254.40
			TOTAL	Rs:	38500.00
	Add for tremie arrangement @		1%	Rs:	385.00
	Total cost of Materials			Rs:	**38885.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Sundries(Hopper etc.)	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**1885.38**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Fitter shuttering	Day	1.00000	730.00	730.00
4	work inspector	Day	1.00000	920.00	920.00
5	mazdoor				
	for erecting/ dismantling tremie	Day	4.00000	680.00	2720.00
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for feeding tremie hopper	Day	2.00000	680.00	1360.00
	for conveying concrete	Day	16.00000	680.00	10880.00
			Total cost of Labour	Rs:	**30136.34**

labour component/unit qty		2152.60
Add contractor's profit and overhead charges	13.615%	293.10
labour component/unit qty (including contractor's profit)		**2445.70**

ABSTRACT:

A. Cost of Materials			Rs:	38885.00
B. Hire charges of Machinery			Rs:	1885.38
C. Cost of Labour			Rs:	30136.34
		Total	Rs:	70906.72
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	9653.95
Total cost for	14.00 cum		Rs:	**80560.67**
Rate per cum	(A+B+C+D)/14.0		Rs.	**5754.33**

IRR-CCDW-2-15 Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for well top plug** including cost of all materials, machinery, labour, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete with **initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum. (Cement content: 280 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**

DATA: **RATE ANALYSIS** UNIT : **14.29** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	4001.20000	4.22	16885.06
2	Coarse aggregate 40-20 mm	cum	6.43050	1562.00	10044.44
	Coarse aggregate 20-10 mm	cum	3.85830	1635.00	6308.32
	Coarse aggregate 10 mm below	cum	2.57220	1190.00	3060.92
3	Fine aggregate (Un-Screened)	cum	5.71600	0.00	0.00
4	Super Plasticizer	kg	16.00480	64.00	1024.31
			Total cost of Materials	Rs:	**37323.05**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Needle vibrator 40 mm dia (petrol)	Hour	8.00000	8.50	68.00
	Fuel / Energy charges	Hour	8.00000	32.39	259.12
			Total hire charges of Machinery	Rs:	**2002.50**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Needle vibrator	Hour	8.00000	290.10	2320.80
4	Mason Class-I	Day	1.00000	840.00	840.00
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	3.00000	680.00	2040.00
	for conveying concrete	Day	14.29000	680.00	9717.20
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
	Total cost of Labour			Rs:	**30044.34**

labour component/unit qty		2102.50
Add contractor's profit and overhead charges	13.615%	286.30
labour component/unit qty (including contractor's profit)		**2388.80**

ABSTRACT:

A. Cost of Materials			Rs:	37323.05
B. Hire charges of Machinery			Rs:	2002.50
C. Cost of Labour			Rs:	30044.34
		Total	Rs:	69369.89
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	9444.71
Total cost for	14.29 cum		Rs:	**78814.60**
Rate per cum	(A+B+C+D)/14.29		Rs.	**5515.37**

IRR-CCDW-2-16 Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for well cap** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing **etc., complete with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**
(Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)

DATA: **RATE ANALYSIS** UNIT : **15.76** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	5200.80000	4.22	21947.38
	Cement for incidentals @ 5 kg / cum	kg	78.80000	4.22	332.54
2	Coarse aggregate 20-10 mm	cum	8.19520	1635.00	13399.15
	Coarse aggregate 10 mm below	cum	4.41280	1190.00	5251.23
3	Fine aggregate (Un-Screened)	cum	7.09200	0.00	0.00
4	Super Plasticizer	kg	20.80320	64.00	1331.40
5	Use rate of curved shutter (40 uses)	sqm	15.76000	321.62	5068.73
6	Sundries	LS	0.50000	42.00	21.00
			Total cost of Materials	Rs:	**47351.43**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Needle vibrator 40 mm dia (petrol)	Hour	8.00000	8.50	68.00
	Fuel / Energy charges	Hour	8.00000	32.39	259.12
			Total hire charges of Machinery	Rs:	**2002.50**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Needle vibrator	Hour	8.00000	290.10	2320.80
4	Mason Class-I	Day	1.00000	840.00	840.00
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	3.00000	680.00	2040.00
	for conveying concrete	Day	15.76000	680.00	10716.80
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
7	Labour cost for shuttering	sqm	15.76000	167.70	2642.95
	Total cost of Labour			Rs:	**33686.89**

labour component/unit qty		2137.50
Add contractor's profit and overhead charges	13.615%	291.00
labour component/unit qty (including contractor's profit)		**2428.50**

ABSTRACT:

A. Cost of Materials			Rs:	47351.43
B. Hire charges of Machinery			Rs:	2002.50
C. Cost of Labour			Rs:	33686.89
		Total	Rs:	83040.82
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	11306.01
Total cost for	15.76 cum		Rs:	**94346.83**
Rate per cum	(A+B+C+D)/15.76		Rs.	**5986.47**

IRR-CCDW-2-17 Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates **for piers and abutments** including cost of all materials, labour, machinery, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**
(Cement content: 250 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.98cum, Blending Ratio of CA--35:30:20:15, FA : 0.35 cum)

DATA: **RATE ANALYSIS** UNIT : **14.40** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	3600.00000	4.22	15192.00
	Cement for incidentals @ 5 kg / cum	kg	72.00000	4.22	303.84
2	Coarse aggregate 80-40 mm	cum	4.93920	848.00	4188.44
	Coarse aggregate 40-20 mm	cum	4.23360	1562.00	6612.88
	Coarse aggregate 20-10 mm	cum	2.82240	1635.00	4614.62
	Coarse aggregate 10 mm below	cum	2.11680	1190.00	2518.99
3	Fine aggregate (Un-Screened)	cum	5.04000	0.00	0.00
4	Super Plasticizer	kg	14.40000	64.00	921.60
5	Use rate of shuttering for 40 uses	sqm	39.60000	337.70	13372.92
6	Scaffolding @ of shuttering	30%			4011.88
			Total cost of Materials	Rs:	**51737.17**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 600/400 ltr (diesel)	Hour	8.00000	94.27	754.16
	Fuel / Energy charges	Hour	8.00000	288.64	2309.12
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Needle vibrator 60 mm dia (petrol)	Hour	8.00000	10.39	83.12
	Fuel / Energy charges	Hour	8.00000	48.59	388.72
			Total hire charges of Machinery	Rs:	**3612.66**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Needle vibrator	Hour	8.00000	290.10	2320.80
4	Mason Class-I	Day	1.00000	840.00	840.00
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	6.00000	680.00	4080.00
	for conveying concrete	Day	14.40000	680.00	9792.00
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
7	Labour cost for shuttering	sqm	39.60000	167.70	6640.92
	Labour cost for scaffolding @	30%			1992.28
			Total cost of Labour	Rs:	**40792.34**

labour component/unit qty		2832.80
Add contractor's profit and overhead charges	13.615%	385.70
labour component/unit qty (including contractor's profit)		**3218.50**

ABSTRACT:

A. Cost of Materials			Rs:	51737.17
B. Hire charges of Machinery			Rs:	3612.66
C. Cost of Labour			Rs:	40792.34
		Total	Rs:	96142.17
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	13089.76
Total cost for	14.40 cum		Rs:	**109231.93**
Rate per cum	(A+B+C+D)/14.40		Rs.	**7585.55**

IRR-CCDW-2-18 Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates **for piers and abutments** including cost of all materials, labour, machinery, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing **etc., complete with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum. (Cement content: 220 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.98cum, Blending Ratio of CA--35:30:20:15, FA : 0.35 cum)**

DATA: **RATE ANALYSIS** UNIT : **14.55** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	3201.00000	4.22	13508.22
	Cement for incidentals @ 5 kg / cum	kg	72.75000	4.22	307.01
2	Coarse aggregate 80-40 mm	cum	4.99065	848.00	4232.07
	Coarse aggregate 40-20 mm	cum	4.27770	1562.00	6681.77
	Coarse aggregate 20-10 mm	cum	2.85180	1635.00	4662.69
	Coarse aggregate 10 mm below	cum	2.13885	1190.00	2545.23
3	Fine aggregate (Un-Screened)	cum	5.09250	0.00	0.00
4	Super Plasticizer	kg	12.80400	64.00	819.46
5	Use rate ofshuttering for 40 uses	sqm	40.01250	337.70	13512.22
6	Scaffolding @ of shuttering	30%			4053.67
			Total cost of Materials	Rs:	**50322.34**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 600/400 ltr (diesel)	Hour	8.00000	94.27	754.16
	Fuel / Energy charges	Hour	8.00000	288.64	2309.12
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Needle vibrator 60 mm dia (petrol)	Hour	8.00000	10.39	83.12
	Fuel / Energy charges	Hour	8.00000	48.59	388.72
	Total hire charges of Machinery			Rs:	**3612.66**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Needle vibrator	Hour	8.00000	290.10	2320.80
4	Mason Class-I	Day	1.00000	840.00	840.00
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	6.00000	680.00	4080.00
	for conveying concrete	Day	14.55000	680.00	9894.00
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
7	Labour cost for shuttering	sqm	40.01250	167.70	6710.10
	Labour cost for scaffolding @	30%			2013.03
			Total cost of Labour	Rs:	**40984.27**

labour component/unit qty		2816.80
Add contractor's profit and overhead charges	13.615%	383.50
labour component/unit qty (including contractor's profit)		**3200.30**

ABSTRACT:

A. Cost of Materials		Rs:	50322.34
B. Hire charges of Machinery		Rs:	3612.66
C. Cost of Labour		Rs:	40984.27
	Total	Rs:	94919.27
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	12923.26
Total cost for	14.55 cum	Rs:	**107842.53**
Rate per cum	(A+B+C+D)/14.55	Rs.	**7411.86**

IRR-CCDW-2-19 Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for piers and abutments** including cost of all materials, labour, machinery, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing **etc., complete with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**
(Cement content: 220 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

DATA: **RATE ANALYSIS** UNIT : **16.36** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	3599.20000	4.22	15188.62
	Cement for incidentals @ 5 kg / cum	kg	81.80000	4.22	345.20
2	Coarse aggregate 40-20 mm	cum	7.36200	1562.00	11499.44
	Coarse aggregate 20-10 mm	cum	4.41720	1635.00	7222.12
	Coarse aggregate 10 mm below	cum	2.94480	1190.00	3504.31
3	Fine aggregate (Un-Screened)	cum	6.54400	0.00	0.00
4	Super Plasticizer	kg	14.39680	64.00	921.40
5	Use rate of shuttering for 40 uses	sqm	44.99000	337.70	15193.12
6	Scaffolding @ of shuttering	30%			4557.94
			Total cost of Materials	Rs:	**58432.15**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Needle vibrator 40 mm dia (petrol)	Hour	8.00000	8.50	68.00
	Fuel / Energy charges	Hour	8.00000	32.39	259.12
			Total hire charges of Machinery	Rs:	**2002.50**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Needle vibrator	Hour	8.00000	290.10	2320.80
4	Mason Class-I	Day	1.00000	840.00	840.00
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	5.00000	680.00	3400.00
	for conveying concrete	Day	16.36000	680.00	11124.80
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
7	Labour cost for shuttering	sqm	44.99000	167.70	7544.82
	Labour cost for scaffolding @	30%			2263.45
	Total cost of Labour			Rs:	**42620.21**

labour component/unit qty		2605.10
Add contractor's profit and overhead charges	13.615%	354.70
labour component/unit qty (including contractor's profit)		**2959.80**

ABSTRACT:

A. Cost of Materials			Rs:	58432.15
B. Hire charges of Machinery			Rs:	2002.50
C. Cost of Labour			Rs:	42620.21
		Total	Rs:	103054.86
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	14030.92
Total cost for	16.36 cum		Rs:	**117085.78**
Rate per cum	(A+B+C+D)/16.36		Rs.	**7156.83**

IRR-CCDW-2-20 Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for cantiliver / counterfort retaining walls** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 320 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**

Note: If water is to be brought from other place add only lead charges @ 500 ltr / cum.

DATA: **RATE ANALYSIS** UNIT : **16.25** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	5200.000000	4.22	21944.00
	Cement for incidentals @ 5 kg / cum	kg	81.250000	4.22	342.88
2	Coarse aggregate 40-20 mm	cum	7.312500	1562.00	11422.13
	Coarse aggregate 20-10 mm	cum	4.387500	1635.00	7173.56
	Coarse aggregate 10 mm below	cum	2.925000	1190.00	3480.75
3	Fine aggregate (Un-Screened)	cum	6.500000	0.00	0.00
4	Super Plasticizer	kg	20.800000	64.00	1331.20
5	Use rate of shuttering for 40 uses	sqm	52.812500	321.62	16985.56
	Scaffolding @ of shuttering	25%			4246.39
6	Sundries	LS	0.500000	42.00	21.00
			Total cost of Materials	Rs:	**66947.47**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Needle vibrator 40 mm dia (petrol)	Hour	8.00000	8.50	68.00
	Fuel / Energy charges	Hour	8.00000	32.39	259.12
	Total hire charges of Machinery			Rs:	**2002.50**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Needle vibrator	Hour	8.00000	290.10	2320.80
4	Mason Class-I	Day	1.00000	840.00	840.00
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	5.00000	680.00	3400.00
	for conveying concrete	Day	16.25000	680.00	11050.00
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
7	Labour cost for shuttering	sqm	52.81250	167.70	8856.66
	Labour cost for scaffolding @	25%			2214.17
			Total cost of Labour	Rs:	**43807.97**

labour component/unit qty		2695.90
Add contractor's profit and overhead charges	13.615%	367.00
labour component/unit qty (including contractor's profit)		**3062.90**

ABSTRACT:

A. Cost of Materials			Rs:	66947.47
B. Hire charges of Machinery			Rs:	2002.50
C. Cost of Labour			Rs:	43807.97
		Total	Rs:	112757.94
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	15351.99
Total cost for	16.25 cum		Rs:	**128109.93**
Rate per cum	(A+B+C+D)/16.25		Rs.	**7883.69**

IRR-CCDW-2-21 Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **with placing and sinking plums of size 150 to 80 mm upto 15 percent for gravity type retaining walls / piers / abutments** etc., including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**
(Cement content: 260 kg / cum with use of super plasticiser(0.4% by wt. of cement),
CA : 0.765cum, Blending Ratio of CA--50:30:20, FA : 0.34 cum,
plums of size 150 to 80 mm : 0.25cum)

DATA: **RATE ANALYSIS** UNIT : **18.09** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	4703.40000	4.22	19848.35
	Cement for incidentals @ 4 kg / cum	kg	72.36000	4.22	305.36
2	Coarse aggregate 40-20 mm	cum	6.91943	1562.00	10808.15
	Coarse aggregate 20-10 mm	cum	4.15166	1635.00	6787.96
	Coarse aggregate 10 mm below	cum	2.76777	1190.00	3293.65
3	Plums of size 150 to 80 mm	cum	4.52250	498.00	2252.21
4	Fine aggregate (Un-Screened)	cum	6.15060	0.00	0.00
5	Super Plasticizer	kg	18.81360	64.00	1204.07
	Use rate of shuttering for 40 uses	sqm	49.74750	321.62	15999.79
6	Scaffolding @ of shuttering	30%			4799.94
			Total cost of Materials	Rs:	**65299.48**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Needle vibrator 60 mm dia (petrol)	Hour	8.00000	10.39	83.12
	Fuel / Energy charges	Hour	8.00000	48.59	388.72
			Total hire charges of Machinery	Rs:	**2147.22**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Needle vibrator	Hour	8.00000	290.10	2320.80
4	Mason Class-I	Day	1.00000	840.00	840.00
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	5.00000	680.00	3400.00
	for placing plums	Day	2.00000	680.00	1360.00
	for conveying concrete	Day	15.38000	680.00	10458.40
	for conveying plums	Day	2.00000	680.00	1360.00
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
7	Labour for shuttering	sqm	49.74750	167.70	8342.66
	Labour for scaffolding @	30%			2502.80
	Total cost of Labour			Rs:	**45711.00**

labour component/unit qty		2526.90
Add contractor's profit and overhead charges	13.615%	344.00
labour component/unit qty (including contractor's profit)		**2870.90**

ABSTRACT:

A. Cost of Materials			Rs:	65299.48
B. Hire charges of Machinery			Rs:	2147.22
C. Cost of Labour			Rs:	45711.00
		Total	Rs:	113157.70
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	15406.42
Total cost for	18.09 cum		Rs:	**128564.12**
Rate per cum	(A+B+C+D)/18.09		Rs.	**7106.92**

IRR-CCDW-2-22 Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard,graded aggregates **for cast in-situ pipes** including cost of all materials, machinery, labour, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete with **initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**
(Cement content: 260 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

DATA: **RATE ANALYSIS** UNIT : **15.38** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	3998.80000	4.22	16874.94
	Cement for incidentals @ 5 kg / cum	kg	76.90000	4.22	324.52
2	Coarse aggregate 40-20 mm	cum	6.92100	1562.00	10810.60
	Coarse aggregate 20-10 mm	cum	4.15260	1635.00	6789.50
	Coarse aggregate 10 mm below	cum	2.76840	1190.00	3294.40
3	Fine aggregate (Un-Screened)	cum	6.15200	0.00	0.00
4	Super Plasticizer	kg	15.99520	64.00	1023.69
5	Use rate of shuttering for 40 uses	sqm	30.76000	337.70	10387.65
	Scaffolding @ of shuttering	15%			1558.15
6	Sundries	LS	0.50000	42.00	21.00
	Total cost of Materials			Rs:	**51084.45**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Needle vibrator 40 mm dia (petrol)	Hour	8.00000	8.50	68.00
	Fuel / Energy charges	Hour	8.00000	32.39	259.12
	Total hire charges of Machinery			Rs:	**2002.50**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Needle vibrator	Hour	8.00000	290.10	2320.80
4	Mason Class-I	Day	1.00000	840.00	840.00
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	3.00000	680.00	2040.00
	for conveying concrete	Day	15.38000	680.00	10458.40
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
7	Labour for shuttering	sqm	30.76000	167.70	5158.45
	Labour for scaffolding @	15%			773.77
	Total cost of Labour			Rs:	**36717.76**

labour component/unit qty		2387.40	
Add contractor's profit and overhead charges	13.615%	325.00	
labour component/unit qty (including contractor's profit)		**2712.40**	

ABSTRACT:

A. Cost of Materials			Rs:	51084.45
B. Hire charges of Machinery			Rs:	2002.50
C. Cost of Labour			Rs:	36717.76
		Total	Rs:	89804.71
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	12226.91
Total cost for	15.38 cum		Rs:	**102031.62**
Rate per cum	(A+B+C+D)/15.38		Rs.	**6634.05**

IRR-CCDW-2-23 Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates **for cast in-situ pipes** including cost of all materials, labour, machinery, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., **complete with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**
(Cement content: 250 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.98cum, Blending Ratio of CA--35:30:20:15, FA : 0.35 cum)

DATA: **RATE ANALYSIS** UNIT : **14.40** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	3600.00000	4.22	15192.00
	Cement for incidentals @ 5 kg / cum	kg	72.00000	4.22	303.84
2	Coarse aggregate 80-40 mm	cum	4.93920	848.00	4188.44
	Coarse aggregate 40-20 mm	cum	4.23360	1562.00	6612.88
	Coarse aggregate 20-10 mm	cum	2.82240	1635.00	4614.62
	Coarse aggregate 10 mm below	cum	2.11680	1190.00	2518.99
3	Fine aggregate (Un-Screened)	cum	5.04000	0.00	0.00
4	Super Plasticizer	kg	14.40000	64.00	921.60
5	Use rate of shuttering for 40 uses	sqm	28.80000	337.70	9725.76
6	Scaffolding @ of shuttering	15%			1458.86
	Total cost of Materials			Rs:	**45536.99**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 600/400 ltr (diesel)	Hour	8.00000	94.27	754.16
	Fuel / Energy charges	Hour	8.00000	288.64	2309.12
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Needle vibrator 60 mm dia (petrol)	Hour	8.00000	10.39	83.12
	Fuel / Energy charges	Hour	8.00000	48.59	388.72
	Total hire charges of Machinery			Rs:	**3612.66**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Needle vibrator	Hour	8.00000	290.10	2320.80
4	Mason Class-I	Day	1.00000	840.00	840.00
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	3.00000	680.00	2040.00
	for conveying concrete	Day	14.40000	680.00	9792.00
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
7	Labour cost for shuttering	sqm	28.80000	167.70	4829.76
	Labour cost for scaffolding @	15%			724.46
	Total cost of Labour			Rs:	**35673.36**

labour component/unit qty		2477.30	
Add contractor's profit and overhead charges	13.615%	337.30	
labour component/unit qty (including contractor's profit)		**2814.60**	

ABSTRACT:

A. Cost of Materials			Rs:	45536.99
B. Hire charges of Machinery			Rs:	3612.66
C. Cost of Labour			Rs:	35673.36
		Total	Rs:	84823.01
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	11548.65
Total cost for	14.40 cum		Rs:	**96371.66**
Rate per cum	(A+B+C+D)/14.40		Rs.	**6692.48**

IRR-CCDW-2-24 Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for deck slab & kerb** including cost of all materials,machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing **etc., complete with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum. (Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**

DATA: **RATE ANALYSIS** UNIT : **15.76** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	5200.80000	4.22	21947.38
	Cement for incidentals @ 5 kg / cum	kg	78.80000	4.22	332.54
2	Coarse aggregate 20-10 mm	cum	8.19520	1635.00	13399.15
	Coarse aggregate 10 mm below	cum	4.41280	1190.00	5251.23
3	Fine aggregate (Un-Screened)	cum	7.09200	0.00	0.00
4	Super Plasticizer	kg	20.80320	64.00	1331.40
5	Use rate of shuttering for 30 uses	sqm	39.40000	393.30	15496.02
	Scaffolding @ of shuttering	250%			38740.05
6	Sundries	LS	1.00000	42.00	42.00
			Total cost of Materials	Rs:	**96539.77**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Needle vibrator 40 mm dia (petrol)	Hour	8.00000	8.50	68.00
	Fuel / Energy charges	Hour	8.00000	32.39	259.12
			Total hire charges of Machinery	Rs:	**2002.50**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Needle vibrator	Hour	8.00000	290.10	2320.80
4	Mason Class-I	Day	2.00000	840.00	1680.00
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	4.00000	680.00	2720.00
	for conveying concrete	Day	15.76000	680.00	10716.80
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
7	Labour cost for shuttering	sqm	39.40000	167.70	6607.38
	Labour cost for scaffolding @	250%			16518.45
			Total cost of Labour	Rs:	**55689.77**

labour component/unit qty		3533.60
Add contractor's profit and overhead charges	13.615%	481.10
labour component/unit qty (including contractor's profit)		**4014.70**

ABSTRACT:

A. Cost of Materials			Rs:	96539.77
B. Hire charges of Machinery			Rs:	2002.50
C. Cost of Labour			Rs:	55689.77
		Total	Rs:	154232.04
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	20998.69
Total cost for	15.76 cum		Rs:	**175230.73**
Rate per cum	(A+B+C+D)/15.76		Rs.	**11118.70**

IRR-CCDW-2-25 Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for columns and beams** including cost of all materials, labour, machinery, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, **finishing, curing etc.,complete with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum. (Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**

DATA: **RATE ANALYSIS** UNIT : **15.76** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	5200.80000	4.22	21947.38
	Cement for incidentals @ 5 kg / cum	kg	78.80000	4.22	332.54
2	Coarse aggregate 20-10 mm	cum	8.19520	1635.00	13399.15
	Coarse aggregate 10 mm below	cum	4.41280	1190.00	5251.23
3	Fine aggregate (Un-Screened)	cum	7.09200	0.00	0.00
4	Super Plasticizer	kg	20.80320	64.00	1331.40
5	Use rate of shuttering	sqm	78.80000	321.62	25343.66
	Scaffolding @ of shuttering	50%			12671.83
6	Sundries	LS	1.00000	42.00	42.00
			Total cost of Materials	Rs:	**80319.19**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Needle vibrator 40 mm dia (petrol)	Hour	8.00000	8.50	68.00
	Fuel / Energy charges	Hour	8.00000	32.39	259.12
	Total hire charges of Machinery			Rs:	**2002.50**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Needle vibrator	Hour	8.00000	290.10	2320.80
4	Mason Class-I	Day	1.00000	840.00	840.00
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	3.00000	680.00	2040.00
	for conveying concrete	Day	15.76000	680.00	10716.80
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
7	Labour cost for shuttering	sqm	78.80000	167.70	13214.76
	Labour cost for scaffolding @	50%			6607.38
			Total cost of Labour	Rs:	**50866.08**

labour component/unit qty		3227.50
Add contractor's profit and overhead charges	13.615%	439.40
labour component/unit qty (including contractor's profit)		**3666.90**

ABSTRACT:

A. Cost of Materials		Rs:	80319.19
B. Hire charges of Machinery		Rs:	2002.50
C. Cost of Labour		Rs:	50866.08
	Total	Rs:	133187.77
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	18133.51
Total cost for	15.76 cum	Rs:	**151321.28**
Rate per cum	(A+B+C+D)/15.76	Rs.	**9601.60**

IRR-CCDW-2-26 Providing and **laying insitu M- 20** (28 days cube compressive strength not less than 20 N / sqmm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for wearing coat** including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position in alternate panels, levelling, compacting, finishing, curing, packing joints with asphalt mortar etc., complete **with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum. to the data (Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**

DATA: **RATE ANALYSIS** UNIT : **15.76** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	5200.80000	4.22	21947.38
	Cement for incidentals @ 5 kg / cum	kg	78.80000	4.22	332.54
2	Coarse aggregate 20-10 mm	cum	8.19520	1635.00	13399.15
	Coarse aggregate 10 mm below	cum	4.41280	1190.00	5251.23
3	Fine aggregate (Un-Screened)	cum	7.09200	0.00	0.00
4	Super Plasticizer	kg	20.80320	64.00	1331.40
5	Use rate of shuttering	sqm	7.88000	321.62	2534.37
6	Sundries (asphalt mortar etc)	LS	5.00000	42.00	210.00
			Total cost of Materials	Rs:	**45006.07**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Needle vibrator 40 mm dia (petrol)	Hour	8.00000	8.50	68.00
	Fuel / Energy charges	Hour	8.00000	32.39	259.12
			Total hire charges of Machinery	Rs:	**2002.50**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Needle vibrator	Hour	8.00000	290.10	2320.80
4	Mason Class-I	Day	2.00000	840.00	1680.00
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	4.00000	680.00	2720.00
	for conveying concrete	Day	15.76000	680.00	10716.80
	for cleaning/ washing/ curing	Day	2.00000	680.00	1360.00
7	Labour cost for shuttering	sqm	7.88000	167.70	1321.48
			Total cost of Labour	Rs:	**34565.42**

labour component/unit qty		2193.20
Add contractor's profit and overhead charges	13.615%	298.60
labour component/unit qty (including contractor's profit)		**2491.80**

ABSTRACT:

A. Cost of Materials			Rs:	45006.07
B. Hire charges of Machinery			Rs:	2002.50
C. Cost of Labour			Rs:	34565.42
		Total	Rs:	81573.99
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	11106.3
Total cost for	15.76 cum		Rs:	**92680.29**
Rate per cum	(A+B+C+D)/15.76		Rs.	**5880.73**

IRR-CCDW-2-27 Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for troughs** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position,levelling, vibrating, finishing, curing **etc., complete with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum. to the data (Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**

DATA: **RATE ANALYSIS** UNIT : **15.76** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	5200.80000	4.22	21947.38
	Cement for incidentals @ 5 kg / cum	kg	78.80000	4.22	332.54
2	Coarse aggregate 20-10 mm	cum	8.20000	1635.00	13407.00
	Coarse aggregate 10 mm below	cum	4.41280	1190.00	5251.23
3	Fine aggregate (Un-Screened)	cum	7.09200	0.00	0.00
4	Super Plasticizer	kg	20.80320	64.00	1331.40
5	Use rate of shuttering for 40 uses	sqm	70.92000	321.62	22809.29
	Scaffolding @ of shuttering	25%			5702.32
6	Sundries	LS	0.50000	42.00	21.00
			Total cost of Materials	Rs:	**70802.16**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Needle vibrator 40 mm dia (diesel)	Hour	8.00000	8.50	68.00
	Fuel / Energy charges	Hour	8.00000	32.39	259.12
			Total hire charges of Machinery	Rs:	**2002.50**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Needle vibrator	Hour	8.00000	290.10	2320.80
4	Mason Class-I	Day	1.00000	840.00	840.00
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying	Day	5.00000	680.00	3400.00
	for conveying concrete	Day	15.76000	680.00	10716.80
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
7	Labour cost for shuttering	sqm	70.92000	167.70	11893.28
	Labour cost for scaffolding @	25%			2973.32
			Total cost of Labour	Rs:	**47270.54**

labour component/unit qty		2999.40
Add contractor's profit and overhead charges	13.615%	408.40
labour component/unit qty (including contractor's profit)		**3407.80**

ABSTRACT:

A. Cost of Materials		Rs:	70802.16
B. Hire charges of Machinery		Rs:	2002.50
C. Cost of Labour		Rs:	47270.54
	Total	Rs:	120075.20
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	16348.24
Total cost for	15.76 cum	Rs:	**136423.44**
Rate per cum	(A+B+C+D)/15.76	Rs.	**8656.31**

IRR-CCDW-3 **FOUNDATION WELL SINKING WORKS :**

IRR-CCDW-3-1 **Sinking RCC wells vertically for foundation of piers and abutments in all kinds of soil, sand**

DATA: Unit = Running meter

Taking output = 1m

diameter of well = 6.00m

(i) Depth below bed level upto 3.0m

Rate of sinking = 0.50 m /hour

a) Labour

0.12	Mate (Mason Cl- ll)	730.00	day	87.60
1.00	Sinker (skilled)	840.00	day	840.00
2.00	Sinking helper (Semi skilled)	680.00	day	1360.00
	sub total (a)			2287.60

b) Machinery

2.00	Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	555.06	hour		1110.12
	Fuel Charges	545.53	hour		1091.06
	Crew Charges	316.88	hour		633.76
	Consumables in sinking @ 10% of machinery charges				283.49
	sub total (b)				3118.43
	sub total (a+b)				5406.03
	c) Add for Contractor's profit and overhead charges on (A+B)	13.615%			736.03
	Rate per metre = (a+b+c)/1.0				6142.06
	or say (Rate upto 3.0m for 6.0 m well sinking)				**6142.10**
	labour component/unit qty			2921.40	
	Contractor's profit and overhead charges	13.615%		397.70	
	labour component/unit qty(including contractor's profit)			**3319.10**	

(ii) Beyond 3m and upto 10m depth
Rate of sinking = 0.33 m per hour.

a) Labour

0.15	Mate (Mason Cl- ll)	730.00	day		109.50
1.25	Sinker (skilled)	840.00	day		1050.00
2.50	Sinking helper (Semi skilled)	680.00	day		1700.00
	sub total (a)				2859.50

b) Machinery

3.00	Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	555.06	hour		1665.18
	Fuel Charges	545.53	hour		1636.59
	Crew Charges	316.88	hour		950.64
	Consumables in sinking @ 10% of machinery charges				425.24
	sub total (b)				4677.65
	sub total (a+b)				7537.15
	c) Add for Contractor's profit and overhead charges on (A+B)	13.615%			1026.18
	Rate per metre = (a+b+c)				8563.33
	or say (Rate for 3.0m to 10m well sinking)			**8563.33**	
	labour component/unit qty			3810.10	
	Contractor's profit and overhead charges	13.615%		518.70	
	labour component/unit qty(including contractor's profit)			**4328.80**	

IRR-CCDW-3-2 **Filling foundation wells with sand in layers of 25 to 30 cm** and compacting by watering, ramming as directed including cost of all materials, machinery, labour etc., complete with **initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **15.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Sand for filling	cum	15.75000	0.00	0.00
				0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.25000	920.00	230.00
2	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**2950.00**

labour component/unit qty		196.70	
Add contractor's profit and overhead charges	13.615%	26.80	
labour component/unit qty (including contractor's profit)		**223.50**	

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2950.00
		Total	Rs:	2950.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	401.64
Total cost for	15.00 cum		Rs:	**3351.64**
Rate per cum	(A+B+C+D)/15.0		Rs.	**223.44**

IRR-CCDW-4 **MASONRY WORKS :**

IRR-CCDW-4-1 Providing and **constructing un-coursed rubble stone masonry** with approved stones in **CM 1 : 4** proportion **for sub-structure portions of return walls / abutments** etc., including cost of all materials, machinery, labour, scaffolding, cleaning, packing cement mortar, wedging stone chips, curing etc., complete **with initial lead upto 50 m and all lifts.**
(Cement content: 143 kg / cum of masonry, rubble stones : 0.85cum, FA : 0.40 cum, Stone Chips : 0.15 cum)

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	1430.00000	4.22	6034.60
2	Rubble stones	cum	8.50000	424.00	3604.00
3	Stone chips	cum	1.50000	498.00	747.00
4	Sand (Screened)	cum	4.00000	128.00	512.00
			Total cost of Materials	Rs:	**10897.60**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker 8000 ltr	Hour	1.00000	458.01	458.01
	Fuel / Energy charges	Hour	1.00000	545.53	545.53
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
			Total hire charges of Machinery	Rs:	**1081.08**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Water tanker	Hour	1.00000	316.88	316.88
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	work inspector	Day	1.00000	920.00	920.00
4	Mason Class-I	Day	1.00000	840.00	840.00
5	Mason Class-II	Day	2.00000	730.00	1460.00
6	mazdoor				
	for conveying rubble stones	Day	4.00000	680.00	2720.00
	for preparing mortar	Day	2.00000	680.00	1360.00
	for loading mortar pans	Day	1.00000	680.00	680.00
	for laying & packing mortar	Day	3.00000	680.00	2040.00
	for washing rubble / finishing / curing	Day	1.00000	680.00	680.00
	for conveying mortar / chips	Day	4.00000	680.00	2720.00
	Total cost of Labour			Rs:	**13839.22**

labour component/unit qty		1383.90
Add contractor's profit and overhead charges	13.615%	188.40
labour component/unit qty (including contractor's profit)		**1572.30**

ABSTRACT:

A. Cost of Materials			Rs:	10897.60
B. Hire charges of Machinery			Rs:	1081.08
C. Cost of Labour			Rs:	13839.22
		Total	Rs:	25817.90
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	3515.11
Total cost for	10.00 cum		Rs:	**29333.01**
Rate per cum	(A+B+C+D)/10.0		Rs.	**2933.30**

IRR-CCDW-4-2 Providing and **constructing un-coursed rubble stone masonry** with approved stones in **CM 1 : 4** proportion **for super-structure portions of return walls / abutments** etc., including cost of all materials, machinery, labour, scaffolding, cleaning, packing cement mortar, wedging stone chips, curing etc., complete **with initial lead upto 50 m and all lifts.**
(Cement content: 143 kg / cum of masonry, rubble stones : 0.85cum, FA : 0.40 cum, Stone Chips : 0.15 cum)

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	1430.00000	4.22	6034.60
2	Rubble stones	cum	8.50000	424.00	3604.00
3	Stone chips	cum	1.50000	498.00	747.00
4	Sand (Screened)	cum	4.00000	128.00	512.00
			TOTAL	Rs:	10897.60
	Add for scaffolding @		2.5%	Rs:	272.44
			Total cost of Materials	Rs:	**11170.04**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker 8000 ltr	Hour	1.00000	458.01	458.01
	Fuel / Energy charges	Hour	1.00000	545.53	545.53
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
			Total hire charges of Machinery	Rs:	**1081.08**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Water tanker	Hour	1.00000	316.88	316.88
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	work inspector	Day	1.00000	920.00	920.00
4	Mason Class-I	Day	1.00000	840.00	840.00
5	Mason Class-II	Day	2.00000	730.00	1460.00
6	mazdoor				
	for conveying rubble stones	Day	4.00000	680.00	2720.00
	for preparing mortar	Day	2.00000	680.00	1360.00
	for loading mortar pans	Day	1.00000	680.00	680.00
	for laying & packing mortar	Day	3.00000	680.00	2040.00
	for washing rubble / finishing / curing	Day	1.00000	680.00	680.00
	for conveying mortar / chips	Day	4.00000	680.00	2720.00
			TOTAL	Rs:	13839.22
	Add for labour for scaffolding @		2.5%	Rs:	345.98
			Total cost of Labour	Rs:	**14185.20**

labour component/unit qty		1418.50
Add contractor's profit and overhead charges	13.615%	193.10
labour component/unit qty (including contractor's profit)		**1611.60**

ABSTRACT:

A. Cost of Materials			Rs:	11170.04
B. Hire charges of Machinery			Rs:	1081.08
C. Cost of Labour			Rs:	14185.20
		Total	Rs:	26436.32
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	3599.3
Total cost for	10.00 cum		Rs:	**30035.62**
Rate per cum	(A+B+C+D)/10.0		Rs.	**3003.56**

IRR-CCDW-4-3 Providing and **constructing coursed rubble masonry second sort** in **CM 1:4** proportion with stones from approved source including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, finishing, curing etc., complete with **initial lead upto 50 m and initial lift upto 3m.**
(Cement content: 133 kg / cum of masonry, rubble stones : 0.45cum, FA : 0.35 cum, Stone Chips : 0.15 cum, Khandki stones 25 x 25 x 30 cm : 180 Nos, Header stones 25 x 25x 45 cm : 60 Nos)

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	1330.00000	4.22	5612.60
2	Header stones 25x25x45 cm	Nos	60.00000	54.00	3240.00
3	Khandki stones 25x25x30 cm	Nos	180.00000	24.00	4320.00
4	Rubble stones	cum	4.50000	424.00	1908.00
5	Stone chips	cum	1.50000	498.00	747.00
6	Sand (Screened)	cum	3.50000	128.00	448.00
			TOTAL	Rs:	16275.60
	Add for scaffolding materials @		2.5%	Rs:	406.89
			Total cost of Materials	Rs:	**16682.49**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker 8000 ltr	Hour	1.00000	458.01	458.01
	Fuel / Energy charges	Hour	1.00000	545.53	545.53
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
			Total hire charges of Machinery	Rs:	**1081.08**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Water tanker	Hour	1.00000	316.88	316.88
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	work inspector	Day	1.00000	920.00	920.00
4	Stone chiseller CI -II	Day	3.00000	730.00	2190.00
5	Mason Class-I	Day	1.00000	840.00	840.00
6	Mason Class-II	Day	2.00000	730.00	1460.00
7	mazdoor				
	for conveying stones / rubble	Day	4.00000	680.00	2720.00
	for preparation of mortar	Day	3.00000	680.00	2040.00
	for loading mortar pans	Day	1.00000	680.00	680.00
	for laying & packing mortar	Day	3.00000	680.00	2040.00
	for washing rubble / finishing / curing	Day	1.00000	680.00	680.00
	for conveying mortar / chips	Day	2.00000	680.00	1360.00
			TOTAL	Rs:	15349.22
	Add for labour for scaffolding @		2.5%	Rs:	383.73
			Total cost of Labour	Rs:	**15732.95**

labour component/unit qty		1573.30
Add contractor's profit and overhead charges	13.615%	214.20
labour component/unit qty (including contractor's profit)		**1787.50**

ABSTRACT:

A. Cost of Materials			Rs:	16682.49
B. Hire charges of Machinery			Rs:	1081.08
C. Cost of Labour			Rs:	15732.95
		Total	Rs:	33496.52
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	4560.55
Total cost for	10.00 cum		Rs:	**38057.07**
Rate per cum	(A+B+C+D)/10.0		Rs.	**3805.71**

IRR-CCDW-4-4 Providing and **constructing coursed rubble masonry first sort** in **CM 1:4** proportion with stones from approved source including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, finishing, curing etc., complete with **initial lead upto 50 m and initial lift upto 3 m.**
(Cement content: 133 kg / cum of masonry, rubble stones : 0.45cum, FA : 0.35 cum, Stone Chips : 0.15 cum, Khandki stones 25 x 25 x 30 cm : 180 Nos, Header stones 25 x 25x 45 cm : 60 Nos)

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	1330.00000	4.22	5612.60
2	Header stones 25x25x45 cm	Nos	60.00000	54.00	3240.00
3	Khandki stones 25x25x30 cm	Nos	180.00000	24.00	4320.00
4	Rubble stones	cum	4.50000	424.00	1908.00
5	Stone chips	cum	1.50000	498.00	747.00
6	Sand (Screened)	cum	3.50000	128.00	448.00
			TOTAL	Rs:	16275.60
	Add for scaffolding materials @		2.5%	Rs:	406.89
			Total cost of Materials	Rs:	**16682.49**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker 8000 ltr	Hour	1.00000	458.01	458.01
	Fuel / Energy charges	Hour	1.00000	545.53	545.53
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
			Total hire charges of Machinery	Rs:	**1081.08**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Water tanker	Hour	1.00000	316.88	316.88
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	work inspector	Day	1.00000	920.00	920.00
4	Stone chiseller Cl -II	Day	6.00000	730.00	4380.00
5	Mason Class-I	Day	1.00000	840.00	840.00
6	Mason Class-II	Day	2.00000	730.00	1460.00
7	mazdoor				
8	for conveying rubble/ stones	Day	4.00000	680.00	2720.00
	for preparation of mortar	Day	3.00000	680.00	2040.00
	for loading mortar pans	Day	1.00000	680.00	680.00
	for laying & packing mortar	Day	3.00000	680.00	2040.00
	for washing rubble / finishing / curing	Day	1.00000	680.00	680.00
	for conveying mortar / chips	Day	2.00000	680.00	1360.00
			TOTAL	Rs:	17539.22
	Add for labour for scaffolding @		2.5%	Rs:	438.48
			Total cost of Labour	Rs:	**17977.70**

labour component/unit qty		1797.80
Add contractor's profit and overhead charges	13.615%	244.80
labour component/unit qty (including contractor's profit)		**2042.60**

ABSTRACT:

A. Cost of Materials			Rs:	16682.49
B. Hire charges of Machinery			Rs:	1081.08
C. Cost of Labour			Rs:	17977.70
		Total	Rs:	35741.27
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	4866.17
Total cost for	10.00 cum		Rs:	**40607.44**
Rate per cum	(A+B+C+D)/10.0		Rs.	**4060.74**

IRR-CCDW-4-5 **Providing cement mortar pointing to coursed rubble face stone masonry in CM 1 : 2** proportion by volume including raking and cleaning joints for 50 mm depth, pressing cement mortar into joints, cost of all materials, labour, scaffolding, finishing, curing etc., complete with **initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	456.00000	4.22	1924.32
2	Sand (Screened)	cum	0.75000	128.00	96.00
			TOTAL	Rs:	2020.32
	Add for scaffolding / ramps etc @		2.5%	Rs:	50.51
			Total cost of Materials	Rs:	**2070.83**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
	(Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- I	Day	10.00000	840.00	8400.00
2	work inspector	Day	1.00000	920.00	920.00
3	mazdoor	Day	10.00000	680.00	6800.00
			Total cost of Labour	Rs:	**16120.00**

labour component/unit qty		161.20
Add contractor's profit and overhead charges	13.615%	21.90
labour component/unit qty (including contractor's profit)		**183.10**

ABSTRACT:

A. Cost of Materials			Rs:	2070.83
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	16120.00
		Total	Rs:	18190.83
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	2476.68
Total cost for	100.00 sqm		Rs:	**20667.51**
Rate per sqm	(A+B+C+D)/100.0		Rs.	**206.68**

IRR-CCDW-4-6 **Providing cement mortar pointing to coursed rubble face stone masonry in CM 1 : 3** proportion by volume including raking and cleaning joints for 50 mm depth, pressing cement mortar into joints, cost of all materials, labour, scaffolding, finishing, curing etc., complete with **initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	322.00000	4.22	1358.84
2	Sand (Screened)	cum	0.75000	128.00	96.00
			TOTAL	Rs:	1454.84
	Add for scaffolding / ramps etc @		2.5%	Rs:	36.37
			Total cost of Materials	Rs:	**1491.21**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
	(Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- I	Day	10.00000	840.00	8400.00
2	work inspector	Day	1.00000	920.00	920.00
3	mazdoor	Day	10.00000	680.00	6800.00
			Total cost of Labour	Rs:	**16120.00**

labour component/unit qty		161.20
Add contractor's profit and overhead charges	13.615%	21.90
labour component/unit qty (including contractor's profit)		**183.10**

ABSTRACT:

A. Cost of Materials			Rs:	1491.21
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	16120.00
		Total	Rs:	17611.21
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	2397.77
Total cost for	100.00 sqm		Rs:	**20008.98**
Rate per sqm	(A+B+C+D)/100.0		Rs.	**200.09**

IRR-CCDW-4-7 **Providing 12 mm thick plastering** in **cement mortar 1:3** proportion by volume including cost of all materials, machinery, labour, scaffolding, cleaning joints, smooth finishing, curing etc., **complete with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	629.00000	4.22	2654.38
2	Sand (Screened)	cum	1.32000	128.00	168.96
			TOTAL	Rs:	2823.34
	Add for scaffolding / ramps etc @		2.5%	Rs:	70.58
			Total cost of Materials	Rs:	**2893.92**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
	(Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- I	Day	10.00000	840.00	8400.00
2	work inspector	Day	1.00000	920.00	920.00
3	mazdoor	Day	20.00000	680.00	13600.00
			Total cost of Labour	Rs:	**22920.00**

labour component/unit qty		229.20
Add contractor's profit and overhead charges	13.615%	31.20
labour component/unit qty (including contractor's profit)		**260.40**

ABSTRACT:

A. Cost of Materials			Rs:	2893.92
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	22920.00
		Total	Rs:	25813.92
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	3514.57
Total cost for	100.00 sqm		Rs:	**29328.49**
Rate per sqm	(A+B+C+D)/100.0		Rs.	**293.28**

IRR-CCDW-4-8 **Providing 12 mm thick plastering** in **cement mortar 1:4** proportion by volume including cost of all materials, machinery, labour, scaffolding, cleaning joints, smooth finishing, curing etc., **complete with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	472.00000	4.22	1991.84
2	Sand (Screened)	cum	1.32000	128.00	168.96
			TOTAL	Rs:	2160.80
	Add for scaffolding / ramps etc @		2.5%	Rs:	54.02
			Total cost of Materials	Rs:	**2214.82**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
	(Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- I	Day	10.00000	840.00	8400.00
2	work inspector	Day	1.00000	920.00	920.00
3	mazdoor	Day	20.00000	680.00	13600.00
			Total cost of Labour	Rs:	**22920.00**

labour component/unit qty		229.20
Add contractor's profit and overhead charges	13.615%	31.20
labour component/unit qty (including contractor's profit)		**260.40**

ABSTRACT:

A. Cost of Materials			Rs:	2214.82
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	22920.00
		Total	Rs:	25134.82
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	3422.11
Total cost for	100.00 sqm		Rs:	**28556.93**
Rate per sqm	(A+B+C+D)/100.0		Rs.	**285.57**

IRR-CCDW-4-9 **Providing 20 mm thick plastering** in **cement mortar 1:3** proportion by volume including cost of all materials, machinery, labour, scaffolding, cleaning joints, smooth finishing, curing etc., **complete with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	1050.00000	4.22	4431.00
2	Sand (Screened)	cum	2.20000	128.00	281.60
			TOTAL	Rs:	4712.60
	Add for scaffolding / ramps etc @		2.5%	Rs:	117.82
			Total cost of Materials	Rs:	**4830.42**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
	(Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- I	Day	15.00000	840.00	12600.00
2	work inspector	Day	1.00000	920.00	920.00
3	mazdoor	Day	25.00000	680.00	17000.00
			Total cost of Labour	Rs:	**30520.00**

labour component/unit qty		305.20
Add contractor's profit and overhead charges	13.615%	41.60
labour component/unit qty (including contractor's profit)		**346.80**

ABSTRACT:

A. Cost of Materials			Rs:	4830.42
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	30520.00
		Total	Rs:	35350.42
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	4812.96
Total cost for	100.00 sqm		Rs:	**40163.38**
Rate per sqm	(A+B+C+D)/100.0		Rs.	**401.63**

IRR-CCDW-4-10 **Providing 20 mm thick plastering in cement mortar 1:4** proportion by volume including cost of all materials, machinery, labour, scaffolding, cleaning joints, smooth finishing, curing etc., **complete with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	788.00000	4.22	3325.36
2	Sand (Screened)	cum	2.20000	128.00	281.60
			TOTAL	Rs:	3606.96
	Add for scaffolding / ramps etc @		2.5%	Rs:	90.17
			Total cost of Materials	Rs:	**3697.13**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
	(Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- I	Day	15.00000	840.00	12600.00
2	work inspector	Day	1.00000	920.00	920.00
3	mazdoor	Day	25.00000	680.00	17000.00
			Total cost of Labour	Rs:	**30520.00**

labour component/unit qty		305.20
Add contractor's profit and overhead charges	13.615%	41.60
labour component/unit qty (including contractor's profit)		**346.80**

ABSTRACT:

A. Cost of Materials			Rs:	3697.13
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	30520.00
		Total	Rs:	34217.13
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	4658.66
Total cost for	100.00 sqm		Rs:	**38875.79**
Rate per sqm	(A+B+C+D)/100.0		Rs.	**388.76**

IRR-CCDW-5 **COPING & RAILING WORKS :**

IRR-CCDW-5-1 Providing and **fixing 10 cm thick roughly dressed burnt stone slabs for coping** set in **CM 1: 6** proportion by volume with pointing to joints in CM 1 : 3 proportion by volume including cost of all materials, machinery, labour, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**
(Cement content: 7.5 kg / sqm, FA : 0.030 cum/sqm, Burnt stone slab 10 cm thick 1.05 sqm/ sqm)

DATA: **RATE ANALYSIS** UNIT : **10.00** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	75.00000	4.22	316.50
2	Sand (Screened)	cum	0.30000	128.00	38.40
3	Burnt stone slab 10 cm thick	sqm	10.50000	396.00	4158.00
			Total cost of Materials	Rs:	**4512.90**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
	(Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	1.00000	730.00	730.00
2	Stone chiseller Cl- II	Day	1.00000	730.00	730.00
3	work inspector	Day	0.50000	920.00	460.00
4	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**3280.00**

labour component/unit qty		328.00
Add contractor's profit and overhead charges	13.615%	44.70
labour component/unit qty (including contractor's profit)		**372.70**

ABSTRACT:

A. Cost of Materials			Rs:	4512.90
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	3280.00
		Total	Rs:	7792.90
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1061
Total cost for	10.00 sqm		Rs:	**8853.9**
Rate per sqm	(A+B+C+D)/10.0		Rs.	**885.39**

IRR-CCDW-5-2 Providing and **fixing 10 cm thick one line dressed burnt stone slabs for coping** set in **CM 1: 6** proportion by volume with pointing to joints in CM 1 : 3 proportion by volume including cost of all materials, machinery, labour, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**
(Cement content: 7.5 kg / sqm, FA : 0.030 cum/sqm, Burnt stone slab 10 cm thick 1.05 sqm/ sqm)

DATA: **RATE ANALYSIS** UNIT : **10.00** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	75.00000	4.22	316.50
2	Sand (Screened)	cum	0.30000	128.00	38.40
3	Burnt stone slab 10 cm thick	sqm	10.50000	396.00	4158.00
			Total cost of Materials	Rs:	**4512.90**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
	(Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	1.00000	730.00	730.00
2	Stone chiseller Cl- I	Day	4.00000	830.00	3320.00
3	work inspector	Day	0.50000	920.00	460.00
4	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**5870.00**

labour component/unit qty		587.00
Add contractor's profit and overhead charges	13.615%	79.90
labour component/unit qty (including contractor's profit)		**666.90**

ABSTRACT:

A. Cost of Materials			Rs:	4512.90
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	5870.00
		Total	Rs:	10382.90
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1413.63
Total cost for	10.00 sqm		Rs:	**11796.53**
Rate per sqm	(A+B+C+D)/10.0		Rs.	**1179.65**

IRR-CCDW-5-3 Providing and **fixing 10 cm thick two line dressed burnt stone slabs for coping** set in **CM 1: 6** proportion by volume with pointing to joints in CM 1 : 3 proportion by volume including cost of all materials, machinery, labour, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**
(Cement content: 7.5 kg / sqm, FA : 0.030 cum/sqm, Burnt stone slab 10 cm thick 1.05 sqm/ sqm)

DATA: **RATE ANALYSIS** UNIT : **10.00** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	75.00000	4.22	316.50
2	Sand (Screened)	cum	0.30000	128.00	38.40
3	Burnt stone slab 10 cm thick	sqm	10.50000	396.00	4158.00
			Total cost of Materials	Rs:	**4512.90**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00000	0.00	0.00
	(Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	1.00000	730.00	730.00
2	Stone chiseller Cl-I	Day	8.00000	830.00	6640.00
3	work inspector	Day	0.50000	920.00	460.00
4	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**9190.00**

labour component/unit qty		919.00
Add contractor's profit and overhead charges	13.615%	125.10
labour component/unit qty (including contractor's profit)		**1044.10**

ABSTRACT:

A. Cost of Materials			Rs:	4512.90
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	9190.00
		Total	Rs:	13702.90
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1865.65
Total cost for	10.00 sqm		Rs:	**15568.55**
Rate per sqm	(A+B+C+D)/10.0		Rs.	**1556.86**

IRR-CCDW-5-4 Providing and **laying insitu M-15** (28 days cube compressive strength not less than 15 N / sqmm) grade cement concrete using **20 mm down size** approved clean, hard, graded aggregates for coping slab including cost of all materials, machinery, labour, formwork, cleaning surface, batching, mixing, placing in position, levelling, compacting, finishing, curing **etc., complete with initial lead upto 50 m and initial lift upto 3 m.**
(Cement content: 300 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)

DATA: **RATE ANALYSIS** UNIT : **14.67** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	4401.00000	4.22	18572.22
	Cement for incidentals @ 5 kg / cum	kg	73.35000	4.22	309.54
2	Coarse aggregate 20-10 mm	cum	7.62840	1635.00	12472.43
	Coarse aggregate 10 mm below	cum	4.10760	1190.00	4888.04
3	Fine aggregate (Un-Screened)	cum	6.60150	0.00	0.00
4	Super Plasticizer	kg	17.60400	64.00	1126.66
5	Use rate of shuttering	sqm	80.68500	321.62	25949.91
6	Sundries	sqm	1.00000	42.00	42.00
			Total cost of Materials	Rs:	**63360.80**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00000	55.40	443.20
	Fuel / Energy charges	Hour	8.00000	144.33	1154.64
2	5 hp pump (diesel)	Hour	0.50000	10.73	5.37
	Fuel / Energy charges	Hour	0.50000	144.33	72.17
3	Water tanker 8000 ltr	Hour	1.00000	458.01	458.01
	Fuel / Energy charges	Hour	1.00000	545.53	545.53
			Total hire charges of Machinery	Rs:	**2678.92**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00000	403.00	3224.00
2	Crew for Pump	Hour	0.50000	204.67	102.34
3	Crew for Water tanker	Hour	1.00000	316.88	316.88
4	Mason Class-I	Day	1.00000	840.00	840.00
5	work inspector	Day	1.00000	920.00	920.00
6	mazdoor				
	for batching materials	Day	11.00000	680.00	7480.00
	for loading mortar pans	Day	4.00000	680.00	2720.00
	for laying and tamping	Day	3.00000	680.00	2040.00
	for conveying concrete	Day	14.67000	680.00	9975.60
	for cleaning/ washing/ curing	Day	1.00000	680.00	680.00
7	Labour cost for shuttering/scaffolding	sqm	80.68500	167.70	13530.87
			Total cost of Labour	Rs:	**41829.69**

labour component/unit qty		2851.40
Add contractor's profit and overhead charges	13.615%	388.20
labour component/unit qty (including contractor's profit)		**3239.60**

ABSTRACT:

A. Cost of Materials			Rs:	63360.80
B. Hire charges of Machinery			Rs:	2678.92
C. Cost of Labour			Rs:	41829.69
		Total	Rs:	107869.41
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	14686.42
Total cost for	14.67 cum		Rs:	**122555.83**
Rate per cum	(A+B+C+D)/14.67		Rs.	**8354.18**

IRR-CCDW-5-5 Providing and **constructing protective railing** consisting of in-situ railing posts of size 15 x 15 cm at bottom, 10 x 10 cm at top and 75 cm height at 2 m centre to centre in **M-20** grade concrete using **20 mm down size** graded aggregates and with each post reinforced by 4 Nos. of 8 mm dia main bars embedded in kerb concrete for a depth of 40 cm and 5 Nos. of 6 mm dia. stirrups including fixing 3 rows of 40 mm dia. GI pipes with one coat of red oxide primer and two coats of synthetic enamel paint, cost of all materials, machinery, labour, formwork, finishing, curing etc., complete **with lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **10.00** Rm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	30.00000	4.22	126.60
2	20-10 mm coarse aggregate	cum	0.04000	1635.00	65.40
3	10-4.75 mm coarse aggregate	cum	0.02000	1190.00	23.80
4	Fine aggregate (Un-Screened)	cum	0.04000	0.00	0.00
5	Reinforcement steel	kg	16.390240	55.00	901.46
6	40 mm dia GI pipes B class	Rm	30.00000	220.00	6600.00
7	Use rate of shuttering	sqm	3.00000	321.62	964.86
8	Sundries (paints/ binding wire etc)	LS	4.00000	42.00	168.00
			Total cost of Materials	Rs:	**8850.12**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Class I	Day	0.50000	840.00	420.00
2	Bar bender	Day	0.50000	990.00	495.00
3	work inspector	Day	0.50000	920.00	460.00
4	mazdoor	Day	1.50000	680.00	1020.00
5	Painter Cl- II	Day	0.50000	730.00	365.00
6	Fitter shuttering	Day	0.50000	730.00	365.00
			Total cost of Labour	Rs:	**3125.00**

labour component/unit qty		312.50
Add contractor's profit and overhead charges	13.615%	42.50
labour component/unit qty (including contractor's profit)		**355.00**

ABSTRACT:

A. Cost of Materials			Rs:	8850.12
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	3125.00
		Total	Rs:	11975.12
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1630.41
Total cost for	10.00 Rm		Rs:	**13605.53**
Rate per Rm	(A+B+C+D)/10.0		Rs.	**1360.55**

IRR-CCDW-6 **HUME PIPE LAYING & JOINTING WORKS :**

IRR-CCDW-6-1 Laying and **jointing 300 mm dia. NP- 2 class or IRC standard hume pipes** in **CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**
(Cement content: 9.9 kg / joint, FA : 0.01cum/joint, Hemp Yarn : 0.091kg/joint)

DATA: **RATE ANALYSIS** UNIT : **10.00** Joints

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	99.00000	4.22	417.78
2	Sand (Screened)	cum	0.10000	128.00	12.80
3	Hemp yarn	kg	0.91000	86.00	78.26
			Total cost of Materials	Rs:	**508.84**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
	(Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	2.00000	730.00	1460.00
2	work inspector	Day	1.00000	920.00	920.00
3	mazdoor	Day	3.00000	680.00	2040.00
			Total cost of Labour	Rs:	**4420.00**

labour component/unit qty		442.00
Add contractor's profit and overhead charges	13.615%	60.20
labour component/unit qty (including contractor's profit)		**502.20**

ABSTRACT:

A. Cost of Materials			Rs:	508.84
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	4420.00
		Total	Rs:	4928.84
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	671.06
Total cost for	10.00 Joints		Rs:	**5599.9**
Rate per joint	(A+B+C+D)/10.0		Rs.	**559.99**

Note: (1) For NP3 Class - 10% extra over the rates of NP2 Class
(2) For NP4 Class - 20% extra over the rates of NP2 Class

IRR-CCDW-6-2 Laying and **jointing 450 mm dia. NP- 2 class or IRC standard hume pipes** in **CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**
(Cement content: 17.4 kg / joint, FA : 0.022cum/joint, Hemp Yarn : 0.127kg/joint)

DATA: **RATE ANALYSIS** UNIT : **10.00** Joints

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	174.00000	4.22	734.28
2	Sand (Screened)	cum	0.22000	128.00	28.16
3	Hemp yarn	kg	1.27000	86.00	109.22
			Total cost of Materials	Rs:	**871.66**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
	(Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	2.00000	730.00	1460.00
2	work inspector	Day	1.00000	920.00	920.00
3	mazdoor	Day	3.00000	680.00	2040.00
			Total cost of Labour	Rs:	**4420.00**

labour component/unit qty		442.00
Add contractor's profit and overhead charges	13.615%	60.20
labour component/unit qty (including contractor's profit)		**502.20**

ABSTRACT:

A. Cost of Materials			Rs:	871.66
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	4420.00
		Total	Rs:	5291.66
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	720.46
Total cost for	10.00 Joints		Rs:	**6012.12**
Rate per joint	(A+B+C+D)/10.0		Rs.	**601.21**

Note: (1) For NP3 Class - 10% extra over the rates of NP2 Class
(2) For NP4 Class - 20% extra over the rates of NP2 Class

IRR-CCDW-6-3 Laying and **jointing 600 mm dia. NP- 2 class or IRC standard hume pipes in CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**
(Cement content: 24.8 kg / joint, FA : 0.025cum/joint, Hemp Yarn : 0.22kg/joint)

DATA: **RATE ANALYSIS** UNIT : **10.00** Joints

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	248.00000	4.22	1046.56
2	Sand (Screened)	cum	0.25000	128.00	32.00
3	Hemp yarn	kg	2.20000	86.00	189.20
			Total cost of Materials	Rs:	**1267.76**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
	(Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	2.50000	730.00	1825.00
2	work inspector	Day	1.00000	920.00	920.00
3	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**5465.00**

labour component/unit qty		546.50
Add contractor's profit and overhead charges	13.615%	74.40
labour component/unit qty (including contractor's profit)		**620.90**

ABSTRACT:

A. Cost of Materials			Rs:	1267.76
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	5465.00
		Total	Rs:	6732.76
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	916.67
Total cost for	10.00 Joints		Rs:	**7649.43**
Rate per joint	(A+B+C+D)/10.0		Rs.	**764.94**

Note: (1) For NP3 Class - 10% extra over the rates of NP2 Class
(2) For NP4 Class - 20% extra over the rates of NP2 Class

IRR-CCDW-6-4 Laying and **jointing 700 mm dia. NP- 2 class or IRC standard hume pipes in CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**
(Cement content: 32.1 kg / joint, FA : 0.031cum/joint, Hemp Yarn : 0.25kg/joint)

DATA: **RATE ANALYSIS** UNIT : **10.00** Joints

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	321.00000	4.22	1354.62
2	Sand (Screened)	cum	0.31000	128.00	39.68
3	Hemp yarn	kg	2.50000	86.00	215.00
			Total cost of Materials	Rs:	**1609.30**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
	(Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	2.50000	730.00	1825.00
2	work inspector	Day	1.00000	920.00	920.00
3	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**5465.00**

labour component/unit qty		546.50
Add contractor's profit and overhead charges	13.615%	74.40
labour component/unit qty (including contractor's profit)		**620.90**

ABSTRACT:

A. Cost of Materials			Rs:	1609.30
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	5465.00
		Total	Rs:	7074.30
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	963.17
Total cost for	10.00 Joints		Rs:	**8037.47**
Rate per joint	(A+B+C+D)/10.0		Rs.	**803.75**

Note: (1) For NP3 Class - 10% extra over the rates of NP2 Class
(2) For NP4 Class - 20% extra over the rates of NP2 Class

IRR-CCDW-6-5 Laying and **jointing 800 mm dia. NP- 2 class or IRC standard hume pipes in CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**
(Cement content: 39.6 kg / joint, FA : 0.039cum/joint, Hemp Yarn : 0.31kg/joint)

DATA: **RATE ANALYSIS** UNIT : **10.00** Joints

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	396.00000	4.22	1671.12
2	Sand (Screened)	cum	0.39000	128.00	49.92
3	Hemp yarn	kg	3.10000	86.00	266.60
			Total cost of Materials	Rs:	**1987.64**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
	(Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	3.00000	730.00	2190.00
2	work inspector	Day	1.00000	920.00	920.00
3	mazdoor	Day	5.00000	680.00	3400.00
			Total cost of Labour	Rs:	**6510.00**

labour component/unit qty		651.00
Add contractor's profit and overhead charges	13.615%	88.60
labour component/unit qty (including contractor's profit)		**739.60**

ABSTRACT:

A. Cost of Materials			Rs:	1987.64
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	6510.00
		Total	Rs:	8497.64
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1156.95
Total cost for	10.00 Joints		Rs:	**9654.59**
Rate per joint	(A+B+C+D)/10.0		Rs.	**965.46**

Note: (1) For NP3 Class - 10% extra over the rates of NP2 Class
(2) For NP4 Class - 20% extra over the rates of NP2 Class

IRR-CCDW-6-6 Laying and **jointing 900 mm dia. NP- 2 class or IRC standard hume pipes in CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**
(Cement content: 44.6 kg / joint, FA : 0.045cum/joint, Hemp Yarn : 0.34kg/joint)

DATA: Consider 10 joints for analysis.
Cement : 446 kg Sand : 0.45 cum
Hemp yarn : 3.40 kg
3 Masons & 4 mazdoors considered for 10 joints.
1mazdoor for curing @ daily 1 hour for one week.

DATA: **RATE ANALYSIS** UNIT : **10.00** Joints

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	446.00000	4.22	1882.12
2	Sand (Screened)	cum	0.45000	128.00	57.60
3	Hemp yarn	kg	3.40000	86.00	292.40
			Total cost of Materials	Rs:	**2232.12**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.000000	0.00	0.00
	(Manual mixing)		0.000000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	3.00000	730.00	2190.00
2	work inspector	Day	1.00000	920.00	920.00
3	mazdoor	Day	5.00000	680.00	3400.00
			Total cost of Labour	Rs:	**6510.00**

labour component/unit qty		651.00
Add contractor's profit and overhead charges	13.615%	88.60
labour component/unit qty (including contractor's profit)		**739.60**

ABSTRACT:

A. Cost of Materials			Rs:	2232.12
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	6510.00
		Total	Rs:	8742.12
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1190.24
Total cost for	10.00 Joints		Rs:	**9932.36**
Rate per joint	(A+B+C+D)/10.0		Rs.	**993.24**

Note: (1) For NP3 Class - 10% extra over the rates of NP2 Class
(2) For NP4 Class - 20% extra over the rates of NP2 Class

IRR-CCDW-6-7 Laying and **jointing 1000 mm dia. NP- 2 class or IRC standard hume pipes in CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**
(Cement content: 49.5 kg / joint, FA : 0.05cum/joint, Hemp Yarn : 0.377kg/joint)

DATA: **RATE ANALYSIS** UNIT : **10.00** Joints

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	495.00000	4.22	2088.90
2	Sand (Screened)	cum	0.50000	128.00	64.00
3	Hemp yarn	kg	3.77000	86.00	324.22
			Total cost of Materials	Rs:	**2477.12**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1.00000	Nill		0.00000	0.00	0.00
	(Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	3.00000	730.00	2190.00
2	work inspector	Day	1.00000	920.00	920.00
3	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**7190.00**

labour component/unit qty		719.00
Add contractor's profit and overhead charges	13.615%	97.90
labour component/unit qty (including contractor's profit)		**816.90**

ABSTRACT:

A. Cost of Materials			Rs:	2477.12
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	7190.00
		Total	Rs:	9667.12
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1316.18
Total cost for	10.00 Joints		Rs:	**10983.3**
Rate per joint	(A+B+C+D)/10.0		Rs.	**1098.33**

Note: (1) For NP3 Class - 10% extra over the rates of NP2 Class
(2) For NP4 Class - 20% extra over the rates of NP2 Class

IRR-CCDW-6-8 Laying and **jointing 1100 mm dia. NP- 2 class or IRC standard hume pipes in CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**
(Cement content: 56.9 kg / joint, FA : 0.058cum/joint, Hemp Yarn : 0.415kg/joint)

DATA: **RATE ANALYSIS** UNIT : **10.00** Joints

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	569.00000	4.22	2401.18
2	Sand (Screened)	cum	0.58000	128.00	74.24
3	Hemp yarn	kg	4.15000	86.00	356.90
			Total cost of Materials	Rs:	**2832.32**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
	(Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	3.00000	730.00	2190.00
2	work inspector	Day	1.00000	920.00	920.00
3	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**7190.00**

labour component/unit qty		719.00
Add contractor's profit and overhead charges	13.615%	97.90
labour component/unit qty (including contractor's profit)		**816.90**

ABSTRACT:

A. Cost of Materials			Rs:	2832.32
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	7190.00
		Total	Rs:	10022.32
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1364.54
Total cost for	10.00 Joints		Rs:	**11386.86**
Rate per joint	(A+B+C+D)/10.0		Rs.	**1138.69**

Note: (1) For NP3 Class - 10% extra over the rates of NP2 Class
(2) For NP4 Class - 20% extra over the rates of NP2 Class

IRR-CCDW-6-9 Laying and **jointing 1200 mm dia. NP- 2 class or IRC standard hume pipes in CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**
(Cement content: 66.8 kg / joint, FA : 0.069cum/joint, Hemp Yarn : 0.453kg/joint)

DATA: **RATE ANALYSIS** UNIT : **10.00** Joints

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	668.00000	4.22	2818.96
2	Sand (Screened)	cum	0.69000	128.00	88.32
3	Hemp yarn	kg	4.53000	86.00	389.58
			Total cost of Materials	Rs:	**3296.86**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
	(Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	4.00000	730.00	2920.00
2	work inspector	Day	1.00000	920.00	920.00
3	mazdoor	Day	7.00000	680.00	4760.00
			Total cost of Labour	Rs:	**8600.00**

labour component/unit qty		860.00
Add contractor's profit and overhead charges	13.615%	117.10
labour component/unit qty (including contractor's profit)		**977.10**

ABSTRACT:

A. Cost of Materials			Rs:	3296.86
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	8600.00
		Total	Rs:	11896.86
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1619.76
Total cost for	10.00 Joints		Rs:	**13516.62**
Rate per joint	(A+B+C+D)/10.0		Rs.	**1351.66**

Note: (1) For NP3 Class - 10% extra over the rates of NP2 Class
(2) For NP4 Class - 20% extra over the rates of NP2 Class

IRR-CCDW-7 **BACK FILLING & OTHER WORKS :**

IRR-CCDW-7-1 **Providing rubble / boulder and sand filling behind abutment and return walls** in layers including cost of all materials, machinery, labour, watering, ramming etc., complete with initial **lead upto 50 m and initial lift upto 3 m.**

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rubble / Boulder	cum	10.00000	424.00	4240.00
2	Sand for filling	cum	4.00000	0.00	0.00
			Total cost of Materials	Rs:	**4240.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
	(Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.50000	920.00	460.00
2	Mason Cl II	Day	1.00000	730.00	730.00
3	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**3910.00**

labour component/unit qty		391.00
Add contractor's profit and overhead charges	13.615%	53.20
labour component/unit qty (including contractor's profit)		**444.20**

ABSTRACT:

A. Cost of Materials			Rs:	4240.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	3910.00
		Total	Rs:	8150.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1109.62
Total cost for	10.00 cum		Rs:	**9259.62**
Rate per cum	(A+B+C+D)/10.0		Rs.	**925.96**

IRR-CCDW-7-2 Providing and **filling murrum / gravely soil (CNS soil) for foundation or around pipes** including breaking clods, spreading **in layers of 10 to 15 cm**, watering, compaction by earth masters to achieve density control of **not less than 95 percent** etc., complete with lead **upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Murum	cum	12.00000	258.00	3096.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**3096.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cartman with double bullock cart	Day	0.50000	810.00	405.00
2	work inspector	Day	0.50000	920.00	460.00
3	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**4945.00**

labour component/unit qty		494.50
Add contractor's profit and overhead charges	13.615%	67.30
labour component/unit qty (including contractor's profit)		**561.80**

ABSTRACT:

A. Cost of Materials			Rs:	3096.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	4945.00
		Total	Rs:	8041.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1094.78
Total cost for	10.00 cum		Rs:	**9135.78**
Rate per cum	(A+B+C+D)/10.0		Rs.	**913.58**

IRR-CCDW-7-3 Providing and **filling murum / gravely soil (CNS soil) for foundation or above pipes** including breaking clods, spreading in **layers of 10 to 15 cm**, watering, compaction by power roller to achieve density control of **not less than 98 percent** etc., complete with lead upto **50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Murum	cum	12.00000	258.00	3096.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**3096.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Diesel road roller 8-10 tonne	Hour	0.17065	194.64	33.22
	Fuel / Energy charges	Hour	0.17065	1298.88	221.65
			Total hire charges of Machinery	Rs:	**254.87**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Operator road roller	Hour	0.17065	394.37	67.30
2	Cartman with double bullock cart	Day	0.50000	810.00	405.00
3	work inspector	Day	0.50000	920.00	460.00
4	mazdoor	Day	1.50000	680.00	1020.00
			Total cost of Labour	Rs:	**1952.30**

labour component/unit qty		195.20
Add contractor's profit and overhead charges	13.615%	26.60
labour component/unit qty (including contractor's profit)		**221.80**

ABSTRACT:

A. Cost of Materials			Rs:	3096.00
B. Hire charges of Machinery			Rs:	254.87
C. Cost of Labour			Rs:	1952.30
		Total	Rs:	5303.17
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	722.03
Total cost for	10.00 cum		Rs:	**6025.20**
Rate per cum	(A+B+C+D)/10.0		Rs.	**602.52**

IRR-CCDW-7-4 Providing and **fixing one line dressed 111x35x25 cm thick IRC standard kilometre stone** in **cement concrete M-10** grade with **40 mm down size** aggregates including excavating pit of size 70x45x40 cm, embedding the stone by 30 cm in concrete, providing 2 coats synthetic enamel paint of approved quality and colour to exposed surfaces and lettering as directed, cost of all materials, labour, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **4** Nos.

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	One line dressed Km stone	No.	4.00000	653.00	2612.00
2	40-20 mm coarse aggregate	cum	0.20000	1562.00	312.40
3	20-10 mm coarse aggregate	cum	0.15000	1635.00	245.25
4	10-4.75 mm coarse aggregate	cum	0.10000	1190.00	119.00
5	Sand (Un-Screened)	cum	0.20000	0.00	0.00
6	Cement	kg	100.00000	4.22	422.00
7	Synthetic enamel paint I st quality	ltr	1.00000	255.00	255.00
8	Sundries (brush / oil etc)	LS	4.00000	42.00	168.00
			Total cost of Materials	Rs:	**4133.65**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
	(Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	1.00000	730.00	730.00
2	work inspector	Day	1.00000	920.00	920.00
3	mazdoor	Day	1.00000	680.00	680.00
4	Painter Cl- I	Day	1.00000	935.00	935.00
			Total cost of Labour	Rs:	**3265.00**

labour component/unit qty		816.30
Add contractor's profit and overhead charges	13.615%	111.10
labour component/unit qty (including contractor's profit)		**927.40**

ABSTRACT:

A. Cost of Materials			Rs:	4133.65
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	3265.00
		Total	Rs:	7398.65
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1007.33
Total cost for	4.00 Nos.		Rs:	**8405.98**
Rate per No.	(A+B+C+D)/4.0		Rs.	**2101.50**

IRR-CCDW-7-5 Providing and **fixing one line dressed 65x15x10 cm thick IRC standard hectometre stone** in **cement concrete M-10** grade with **40 mm down size** aggregates including excavating pit of size 50x45x40 cm, embedding the stone by 30 cm in concrete, providing 2 coats synthetic enamel paint of approved quality and colour to exposed surfaces and lettering as directed, cost of all materials, labour, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **4** Nos.

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	One line dressed hectometre stone	No.	4.00000	370.00	1480.00
2	40-20 mm coarse aggregate	cum	0.20000	1562.00	312.40
3	20-10 mm coarse aggregate	cum	0.15000	1635.00	245.25
4	10-4.75 mm coarse aggregate	cum	0.10000	1190.00	119.00
5	Sand (Un-Screened)	cum	0.20000	0.00	0.00
6	Cement	kg	100.00000	4.22	422.00
7	Synthetic enamel paint I st quality	ltr	0.40000	255.00	102.00
8	Sundries (brush / oil etc)	LS	1.00000	42.00	42.00
			Total cost of Materials	Rs:	**2722.65**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
	(Manual mixing)		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	1.00000	730.00	730.00
2	work inspector	Day	1.00000	920.00	920.00
3	mazdoor	Day	1.00000	680.00	680.00
4	Painter Cl- I	Day	0.50000	935.00	467.50
			Total cost of Labour	Rs:	**2797.50**

labour component/unit qty		699.40	
Add contractor's profit and overhead charges	13.615%	95.20	
labour component/unit qty (including contractor's profit)		**794.60**	

ABSTRACT:

A. Cost of Materials			Rs:	2722.65
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2797.50
		Total	Rs:	5520.15
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	751.57
Total cost for	4.00 Nos.		Rs:	**6271.72**
Rate per No.	(A+B+C+D)/4.0		Rs.	**1567.93**

CHAPTER-V

HYDRAULIC GATES AND ALLIED EQUIPMENT - Standard Data

(WILL BE WITH E-N-C & TO INCORPORATE CHANGES YEARLY/ AS NEEDED)

FOR THE YEAR : 2026-27

Index - Code IRR-GAW	GATE HOIST AND ALLIED WORKS - DATA RATES
1	All materials / bought out components for embedded parts, gates, hoists and allied works shall conform to relevant Indian standards / technical specifications and approved drawings.
2	The basic rates are EXCLUSIVEof preparation of designs / drawings / material schedules etc., as per specifications and other technical data including revisions. If designs &drawings are to be done by private agency 2% of estimated cost be added
3	The basic rates are inclusive of cost of all materials, machinery, labour, fabrication, erection, commissioning and testing of gates, hoists and other related components as per technical specifications.
4	The basic rates are inclusive of finishing, wastage of materials , incidental works, temperary supports, all enabling works, profit, overheads, small tools / plants, hidden cost on labour etc.
5	The basic rates are inclusive of duties (excise), levies and all other incidental charges but exclusive of GST. Separate provision shall be made in the estimate towards such tax on works contract at the rate prevailing at the time of preparation of estimate.
6	The basic rates are inclusive of all leads and lifts including rehandling.
7	no provision is made for stitch welding and it is part of welding work
8	The basic rates are inclusive of preparatory works such as rectification of damages, repairing shop painting, cleaning, positioning and anchoring first stage embedments,
9	The basic rates are not inclusive of painting with or without sand blasting,and are to be added to the rate as perschedule rates formulated in the same chapter as per applicability and specifications
10	The basic rates are exclusive of cost of river diversion arrangements, dewatering, desilting ,secondary concreting of EM parts etc., which form part of civil works.
11	DESIGNS AND DRAWING CHARGES AT 2% BE ADDED EXTRA TO THE ESTIMATES, IF CONTRACTOR'S SCOPE OF WORK INVOLVES DESIGNS COMPONENT ALSO
12	Add AREA ALLOWANCES AS APPLICABLE ON LABOUR COMPONENT ONLY (SHOWN UNDER EACH ITEM)
13	Add contractors profit and overheads at 13.615% to all items
14	Painting Charges added extra to the data items as per applicability wherver necessary
15	HOIST EQUIPMENT1.-where sand blasting is not possible, hand and power tool cleaning be adopted - Guidance may be taken from Mechanical workshop in this regard 2. Machined surfaces should not be painted 3. for maintenance unless sand blasting is essential hand and power tool cleaning be adopted
16	Painting of Hoast Gates is to be done as per IS 14177:1994

DATA and RATES --- GATE / HOIST AND ALLIED WORKS -
(STORED WITH E-N-C &TO INCORPORATE CHANGES YEARLY / AS NEEDED)

GAW - Work Items

Index- code

IRR-GAW **TYPES OF GATES:**

IRR-GAW-1 **A. SPILLWAY RADIAL GATES**

IRR-GAW-1-1 **E.M Parts and anchorages**

fabrication, supply, erection, testing and **commissioning of Embedded parts for radial gate** consists of sill beam, wall plates, anchor girders , yoke girders, tie flats, trunnion supports etc., including cost of all materials, machinery, labour, welding, finishing, with leads and lifts &all accessories **(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under itemsinthis chapter and add as applicable separately)**

Drawing no. MD/CDO/VRSP/90-92/85-86 (Vengalaraya Sagar - Gomukhi Project)

Vent Size: 12.00 X 6.6 Mtrs

DATA: **RATE ANALYSIS** UNIT : **15.300** tonne

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Str steel angle / beam / channel / bars	kg	3467.00000	56.00	194152.00
2	Structural steel plate	kg	11261.00000	61.00	686921.00
3	Stainless steel plate / flats	kg	515.00000	279.00	143685.00
4	MS bolts and nuts	kg	48.00000	98.00	4704.00
5	Oxygen gas	cum	158.00000	47.00	7426.00
6	Acetyline gas	cum	53.00000	385.00	20405.00
7	Welding electrodes	Nos	11520.00000	17.00	195840.00
8	Welding electrodes (LH)	Nos	2880.00000	22.00	63360.00
9	Welding electrodes (stainless steel)	Nos	1160.00000	28.00	32480.00
10	Use rate welding holder set	Hour	1945.00000	9.09	17680.05
11	Use rate gas cutting torch set	Hour	158.00000	25.60	4044.80
12	Sundries	LS	100.00000	42.00	4200.00
			Total cost of Materials	Rs:	**1374897.85**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	1945.00000	17.57	34173.65
	Fuel / Energy charges	Hour	1945.00000	101.52	197456.40
2	Tower crane/heavy duty tyre mounted crane	Hour	16.00000	870.74	13931.84
	Fuel / Energy charges	Hour	16.00000	219.95	3519.20
3	Plate shearing machine	Hour	16.00000	47.53	760.48
	Fuel / Energy charges	Hour	16.00000	169.19	2707.04
4	Pug cutting machine	Hour	76.00000	6.86	521.36
	Fuel / Energy charges	Hour	76.00000	4.22	320.72
5	Mobile crane 16 Tonnes	Hour	22.00000	2320.41	51049.02
	Fuel / Energy charges	Hour	22.00000	1894.20	41672.40
6	Stationery derric crane	Hour	64.00000	87.64	5608.96
	Fuel / Energy charges	Hour	64.00000	0.00	0.00
7	Grinding machine	Hour	30.00000	24.32	729.60
	Fuel / Energy charges	Hour	30.00000	42.30	1269.00
8	Drilling machines	Hour	30.00000	24.32	729.60
	Fuel / Energy charges	Hour	30.00000	42.30	1269.00
9	Planing machine	Hour	100.00000	133.17	13317.00
	Fuel / Energy charges	Hour	100.00000	126.90	12690.00
10	Bending Machine	Hour	30.00000	44.50	1335.00
	Fuel / Energy charges	Hour	30.00000	126.90	3807.00
11	Sundries	LS	100.00000	42.00	4200.00
			Total hire charges of Machinery	Rs:	**391067.27**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Tower crane	Hour	16.00000	344.24	5507.84
2	Crew for Mobile crane 16 T	Hour	22.00000	959.71	21113.62
3	Crew for Shearing machine	Hour	16.00000	258.18	4130.88
4	Crew for Planing machine	Hour	100.00000	386.88	38688.00
5	Crew for Drilling machine	Hour	30.00000	360.75	10822.50
6	Crew for Grinding machine	Hour	30.00000	360.75	10822.50
7	Crew for Bending machine		30.00000	241.80	7254.00
8	Foreman	Day	15.00000	925.00	13875.00
9	Marker / Fabricator / Erector	Day	75.00000	990.00	74250.00
10	Gas cutter	Day	20.00000	820.00	16400.00
11	Welder (General)	Day	212.00000	820.00	173840.00
12	Welder (X - ray)	Day	48.00000	925.00	44400.00
13	Khalasi	Day	345.00000	820.00	282900.00
14	Helper fabrication / erection	Day	255.00000	730.00	186150.00
15	Electrician	Day	5.00000	930.00	4650.00
			Total cost of Labour	Rs:	**894804.34**
Add towards highly skilled labour charges @ 30% on total cost of labour					**268441.30**
Total Cost of Labour					**1163245.64**

labour component/unit qty		76029.10	
Add contractor's profit and overhead charges	13.615%	10351.40	
labour component/unit qty (including contractor's profit)		**86380.50**	

ABSTRACT:

A. Cost of Materials				Rs:	1374897.85
B. Hire charges of Machinery				Rs:	391067.27
C. Cost of Labour				Rs:	1163245.64
			Total	Rs:	2929210.76
D.Add for excise duty			0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	2929210.76
E. Add for transportation upto work site @			3%	Rs:	87876.32
		Total		Rs:	3017087.08
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	410776.41
Add 2 leads					
Add 1 km lead charges for fabricated parts			27.88000 per tonne		853.12
Unloading charges of fabricated parts Rs			127.51 per tonne		3901.80
Total cost for	15.300	tonne		Rs:	3432618.41
	Rate per	**tonne**		Rs:	**224354.14**

RADIAL GATES

A-2 Gates

IRR-GAW-1-2 fabrication, supply, erection, testing and **commissioning of radial gate** consisting of skin plate, stiffeners, horizontal girders, radial arms, trunnion assemblies, tie beam, pulley supports, bracings, rubber seals, clamps etc., with all accessories **for spillway/canals** including cost of all materials, machinery, labour, seal fixing etc., complete as per specifications and approved drawings

(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under itemsinthis chapter and add as applicable separately)

Drawing no. MD/CDO/VRSP/170-172/85-86(Vengalaraya Sagar - Gomukhi Project)

Vent Size: 12 X 6.6 M

DATA: **RATE ANALYSIS** UNIT : **29.000** tonne

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel :				
	Angles / beams / channels / bars	kg	9700.00000	56.00	543200.00
	Plates	kg	16850.00000	61.00	1027850.00
2	Cast steel components :				
	Trunnion hubs / Guide rollers	kg	2100.00000	222.00	466200.00
3	Alluminium / Bronze alloy components :				
	Bush for Trunnion / Guide roller	kg	350.00000	1261.00	441350.00
4	Bolt / Nut / Washer :				
	GI bolts / nuts / washers	kg	250.00000	149.00	37250.00
5	Zinc/Babbit Metal	kg	50.00000	210.00	10500.00
6	Rubber seals :				
	Bottom seal	Rm	12.00000	716.00	8592.00
	Side seals (Z - type)	Rm	14.00000	1471.00	20594.00
7	Oxygen gas	cum	228.00000	47.00	10716.00
8	Acetyline gas	cum	76.00000	385.00	29260.00
9	Welding electrodes (std)	Nos	1000.00000	17.00	17000.00
10	Welding electrodes (LH)	Nos	250.00000	22.00	5500.00
11	Use rate welding holder set	Hour	156.00000	9.09	1418.04
12	Use rate gas cutting torch set	Hour	228.00000	25.60	5836.80
13	Sundries	LS	500.00000	42.00	21000.00
			Total cost of Materials	Rs:	**2646266.84**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	156.00000	17.57	2740.92
	Fuel / Energy charges	Hour	156.00000	101.52	15837.12
2	Plate shearing machine	Hour	29.00000	47.53	1378.37
	Fuel / Energy charges	Hour	29.00000	169.19	4906.51
3	Pug cutting machine	Hour	114.00000	6.86	782.04
	Fuel / Energy charges	Hour	114.00000	4.22	481.08
4	Bending machine	Hour	116.00000	44.50	5162.00
	Fuel / Energy charges	Hour	116.00000	126.90	14720.40
5	Tower crane 5 t cpacity	Hour	29.00000	870.74	25251.46
	Fuel / Energy charges	Hour	29.00000	219.95	6378.55
6	Mobile derric crane	Hour	58.00000	555.06	32193.48
	Fuel / Energy charges	Hour	58.00000	545.53	31640.74
7	Stationery derric crane	Hour	58.00000	87.64	5083.12
	Fuel / Energy charges	Hour	58.00000	0.00	0.00
8	Grinding machine	Hour	58.00000	24.32	1410.56
	Fuel / Energy charges	Hour	58.00000	42.30	2453.40
9	Drilling machines	Hour	58.00000	24.32	1410.56
	Fuel / Energy charges	Hour	58.00000	42.30	2453.40
10	Mobile Crane 30 T	Hour	100.00000	3282.18	328218.00
	Fuel / Energy charges	Hour	100.00000	2141.85	214185.00
11	Sundries	LS	500.0000	42.00	21000.00
			Total hire charges of Machinery	Rs:	**717686.71**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane 30T	Hour	100.00000	959.71	95971.00
2	Crew for Tower crane	Hour	29.00000	344.24	9982.96
3	Crew for Bending machine	Hour	116.00000	241.80	28048.80
4	Crew for Drilling machine	Hour	58.00000	360.75	20923.50
5	Crew for Grinding machine	Hour	58.00000	360.75	20923.50
6	Foreman	Day	29.00000	925.00	26825.00
7	Marker / Fabricator / Erector	Day	145.00000	990.00	143550.00
8	Gas cutter	Day	29.00000	820.00	23780.00
9	Welder (General)	Day	17.00000	820.00	13940.00
10	Welder (X - ray)	Day	5.00000	925.00	4625.00
11	Khalasi	Day	493.00000	820.00	404260.00
12	Helper fabrication / erection	Day	667.00000	730.00	486910.00
13	Electrician	Day	15.00000	930.00	13950.00
			Total cost of Labour	Rs:	**1293689.76**
Add towards highly skilled labour charges @ 30% on total cost of labour					**388106.93**
Total Cost of Labour					**1681796.69**

labour component/unit qty		57993.00	
Add contractor's profit and overhead charges	13.615%	7895.70	
labour component/unit qty (including contractor's profit)		**65888.70**	

ABSTRACT:

A. Cost of Materials				Rs:	2646266.84
B. Hire charges of Machinery				Rs:	717686.71
C. Cost of Labour				Rs:	1681796.69
			Total	Rs:	5045750.24
D. Add for excise duty			0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	5045750.24
E. Add for transportation upto work site @			3%	Rs:	151372.51
		Total		Rs:	5197122.75
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	707588.26
Add 2 leads					
Add 1 km lead charges for fabricated parts			27.88 per tonne		1617.04
Unloading charges of fabricated parts Rs			127.51 per tonne		7395.58
Total cost for	29.00000	tonne		Rs:	5913723.63
	Rate per	**tonne**		Rs.	**203921.50**

IRR-GAW-1-3 **RADIAL GATES-ROPE DRUM HOISTS WITH HOIST BRIDGES**

Fabrication, supply, erection, testing and **commissioning of electrically operated rope drum hoist of adequate capacity** consisting of base frames, rope drums,connecting shaft, gear system, brake system, electric motor, wire ropes, gate position indicator, manual operation arrangement etc., with all accessories for spillway radial gate including cost of all materials, machinery, labour,, greasing, providing hand railing and approach staircase with gate to hoist platform, , complete as per specifications and approved drawings

DATA: **RATE ANALYSIS** UNIT : **15.440** tonne wt

A. MATERIALS: **90.00** t capacity

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel				
	Angles / beams / channels / bars	kg	2571.0000	56.00	143976.00
	Plates	kg	3632.0000	61.00	221552.00
2	Cast steel components :				
	Rope drums 2 Nos / Gears 4 Nos	kg	3680.0000	267.00	982560.00
	Pinions	kg	218.0000	258.00	56244.00
	Pulleys 720 PCD 6 Nos	kg	1080.0000	222.00	239760.00
	Plummer blocks / Hubs	kg	322.0000	222.00	71484.00
3	Alloy steel components				
	Shafts	kg	557.0000	256.00	142592.00
	Pins	kg	546.0000	469.00	256074.00
4	Bronze alloy components :				
	Bronze bearings / bush	kg	144.0000	1261.00	181584.00
5	Wire rope 36 mm dia 6/37 construction	kg	448.0000	204.00	91392.00
6	MS Bolt / Nut / Washer	kg	85.0000	98.00	8330.00
7	Worm reducers	No.	1.0000	231700.00	231700.00
8	Electric motor 20 hp	No.	1.0000	126612.00	126612.00
9	Floating shaft 300 mm dia	kg	1000.0000	197.00	197000.00
10	Manual operating system	No.	1.0000	33449.00	33449.00
11	Gate position indicator	No.	1.0000	203570.00	203570.00
12	Ele-magnetic brake	No.	1.0000	33350.00	33350.00
13	Electric cable / switch / control panel etc	LS	1.0000	56310.00	56310.00
14	Oxygen gas	cum	213.0000	47.00	10011.00
15	Acetyline gas	cum	71.0000	385.00	27335.00
16	Welding electrodes	Nos	530.0000	17.00	9010.00
17	Welding electrodes (LH)	Nos	4776.0000	22.00	105072.00
18	Grease	kg	50.0000	298.00	14900.00
19	Use rate welding holder set	Hour	566.0000	9.09	5144.94
20	Use rate gas cutting torch set	Hour	90.0000	25.60	2304.00
21	Sundries (hand rail /staircase / gate e	LS	200.0000	42.00	8400.00
			Total cost of Materials	Rs:	**3459715.94**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	566.0000	17.57	9944.62
	Fuel / Energy charges	Hour	353.0000	101.52	35836.56
2	Tower crane 5 t capacity	Hour	4.0000	870.74	3482.96
	Fuel / Energy charges	Hour	4.0000	219.95	879.80
3	Pug cutting machine	Hour	53.0000	6.86	363.58
	Fuel / Energy charges	Hour	53.0000	4.22	223.66
4	Mobile derric crane	Hour	50.0000	555.06	27753.00
	Fuel / Energy charges	Hour	50.0000	545.53	27276.50
5	Grinding machine	Hour	8.0000	24.32	194.56
	Fuel / Energy charges	Hour	8.0000	42.30	338.40
6	Drilling machines	Hour	16.0000	24.32	389.12
	Fuel / Energy charges	Hour	16.0000	42.30	676.80
7	Sundries	LS	100.0000	42.00	4200.00
			Total hire charges of Machinery	Rs:	**111559.56**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane	Hour	50.0000	316.88	15844.00
2	Crew for Tower crane	Hour	4.0000	344.24	1376.96
3	Crew for Drilling machine	Hour	16.0000	360.75	5772.00
4	Crew for Grinding machine	Hour	8.0000	360.75	2886.00
5	Foreman	Day	35.0000	925.00	32375.00
6	Marker / Fabricator / Erector / Mechanic	Day	58.0000	990.00	57420.00
7	Gas cutter	Day	18.0000	820.00	14760.00
8	Welder (General)	Day	53.0000	820.00	43460.00
9	Khalasi	Day	20.0000	820.00	16400.00
10	Helper fabrication / erection	Day	175.0000	730.00	127750.00
11	Electrician	Day	3.0000	930.00	2790.00
			Total cost of Labour	Rs:	**320833.96**
Add towards highly skilled labour charges @ 30% on total cost of labour					**96250.19**
Total Cost of Labour					**417084.15**

labour component/unit qty		4634.30
Add contractor's profit and overhead charges	13.615%	631.00
labour component/unit qty (including contractor's profit)		**5265.30**

ABSTRACT:

A. Cost of Materials			Rs:	3459715.94
B. Hire charges of Machinery			Rs:	111559.56
C. Cost of Labour			Rs:	417084.15
		Total	Rs:	3988359.65
D. Add for excise duty		0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total	Rs:	3988359.65
E. Add for transportation upto work site @		3%	Rs:	119650.79
		Total	Rs:	4108010.44
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%		Rs:	559305.62
Add 2 leads				
Add 1 km lead charges for fabricated parts		27.88 per tonne		860.94
Unloading charges of fabricated parts Rs		127.51 per tonne		3937.50
Total cost for	15.44	tonne wt	Rs:	4672114.50
Total cost for	90.00	t capacity	Rs:	
	Rate per	tonne wt	Rs:	302598.09
	Rate per	**tonne capacity of hoist**		**51912.38**

IRR-GAW-1-4 **Walk way (cat walk)**

fabrication, supply, erection and **commissioning of 1 metre wide walkway connecting spillway piers / abutments** at trunnion platform level including cost of all materials, machinery, labour, cutting, welding etc, complete as per specifications and approved drawings **(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under itemsinthis chapter and add as applicable separately)**

DATA: **RATE ANALYSIS** UNIT : **5.22** MT

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel				
	Angles / beams / channels / bars	kg	4258.00000	56.00	238448.00
	Plates	kg	98.00000	61.00	5978.00
	Chequered plates	kg	856.00000	70.00	59920.00
2	MS bolts / nuts / washers	kg	8.00000	98.00	784.00
3	Oxygen gas	cum	51.00000	47.00	2397.00
4	Acetyline gas	cum	17.00000	385.00	6545.00
5	Welding electrodes	Nos	1195.00000	17.00	20315.00
6	Use rate welding holder set	Hour	150.00000	9.09	1363.50
7	Use rate gas cutting torch set	Hour	30.00000	25.60	768.00
8	Sundries	LS	10.00000	42.00	420.00
			Total cost of Materials	Rs:	**336938.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	150.00000	17.57	2635.50
	Fuel / Energy charges	Hour	150.00000	101.52	15228.00
2	Tower crane	Hour	6.00000	870.74	5224.44
	Fuel / Energy charges	Hour	6.00000	219.95	1319.70
3	Pug cutting machine	Hour	12.00000	6.86	82.32
	Fuel / Energy charges	Hour	12.00000	4.22	50.64
4	Mobile CRANE 16T	Hour	8.00000	2320.41	18563.28
	Fuel / Energy charges	Hour	8.00000	1894.20	15153.60
5	Grinding machine	Hour	12.00000	24.32	291.84
	Fuel / Energy charges	Hour	12.00000	42.30	507.60
6	Drilling machines	Hour	12.00000	24.32	291.84
	Fuel / Energy charges	Hour	12.00000	42.30	507.60
7	Bending Machine	Hour	10.00000	44.50	445.00
	Fuel / Energy charges	Hour	10.00000	126.90	1269.00
8	Sundries	LS	10.00000	42.00	420.00
			Total hire charges of Machinery	Rs:	**61990.36**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane 16T	Hour	10.00000	959.71	9597.10
2	Crew for Tower crane	Hour	6.00000	344.24	2065.44
3	Crew for Drilling machine	Hour	12.00000	360.75	4329.00
4	Crew for Grinding machine	Hour	12.00000	360.75	4329.00
5	Crew for Bending machine	Hour	10.00000	241.80	2418.00
6	Foreman	Day	6.00000	925.00	5550.00
7	Marker / Fabricator / Erector	Day	25.00000	990.00	24750.00
8	Gas cutter	Day	5.00000	820.00	4100.00
9	Welder (General)	Day	20.00000	820.00	16400.00
10	Helper fabrication / erection	Day	200.00000	730.00	146000.00
11	Electrician	Day	2.00000	930.00	1860.00
			Total cost of Labour	Rs:	**221398.54**

Add towards highly skilled labour charges @ 30% on total cost of labour **66419.56**

Total Cost of Labour **287818.10**

labour component/unit qty		55137.60
Add contractor's profit and overhead charges	13.615%	7507.00
labour component/unit qty (including contractor's profit)		**62644.60**

ABSTRACT:

A. Cost of Materials				Rs:	336938.50
B. Hire charges of Machinery				Rs:	61990.36
C. Cost of Labour				Rs:	287818.10
			Total	Rs:	686746.96
D. Add for excise duty			0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	686746.96
E. Add for transportation upto work site @			3%	Rs:	20602.41
		Total		Rs:	707349.37
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	96305.62
Add 2 leads					
Add 1 km lead charges for fabricated parts			27.88 per tonne		291.06
Unloading charges of fabricated parts Rs.			127.51 per tonne		1331.20
Total cost for	5.22 MT			Rs:	805277.25
	Rate per MT			Rs:	**154267.67**

IRR-GAW-2 **VERTICAL LIFT GATES-EM PARTS**

IRR-GAW-2-1 Design, fabrication, supply, erection and **commissioning of embedded parts** consisting of

sill beam, slide tracks, seal seats, guide rails, dogging sets for storage of stoplog elements

etc., with all accessories for spillway stop log gates and other vertical lift elements including cost of all materials,

machinery, labour, etc., complete as per specifications and approved drawings

(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)

Drawing No. MD/CDO/GNCP/HR/1759,1760/94 (GNSS Project)

Vent Size: 3.6 X 6.1 Mtr

DATA: **RATE ANALYSIS** UNIT : **6.300** tonne

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Str steel angle / beam / channel / bars	kg	1885.00000	56.00	105560.00
2	Structural steel plate	kg	3890.00000	61.00	237290.00
3	Stainless steel plate / flats	kg	271.00000	279.00	75609.00
4	MS bolts and nuts	kg	50.00000	98.00	4900.00
5	Oxygen gas	cum	225.00000	47.00	10575.00
6	Acetyline gas	cum	75.00000	385.00	28875.00
7	Welding electrodes	Nos	1410.00000	17.00	23970.00
8	Welding electrodes (LH)	Nos	350.00000	22.00	7700.00
9	Welding electrodes (stainless steel)	Nos	1320.00000	28.00	36960.00
10	Use rate welding holder set	Hour	385.00000	9.09	3499.65
11	Use rate gas cutting torch set	Hour	225.00000	25.60	5760.00
12	Sundries	LS	40.00000	42.00	1680.00
			Total cost of Materials	Rs:	**542378.65**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	385.00000	17.57	6764.45
	Fuel / Energy charges	Hour	385.00000	101.52	39085.20
2	Plate shearing machine	Hour	8.00000	47.53	380.24
	Fuel / Energy charges	Hour	8.00000	169.19	1353.52
3	Pug cutting machine	Hour	110.00000	6.86	754.60
	Fuel / Energy charges	Hour	110.00000	4.22	464.20
4	Planing machine	Hour	270.00000	133.17	35955.90
	Fuel / Energy charges	Hour	270.00000	126.90	34263.00
5	Mobile Crane 16 T	Hour	24.00000	2320.41	55689.84
	Fuel / Energy charges	Hour	24.00000	1894.20	45460.80
6	Stationery derric crane	Hour	14.00000	87.64	1226.96
	Fuel / Energy charges	Hour	14.00000	0.00	0.00
7	Grinding machine	Hour	14.00000	24.32	340.48
	Fuel / Energy charges	Hour	14.00000	42.30	592.20
8	Drilling machines	Hour	21.00000	24.32	510.72
	Fuel / Energy charges	Hour	21.00000	42.30	888.30
9	Bending Machine	Hour	14.00000	44.50	623.00
	Fuel / Energy charges	Hour	14.00000	126.90	1776.60
10	Sundries	LS	40.00000	42.00	1680.00
			Total hire charges of Machinery	Rs:	**227810.01**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane 16 T	Hour	24.00000	959.71	23033.04
2	Crew for Planing machine	Hour	270.00000	386.88	104457.60
3	Crew for Drilling machine	Hour	21.00000	360.75	7575.75
4	Crew for Grinding machine	Hour	14.00000	360.75	5050.50
5	Crew for Bending machine	Hour	14.00000	241.80	3385.20
6	Foreman	Day	32.00000	925.00	29600.00
7	Marker / Fabricator / Erector	Day	35.00000	990.00	34650.00
8	Gas cutter	Day	9.00000	820.00	7380.00
9	Welder (General)	Day	46.00000	820.00	37720.00
10	Welder (X - ray)	Day	6.00000	925.00	5550.00
11	Helper fabrication / erection	Day	240.00000	730.00	175200.00
12	Electrician	Day	4.00000	930.00	3720.00
			Total cost of Labour	Rs:	**437322.09**

Add towards highly skilled labour charges @ 30% on total cost of labour			**131196.63**
Total Cost of Labour			**568518.72**
labour component/unit qty		90241.10	
Add contractor's profit and overhead charges	13.615%	12286.30	
labour component/unit qty (including contractor's profit)		**102527.40**	

ABSTRACT:

A. Cost of Materials				Rs:	542378.65
B. Hire charges of Machinery				Rs:	227810.01
C. Cost of Labour				Rs:	568518.72
		Total		Rs:	1338707.38
D. Add for excise duty		0.00%		Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total		Rs:	1338707.38
E. Add for transportation upto work site @		3%		Rs:	40161.22
	Total			Rs:	1378868.60
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	187732.96
Add 2 leads					
Add 1 km lead charges for fabricated parts		27.88	per tonne		351.28
Unloading charges of fabricated parts Rs		127.51	per tonne		1606.62
Total cost for	6.30	tonne		Rs:	1568559.46
	Rate per tonne			Rs:	**248977.69**

Vertical lift gates and stop log gate elements (SLIDING GATES)

IRR-GAW-2-2 Design, fabrication, supply, erection, testing and **commissioning of vertical lift gates and** stoplog gate elements, consisting of skin plate, horizontal and vertical girders, stiffeners, lifting pins, bronze padded slide blocks/bearings, guide shoes, rubber seals, clamps etc., with all accessories including cost of all materials, machinery, labour, seal fixing etc.,complete as per specifications and approved drawings **(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)**

Drawing NO. CE/CDO/CL3/MRP/783/2002 (Spillway Stop log gate Elements of Madduvalasa Project)

Vent Size: 12.624 X 0.50 M 16 Elements

DATA: **RATE ANALYSIS** UNIT : **119.000** tonne

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel				
	Angles / beams / channels / bars	kg	5280.00000	56.00	295680.00
	Plates	kg	112880.00000	61.00	6885680.00
2	Alloy steel components				
	Lifting pins	kg	520.00000	469.00	243880.00
3	Bolt / Nut / Washer				
	GI bolts / nuts / washers	kg	600.00000	149.00	89400.00
4	Rubber seals				
	Bottom seal	Rm	210.00000	716.00	150360.00
	Side seals	Rm	18.00000	1176.00	21168.00
5	Oxygen gas	cum	2714.00000	47.00	127558.00
6	Acetyline gas	cum	905.00000	385.00	348425.00
7	Welding electrodes	Nos	86554.00000	17.00	1471418.00
8	Welding electrodes (LH)	Nos	16486.00000	22.00	362692.00
9	Use rate welding holder set	Hour	12880.00000	9.09	117079.20
10	Use rate gas cutting torch set	Hour	2714.00000	25.60	69478.40
11	Sundries	LS	400.00000	42.00	16800.00
		Total cost of Materials		Rs:	**10199618.60**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	12880.00000	17.57	226301.60
	Fuel / Energy charges	Hour	12880.00000	101.52	1307577.60
2	Pug cutting machine	Hour	6440.00000	6.86	44178.40
	Fuel / Energy charges	Hour	6440.00000	4.22	27176.80
3	Mobile crane 16 T	Hour	360.00000	2320.41	835347.60
	Fuel / Energy charges	Hour	360.00000	1894.20	681912.00
4	Stationery derric crane	Hour	238.00000	87.64	20858.32
	Fuel / Energy charges	Hour	238.00000	0.00	0.00
5	Grinding machine	Hour	238.00000	24.32	5788.16
	Fuel / Energy charges	Hour	238.00000	42.30	10067.40
6	Drilling machines	Hour	357.00000	24.32	8682.24
	Fuel / Energy charges	Hour	357.00000	42.30	15101.10
7	Bending Machine	Hour	240.00000	44.50	10680.00
	Fuel / Energy charges	Hour	240.00000	126.90	30456.00
8	Sundries	LS	180.00000	42.00	7560.00
			Total hire charges of Machinery	Rs:	**3231687.22**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane 16T	Hour	360.00000	959.71	345495.60
2	Crew for Drilling machine	Hour	357.00000	360.75	128787.75
3	Crew for Grinding machine	Hour	238.00000	360.75	85858.50
4	Crew for Bending machine	Hour	240.00000	241.80	58032.00
5	Foreman	Day	120.00000	925.00	111000.00
6	Marker / Fabricator / Erector	Day	195.00000	990.00	193050.00
7	Gas cutter	Day	100.00000	820.00	82000.00
8	Welder (General)	Day	1442.00000	820.00	1182440.00
9	Welder (X - ray)	Day	275.00000	925.00	254375.00
10	Khalasi	Day	2023.00000	820.00	1658860.00
11	Helper fabrication / erection	Day	2727.00000	730.00	1990710.00
12	Electrician	Day	10.00000	930.00	9300.00
			Total cost of Labour	Rs:	**6099908.85**
Add towards highly skilled labour charges @ 30% on total cost of labour					**1829972.66**
Total Cost of Labour					**7929881.51**

labour component/unit qty		66637.70
Add contractor's profit and overhead charges	13.615%	9072.70
labour component/unit qty (including contractor's profit)		**75710.40**

ABSTRACT:

A. Cost of Materials				Rs:	10199618.60
B. Hire charges of Machinery				Rs:	3231687.22
C. Cost of Labour				Rs:	7929881.51
			Total	Rs:	21361187.33
D. Add for excise duty			0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	21361187.33
E. Add for transportation upto work site @			3%	Rs:	640835.62
		Total		Rs:	22002022.95
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	2995575.42
Add 2 leads					
Add 1 km lead charges for fabricated parts			27.88 per tonne		6635.44
Unloading charges of fabricated parts Rs			127.51 per tonne		30347.38
Total cost for	119.00	tonne		Rs:	25034581.19
	Rate per	**tonne**		Rs:	**210374.63**

STOP LOGS-automatic lifting beam

IRR-GAW-2-3 Fabrication, supply, erection, testing and **commissioning of automatic lifting beam with all accessories for handling**, lowering and lifting of spillway stop log gate elements including cost of all materials, machinery, labour, cutting, aligning, welding, finishing, etc., complete as per specifications and drawings with all leads and lifts.
(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)

DATA: **RATE ANALYSIS** UNIT : **3.528** tonne

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel				
	Angles / beams / channels / bars	kg	13.00000	56.00	728.00
	Flats	kg	3389.00000	57.00	193173.00
2	Alloy steel components				
	Lifting pins	kg	101.00000	469.00	47369.00
3	Bronze alloy components :				
	Bronze bush	kg	5.00000	1261.00	6305.00
4	Forged steel components :				
	Lifting hooks	kg	103.00000	319.00	32857.00
5	MS pipe 100 mm dia	kg	11.00000	180.00	1980.00
6	Bolt / Nut / Washer				
	MS bolts / nuts / washers	kg	3.00000	98.00	294.00
7	Oxygen gas	cum	126.00000	47.00	5922.00
8	Acetyline gas	cum	42.00000	385.00	16170.00
9	Welding electrodes	Nos	175.00000	17.00	2975.00
10	Welding electrodes (LH)	Nos	1575.00000	22.00	34650.00
11	Use rate welding holder set	Hour	187.00000	9.09	1699.83
12	Use rate gas cutting torch set	Hour	24.00000	25.60	614.40
13	Sundries	LS	25.00000	42.00	1050.00
			Total cost of Materials	Rs:	**345787.23**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	187.00000	17.57	3285.59
	Fuel / Energy charges	Hour	117.00000	101.52	11877.84
2	Pug cutting machine	Hour	60.00000	6.86	411.60
	Fuel / Energy charges	Hour	60.00000	4.22	253.20
3	Mobile derric crane	Hour	4.00000	555.06	2220.24
	Fuel / Energy charges	Hour	4.00000	545.53	2182.12
4	Stationery derric crane	Hour	8.00000	87.64	701.12
	Fuel / Energy charges	Hour	8.00000	0.00	0.00
5	Grinding machine	Hour	2.00000	24.32	48.64
	Fuel / Energy charges	Hour	2.00000	42.30	84.60
6	Drilling machines	Hour	2.00000	24.32	48.64
	Fuel / Energy charges	Hour	2.00000	42.30	84.60
7	Sundries	LS	10.00000	42.00	420.00
			Total hire charges of Machinery	Rs:	**21618.19**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane	Hour	4.00000	316.88	1267.52
2	Crew for Drilling machine	Hour	2.00000	360.75	721.50
3	Crew for Grinding machine	Hour	2.00000	360.75	721.50
4	Foreman	Day	10.00000	925.00	9250.00
5	Marker / Fabricator / Erector	Day	18.00000	990.00	17820.00
6	Gas cutter	Day	10.00000	820.00	8200.00
7	Welder (General)	Day	18.00000	820.00	14760.00
8	Helper fabrication / erection	Day	52.00000	730.00	37960.00
9	Electrician	Day	1.00000	930.00	930.00
			Total cost of Labour	Rs:	**91630.52**
Add towards highly skilled labour charges @ 30% on total cost of labour					**27489.16**
Total Cost of Labour					**119119.68**

labour component/unit qty		33764.10
Add contractor's profit and overhead charges	13.615%	4597.00
labour component/unit qty (including contractor's profit)		**38361.10**

ABSTRACT:

A. Cost of Materials				Rs:	345787.23
B. Hire charges of Machinery				Rs:	21618.19
C. Cost of Labour				Rs:	119119.68
		Total		Rs:	486525.10
D. Add for excise duty		0.00%		Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total		Rs:	486525.10
E. Add for transportation upto work site @		3%		Rs:	14595.75
	Total			Rs:	501120.85
F. Add for contractor's profit and overheads on	13.615%			Rs:	68227.60
Add 2 leads					
Add 1 km lead charges for fabricated parts		27.88	per tonne	196.72	
Unloading charges of fabricated parts Rs		127.51	per tonne	899.72	
Total cost for	3.528 tonne			Rs:	570444.89
	Rate per tonne			Rs:	**161690.73**

MOVING GANTRY CRANE-CLASS II

IRR-GAW-2-4 Fabrication, supply, erection, testing and **commissioning of adequate capacity Class- II type moving gantry crane** consisting of rail mounted gantry frame, top platform with hand railing, long / cross travel arrangements, rope drums, gear systems, electric motors, electro-magnetic brake system, cabin, control panel, wire rope, ladder, motorised cable reeling drum etc., with all accessories for operating spillway stop log gate elements and river sluice / canal sluice emergency gates including cost of all materials, machinery, labour, etc., complete **with all leads and lifts.**
(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)

DATA: **RATE ANALYSIS** UNIT : **30.856** tonne

A. MATERIALS: **25** t capacity

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel				
	Angles / beams / channels / bars	kg	1743.00000	56.00	97608.00
	Plates	kg	19700.00000	61.00	1201700.00
	Chequered plates	kg	820.00000	70.00	57400.00
2	Cast steel components :				
	Rope drums 2 Nos/Gears	kg	1320.00000	267.00	352440.00
	pinions	kg	1165.00000	258.00	300570.00
	Wheels / Pulleys	kg	2255.00000	222.00	500610.00
	Plummer blocks / Couplings	kg	817.00000	222.00	181374.00
3	Forged steel components				
	Hook / Shackle	kg	127.00000	319.00	40513.00
4	Alloy steel components				
	Shafts	kg	556.00000	256.00	142336.00
	Pins	kg	524.00000	469.00	245756.00
5	Bronze alloy components :				
	Bronze bearings / bush	kg	181.00000	1261.00	228241.00
6	Wire rope 28 mm dia 6/37 constructio	kg	406.00000	204.00	82824.00
7	MS Bolt / Nut / Washer	kg	63.00000	98.00	6174.00
8	MS pipe 32 mm dia for railing	Rm	50.00000	198.00	9900.00
9	Worm reducers	Nos.	4.00000	231700.00	926800.00
10	Electric motor 17.5 hp	No.	1.00000	83684.00	83684.00
	Electric motor 5 hp	Nos.	2.00000	32072.00	64144.00
	Electric motor 3 hp	No.	1.00000	22294.00	22294.00
11	Ele-magnetic / Thruster brakes	Nos.	4.00000	33350.00	133400.00
12	etc	LS	3.00000	56310.00	168930.00
13	Oxygen gas	cum	579.00000	47.00	27213.00
14	Acetyline gas	cum	193.00000	385.00	74305.00
15	Welding electrodes	Nos	1123.00000	17.00	19091.00
16	Welding electrodes (LH)	Nos	10110.00000	22.00	222420.00
17	Grease	kg	50.00000	298.00	14900.00
18	Use rate welding holder set	Hour	1197.00000	9.09	10880.73
19	Use rate gas cutting torch set	Hour	150.00000	25.60	3840.00
20	Sundries	LS	200.00000	42.00	8400.00
			Total cost of Materials	Rs:	**5227747.73**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	1197.00000	17.57	21031.29
	Fuel / Energy charges	Hour	748.00000	101.52	75936.96
2	Tower crane 5 t capacity	Hour	6.00000	870.74	5224.44
	Fuel / Energy charges	Hour	6.00000	219.95	1319.70
3	Pug cutting machine	Hour	235.00000	6.86	1612.10
	Fuel / Energy charges	Hour	235.00000	4.22	991.70
4	Mobile derric crane	Hour	100.00000	555.06	55506.00
	Fuel / Energy charges	Hour	100.00000	545.53	54553.00
5	Grinding machine	Hour	32.00000	24.32	778.24
	Fuel / Energy charges	Hour	32.00000	42.30	1353.60
6	Drilling machines	Hour	16.00000	24.32	389.12
	Fuel / Energy charges	Hour	16.00000	42.30	676.80
7	Sundries	LS	500.00000	42.00	21000.00
			Total hire charges of Machinery	Rs:	**240372.95**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane	Hour	100.00000	316.88	31688.00
2	Crew for Tower crane	Hour	6.00000	344.24	2065.44
3	Crew for Drilling machine	Hour	16.00000	360.75	5772.00
4	Crew for Grinding machine	Hour	32.00000	360.75	11544.00
5	Foreman	Day	74.00000	925.00	68450.00
6	Marker / Fabricator / Erector	Day	124.00000	990.00	122760.00
7	Gas cutter	Day	48.00000	820.00	39360.00
8	Welder (General)	Day	112.00000	820.00	91840.00
9	Khalasi	Day	20.00000	820.00	16400.00
10	Helper fabrication / erection	Day	350.00000	730.00	255500.00
11	Electrician	Day	10.00000	930.00	9300.00
			Total cost of Labour	Rs:	**654679.44**

Add towards highly skilled labour charges @ 30% on total cost of labour **196403.83**

Total Cost of Labour **851083.27**

labour component/unit qty		34043.30
Add contractor's profit and overhead charges	13.615%	4635.00
labour component/unit qty (including contractor's profit)		**38678.30**

ABSTRACT:

A. Cost of Materials				Rs:	5227747.73
B. Hire charges of Machinery				Rs:	240372.95
C. Cost of Labour				Rs:	851083.27
			Total	Rs:	6319203.95
D. Add for excise duty			0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	6319203.95
E. Add for transportation upto work site @			3%	Rs:	189576.12
		Total		Rs:	6508780.07
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	886170.41
Add 2 leads					
Add 1 km lead charges for fabricated parts			27.88 per tonne		1720.54
Unloading charges of fabricated parts Rs			127.51 per tonne		7868.90
Total cost for	30.856	tonne		Rs:	7404539.92
	25.000	t capacity		Rs:	
	Rate per	tonne		Rs:	239970.83
	Rate per	**tonne capacity**		Rs:	**296181.60**

RAIL TRACK FOR GANTRY CRANE

IRR-GAW-2-5 Design, fabrication, supply, erection and **commissioning of rail track using 45 kg / m standard** rails on spillway bridge for movement of gantry crane for handling and operating spillway stoplog gate elements / river sluice / canal sluice emergency gate including cost of all materials, machinery, labour, complete as per specifications (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)

DATA: **RATE ANALYSIS** UNIT : **200.000** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Str steel angle / beam / channel / bars	kg	1570.00000	56.00	87920.00
2	Structural steel plate	kg	975.00000	61.00	59475.00
3	Rails	kg	18450.00000	64.54	1190763.00
4	MS bolts and nuts	kg	246.00000	98.00	24108.00
5	Oxygen gas	cum	201.00000	47.00	9447.00
6	Acetyline gas	cum	67.00000	385.00	25795.00
7	Welding electrodes	Nos	1805.00000	17.00	30685.00
8	Use rate welding holder set	Hour	193.00000	9.09	1754.37
9	Use rate gas cutting torch set	Hour	133.00000	25.60	3404.80
10	Sundries	LS	10.00000	42.00	420.00
			Total cost of Materials	Rs:	**1433772.17**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	193.00000	17.57	3391.01
	Fuel / Energy charges	Hour	121.00000	101.52	12283.92
2	Mobile derric crane	Hour	4.00000	555.06	2220.24
	Fuel / Energy charges	Hour	4.00000	545.53	2182.12
3	Grinding machine	Hour	8.00000	24.32	194.56
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
4	Drilling machines	Hour	50.00000	24.32	1216.00
	Fuel / Energy charges	Hour	50.00000	42.30	2115.00
5	Sundries	LS	10.00000	42.00	420.00
			Total hire charges of Machinery	Rs:	**24361.25**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane	Hour	4.00000	316.88	1267.52
2	Crew for Drilling machine	Hour	50.00000	360.75	18037.50
3	Crew for Grinding machine	Hour	8.00000	360.75	2886.00
4	Foreman	Day	8.00000	925.00	7400.00
5	Marker / Fabricator / Erector	Day	32.00000	990.00	31680.00
6	Gas cutter	Day	17.00000	820.00	13940.00
7	Welder (General)	Day	18.00000	820.00	14760.00
8	Helper fabrication / erection	Day	52.00000	730.00	37960.00
9	Electrician	Day	1.00000	930.00	930.00
			Total cost of Labour	Rs:	**128861.02**
Add towards highly skilled labour charges @ 30% on total cost of labour					**38658.31**
Total Cost of Labour					**167519.33**

labour component/unit qty		837.60
Add contractor's profit and overhead charges	13.615%	114.00
labour component/unit qty (including contractor's profit)		**951.60**

ABSTRACT:

A. Cost of Materials			Rs:	1433772.17
B. Hire charges of Machinery			Rs:	24361.25
C. Cost of Labour			Rs:	167519.33
		Total	Rs:	1625652.75
D. Add for excise duty		0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total	Rs:	1625652.75
E. Add for transportation upto work site @		3%	Rs:	48769.58
		Total	Rs:	1674422.33
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%		Rs:	227972.60
Add 2 leads				
Add 1 km lead charges for fabricated parts		27.88 per tonne		1155.46
Unloading charges of fabricated parts Rs		127.51 per tonne		5284.52
Total cost for	200.000 Rm		Rs:	1908834.91
	Rate per Rm		Rs:	**9544.17**

VERTICAL LIFT GATES/STOP LOGS - ROLLER MOUNTED

IRR-GAW-2-6 Design, fabrication, supply, erection, testing and **commissioning of fixed wheel type vertical lift service gate** consisting of skin plate, vertical and horizontal girders, wheels, stiffeners, lifting brackets, guide rollers, ballast blocks, teflon claded rubber seals etc., with all accessories for river sluice / canal sluice vent including cost of all materials, machinery, labour,welding ,aligning finishing seal fixing etc.with allleads and lifts, complete as per specifications andvapproved drawings **(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)**

Drawing No. CE/CDO/DEE/DEE4/GNC/HR/2150/96,2137/98 (GNSS Project)

Gate Size: 3.66 X 6.1 Mtr

DATA: **RATE ANALYSIS** UNIT : **10.000** tonne

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel				
	Plates	kg	7103.00000	61.00	433283.00
	Beams/Channels	kg	2727.00000	56.00	152712.00
2	Alloy steel components				
	Wheel axles / Pins	kg	108.00000	469.00	50652.00
3	Cast steel components				
	Wheels / Guide rollers	kg	504.00000	222.00	111888.00
4	Alluminium / Bronze alloy components				
	Bearings	kg	12.00000	1261.00	15132.00
5	Bolt / Nut / Washer				
	GI bolts / nuts / washers	kg	36.00000	102.00	3672.00
	MS bolts / nuts / washers	kg	6.00000	98.00	588.00
6	Rubber seals				
	Bottom seal (flat uncladed)	Rm	3.72000	716.00	2663.52
	Side seals (bulb teflon claded)	Rm	12.30000	1543.00	18978.90
	Top seal (bulb teflon claded)	Rm	3.72000	1543.00	5739.96
	Corner seals (bulb teflon claded)	Nos	2.00000	1611.00	3222.00
7	Oxygen gas	cum	170.00000	47.00	7990.00
8	Acetyline gas	cum	56.00000	385.00	21560.00
9	Welding electrodes	Nos	3200.00000	17.00	54400.00
10	Welding electrodes (LH)	Nos	800.00000	22.00	17600.00
11	Use rate welding holder set	Hour	500.00000	9.09	4545.00
12	Use rate gas cutting torch set	Hour	40.00000	25.60	1024.00
13	Sundries	LS	60.00000	42.00	2520.00
			Total cost of Materials	Rs:	**908170.38**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	500.00000	17.57	8785.00
	Fuel / Energy charges	Hour	500.00000	101.52	50760.00
2	Pug cutting machine	Hour	85.00000	6.86	583.10
	Fuel / Energy charges	Hour	85.00000	4.22	358.70
3	Tower crane	Hour	10.00000	870.74	8707.40
	Fuel / Energy charges	Hour	10.00000	219.95	2199.50
4	Mobile crane 16 T	Hour	30.00000	2320.41	69612.30
	Fuel / Energy charges	Hour	30.00000	1894.20	56826.00
5	Stationery derric crane	Hour	20.00000	87.64	1752.80
	Fuel / Energy charges	Hour	20.00000	0.00	0.00
6	Grinding machine	Hour	10.00000	24.32	243.20
	Fuel / Energy charges	Hour	10.00000	42.30	423.00
7	Drilling machines	Hour	30.00000	24.32	729.60
	Fuel / Energy charges	Hour	30.00000	42.30	1269.00
8	Bending machine	Hour	10.00000	44.50	445.00
	Fuel / Energy charges	Hour	10.00000	126.90	1269.00
9	Sundries	LS	50.00000	42.00	2100.00
			Total hire charges of Machinery	Rs:	**206063.60**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane 16 T	Hour	30.0000	959.71	28791.30
2	Crew for Tower crane	Hour	10.0000	344.24	3442.40
3	Crew for Drilling machine	Hour	30.0000	360.75	10822.50
4	Crew for Grinding machine	Hour	10.0000	360.75	3607.50
5	Crew for Bending machine	Hour	10.0000	241.80	2418.00
6	Foreman	Day	16.0000	925.00	14800.00
7	Marker / Fabricator / Erector	Day	50.0000	990.00	49500.00
8	Gas cutter	Day	8.0000	820.00	6560.00
9	Welder (General)	Day	52.0000	820.00	42640.00
10	Welder (X - ray grade)	Day	14.0000	925.00	12950.00
11	Khalasi	Day	170.0000	820.00	139400.00
12	Helper fabrication / erection	Day	230.0000	730.00	167900.00
13	Electrician	Day	4.0000	930.00	3720.00
			Total cost of Labour	Rs:	**486551.70**

Add towards highly skilled labour charges @ 30% on total cost of labour			**145965.51**
Total Cost of Labour			**632517.21**
labour component/unit qty		63251.70	
Add contractor's profit and overhead charges	13.615%	8611.70	
labour component/unit qty (including contractor's profit)		**71863.40**	

ABSTRACT:

A. Cost of Materials				Rs:	908170.38
B. Hire charges of Machinery				Rs:	206063.60
C. Cost of Labour				Rs:	632517.21
			Total	Rs:	1746751.19
D. Add for excise duty			0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	1746751.19
E. Add for transportation upto work site @			3%	Rs:	52402.54
		Total		Rs:	1799153.73
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	244954.78
Add 2 leads					
Add 1 km lead charges for fabricated parts			27.88 per tonne		557.60
Unloading charges of fabricated parts Rs			127.51 per tonne		2550.20
Total cost for	10.000 tonne			Rs:	2047216.31
	Rate per tonne			Rs:	**204721.63**

VERTICAL LIFT GATES-ROPE DRUM HOIST UPTO 30 TON CAP. POWER OPERATED

IRR-GAW-2-7 Design, fabrication, supply, erection, testing and **commissioning of adequate capacity rope drum hoist** consisting of hoist platform, rope drum, gear system, electric motor, electro-magnetic brake system, hand operation assembly, control panel, wire rope, pulleys, ladder etc., with all accessories for operating river sluice / canal sluice service gate including cost of all materials, machinery, labour, , complete as per specifications and drawings with all leads and lifts (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)

DATA:

RATE ANALYSIS UNIT : **6.243** tonne wt

A. MATERIALS: **25** t capacity

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel				
	Angles / beams / channels / bars	kg	1487.00000	56.00	83272.00
	Plates	kg	402.00000	61.00	24522.00
	Chequered plate	kg	290.00000	70.00	20300.00
2	Cast steel components :				
	Rope drums 2 Nos / Gears	kg	1926.00000	267.00	514242.00
	Pinions	kg	79.00000	258.00	20382.00
	Pulleys 3 Nos / Couplings 2 Nos	kg	306.00000	222.00	67932.00
	Plummer blocks / Hubs	kg	72.00000	222.00	15984.00
3	Alloy steel components				
	Shafts	kg	346.00000	256.00	88576.00
	Pins	kg	73.00000	469.00	34237.00
4	Bronze alloy components :				
	Bronze bearings / bush	kg	57.00000	1261.00	71877.00
5	Wire rope 28 mm dia 6/37 construction	kg	325.00000	204.00	66300.00
6	MS Bolt / Nut / Washer	kg	32.00000	98.00	3136.00
7	Worm reducers	No.	1.00000	231700.00	231700.00
8	Electric motor 5 hp	No.	1.00000	32072.00	32072.00
9	Manual operating system	No.	1.00000	33449.00	33449.00
10	Gate position indicator	No.	1.00000	203570.00	203570.00
11	Ele-magnetic brake	No.	1.00000	33350.00	33350.00
12	Electric cable / switch / control panel etc	LS	1.00000	56310.00	56310.00
13	Oxygen gas	cum	45.00000	47.00	2115.00
14	Acetyline gas	cum	15.00000	385.00	5775.00
15	Welding electrodes	Nos	80.00000	17.00	1360.00
16	Welding electrodes (LH)	Nos	720.00000	22.00	15840.00
17	Grease	kg	50.00000	298.00	14900.00
18	Use rate welding holder set	Hour	85.00000	9.09	772.65
19	Use rate gas cutting torch set	Hour	16.00000	25.60	409.60
20	Sundries	LS	25.00000	42.00	1050.00
			Total cost of Materials	Rs:	**1643433.25**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	85.00000	17.57	1493.45
	Fuel / Energy charges	Hour	53.00000	101.52	5380.56
2	Tower crane 5 t capacity	Hour	2.00000	870.74	1741.48
	Fuel / Energy charges	Hour	2.00000	219.95	439.90
3	Pug cutting machine	Hour	15.00000	6.86	102.90
	Fuel / Energy charges	Hour	15.00000	4.22	63.30
4	Mobile derric crane	Hour	10.00000	555.06	5550.60
	Fuel / Energy charges	Hour	10.00000	545.53	5455.30
5	Grinding machine	Hour	2.00000	24.32	48.64
	Fuel / Energy charges	Hour	2.00000	42.30	84.60
6	Drilling machines	Hour	2.00000	24.32	48.64
	Fuel / Energy charges	Hour	2.00000	42.30	84.60
7	Sundries	LS	25.00000	42.00	1050.00
			Total hire charges of Machinery	Rs:	**21543.97**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane	Hour	10.00000	316.88	3168.80
2	Crew for Tower crane	Hour	2.00000	344.24	688.48
3	Crew for Drilling machine	Hour	2.00000	360.75	721.50
4	Crew for Grinding machine	Hour	2.00000	360.75	721.50
5	Foreman	Day	15.00000	925.00	13875.00
6	Marker / Fabricator / Erector	Day	19.00000	990.00	18810.00
7	Gas cutter	Day	4.00000	820.00	3280.00
8	Welder (General)	Day	8.00000	820.00	6560.00
9	Khalasi	Day	4.00000	820.00	3280.00
10	Helper fabrication / erection	Day	44.00000	730.00	32120.00
11	Electrician	Day	2.00000	930.00	1860.00
			Total cost of Labour	Rs:	**85085.28**

Add towards highly skilled labour charges @ 30% on total cost of labour		**25525.58**
Total Cost of Labour		**110610.86**

labour component/unit qty		4424.40
Add contractor's profit and overhead charges	13.615%	602.40
labour component/unit qty (including contractor's profit)		**5026.80**

ABSTRACT:

A. Cost of Materials				Rs:	1643433.25
B. Hire charges of Machinery				Rs:	21543.97
C. Cost of Labour				Rs:	110610.86
			Total	Rs:	1775588.08
D. Add for excise duty			0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	1775588.08
E. Add for transportation upto work site @			3%	Rs:	53267.64
		Total		Rs:	1828855.72
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	248998.71
Add 2 leads					
Add 1 km lead charges for fabricated parts			27.88 per tonne		348.1
Unloading charges of fabricated parts Rs			127.51 per tonne		1592.08
Total cost for	6.243	tonne wt		Rs:	2079794.61
	25.000	t capacity		Rs:	
	Rate per	tonne wt		Rs:	333140.25
	Rate per tonne capacity of hoist			Rs:	**83191.78**

HOIST BRIDGE/ WITH TRESSELS

IRR-GAW-2-8 Design, fabrication, supply, erection and **commissioning of structural steel hoist bridge** consisting of columns, beams, bracings, stiffeners, ties, chequered plate covering, hand railing, ladder etc., with all accessories for supporting rope drum hoist for operating barrage gates including cost of all materials, machinery, labour, welding, finishing, etc., complete complete as per specifications and drawings **with all leads and lifts**
(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)
Drawing No. CE/CDO/VRSP/215,216/86-87 (Vengalaraya Sagar - Gomukhi Project)

Vent Size: 12 X 6.6 Mtr

DATA: **RATE ANALYSIS** UNIT : **10.500** tonne

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel angles/ beams / channels	kg	1494.00000	56.00	83664.00
	Structural steel plates	kg	6564.00000	61.00	400404.00
	Chequered plate	kg	2442.00000	70.00	170940.00
2	MS pipe 25 mm dia	Rm	60.00000	162.00	9720.00
3	Bolt / Nut / Washers	kg	18.00000	98.00	1764.00
4	Oxygen gas	cum	105.00000	47.00	4935.00
5	Acetyline gas	cum	35.00000	385.00	13475.00
6	Welding electrodes	Nos	3150.00000	17.00	53550.00
7	Use rate welding holder set	Hour	394.00000	9.09	3581.46
8	Use rate gas cutting torch set	Hour	105.00000	25.60	2688.00
9	Sundries	LS	50.00000	42.00	2100.00
			Total cost of Materials	Rs:	**746821.46**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	394.00000	17.57	6922.58
	Fuel / Energy charges	Hour	394.00000	101.52	39998.88
2	Pug cutting machine	Hour	52.00000	6.86	356.72
	Fuel / Energy charges	Hour	52.00000	4.22	219.44
3	Mobile crane 30 T	Hour	30.00000	3282.18	98465.40
	Fuel / Energy charges	Hour	30.00000	2141.85	64255.50
4	Stationery derric crane	Hour	20.00000	87.64	1752.80
	Fuel / Energy charges	Hour	20.00000	0.00	0.00
5	Drilling machine	Hour	20.00000	24.32	486.40
	Fuel / Energy charges	Hour	20.00000	42.30	846.00
6	Grinding machine	Hour	20.00000	24.32	486.40
	Fuel / Energy charges	Hour	20.00000	42.30	846.00
7	Tower Crane	Hour	20.00000	870.74	17414.80
	Fuel / Energy charges	Hour	20.00000	219.95	4399.00
8	Sundries	LS	50.00000	42.00	2100.00
			Total hire charges of Machinery	Rs:	**238549.92**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane 30 T	Hour	30.00000	959.71	28791.30
2	Crew for Drilling machine	Hour	20.00000	360.75	7215.00
3	Crew for Grinding machine	Hour	20.00000	360.75	7215.00
4	Crew for Tower Crane	Hour	20.00000	344.24	6884.80
5	Foreman	Day	10.00000	925.00	9250.00
6	Marker / Fabricator / Erector	Day	50.00000	990.00	49500.00
7	Gas cutter	Day	14.00000	820.00	11480.00
8	Welder (General)	Day	53.00000	820.00	43460.00
9	Helper fabrication / erection	Day	400.00000	730.00	292000.00
10	Electrician	Day	6.00000	930.00	5580.00
			Total cost of Labour	Rs:	**461376.10**
Add towards highly skilled labour charges @ 30% on total cost of labour					**138412.83**
Total Cost of Labour					**599788.93**

labour component/unit qty		57122.80
Add contractor's profit and overhead charges	13.615%	7777.30
labour component/unit qty (including contractor's profit)		**64900.10**

ABSTRACT:

A. Cost of Materials				Rs:	746821.46
B. Hire charges of Machinery				Rs:	238549.92
C. Cost of Labour				Rs:	599788.93
		Total		Rs:	1585160.31
D. Add for excise duty		0.00%		Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total		Rs:	1585160.31
E. Add for transportation upto work site @		3%		Rs:	47554.81
	Total			Rs:	1632715.12
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	222294.16
Add 2 leads					
Add 1 km lead charges for fabricated parts		27.88	per tonne		585.48
Unloading charges of fabricated parts Rs		127.51	per tonne		2677.72
Total cost for	10.500 tonne			Rs:	1858272.48
	Rate per tonne			Rs:	**176978.33**

ROPE DRUM HOIST WITHOUT HOIST BRIDGE FOR BARRAGE GATES

IRR-GAW-2-9 Design, fabrication, supply, erection, testing and **commissioning of adequate capacity rope drum hoist consisting of rope drum**, pulleys, gear system, electri c motor, electro-magnetic brake system, manual operation assembly, position indicator, control panel, wire rope etc., with all accessories for operating vertical lift roller gates for barrage including cost of all materials, machinery, labour, cutting, bending, aligning, anchoring, welding, finishing etc., **complete with all leads and lifts.**

DATA: **RATE ANALYSIS** UNIT : **5.069** tonne wt

A. MATERIALS: **50.00** t capacity

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel				
	Angles / beams / channels / bars	kg	420.00000	56.00	23520.00
	Plates	kg	225.00000	61.00	13725.00
2	Cast steel components :				
	Rope drums 2 Nos / Gears	kg	1290.00000	267.00	344430.00
	Pinions	kg	98.00000	258.00	25284.00
	Pulleys 3 Nos / Couplings 2 Nos	kg	650.00000	222.00	144300.00
	Plummer blocks / Hubs	kg	250.00000	222.00	55500.00
3	Alloy steel components				
	Shafts / Keys	kg	350.00000	256.00	89600.00
	Pins	kg	96.00000	469.00	45024.00
4	Bronze alloy components :				
	Bronze bearings / bush	kg	100.00000	1261.00	126100.00
5	Wire rope 28 mm dia 6/37	kg	435.00000	204.00	88740.00
6	MS Bolt / Nut / Washer	kg	26.00000	98.00	2548.00
7	Worm reducers	No.	1.00000	231700.00	231700.00
8	Electric motor 12.5 hp	No.	1.00000	70686.00	70686.00
9	Manual operating system	No.	1.00000	33449.00	33449.00
10	Gate position indicator	No.	1.00000	203570.00	203570.00
11	Ele-magnetic brake	No.	1.00000	33350.00	33350.00
12	Electric cable / switch / control panel	LS	1.00000	56310.00	56310.00
13	Oxygen gas	cum	30.00000	47.00	1410.00
14	Acetyline gas	cum	10.00000	385.00	3850.00
15	Welding electrodes	Nos	44.00000	17.00	748.00
16	Welding electrodes (LH)	Nos	392.00000	22.00	8624.00
17	Grease	kg	50.00000	298.00	14900.00
18	Use rate welding holder set	Hour	47.00000	9.09	427.23
19	Use rate gas cutting torch set	Hour	12.00000	25.60	307.20
20	Sundries	LS	25.00000	42.00	1050.00
			Total cost of Materials	Rs:	**1619152.43**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	47.00000	17.57	825.79
	Fuel / Energy charges	Hour	47.00000	101.52	4771.44
2	Tower crane 5 t capacity	Hour	2.00000	870.74	1741.48
	Fuel / Energy charges	Hour	2.00000	219.95	439.90
3	Pug cutting machine	Hour	9.00000	6.86	61.74
	Fuel / Energy charges	Hour	9.00000	4.22	37.98
4	Mobile derric crane	Hour	10.00000	555.06	5550.60
	Fuel / Energy charges	Hour	10.00000	545.53	5455.30
5	Grinding machine	Hour	2.00000	24.32	48.64
	Fuel / Energy charges	Hour	2.00000	42.30	84.60
6	Drilling machines	Hour	2.00000	24.32	48.64
	Fuel / Energy charges	Hour	2.00000	42.30	84.60
7	Sundries	LS	25.00000	42.00	1050.00
			Total hire charges of Machinery	Rs:	**20200.71**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane	Hour	10.00000	316.88	3168.80
2	Crew for Tower crane	Hour	2.00000	344.24	688.48
3	Crew for Drilling machine	Hour	2.00000	360.75	721.50
4	Crew for Grinding machine	Hour	2.00000	360.75	721.50
5	Foreman	Day	13.00000	925.00	12025.00
6	Marker / Fabricator / Erector	Day	17.00000	990.00	16830.00
7	Gas cutter	Day	3.00000	820.00	2460.00
8	Welder (General)	Day	5.00000	820.00	4100.00
9	Khalasi	Day	4.00000	820.00	3280.00
10	Helper fabrication / erection	Day	36.00000	730.00	26280.00
11	Electrician	Day	2.00000	930.00	1860.00
			Total cost of Labour	Rs:	**72135.28**

Add towards highly skilled labour charges @ 30% on total cost of labour **21640.58**

Total Cost of Labour **93775.86**

labour component/unit qty		1875.50
Add contractor's profit and overhead charges	13.615%	255.30
labour component/unit qty (including contractor's profit)		**2130.80**

ABSTRACT:

A. Cost of Materials				Rs:	1619152.43
B. Hire charges of Machinery				Rs:	20200.71
C. Cost of Labour				Rs:	93775.86
			Total	Rs:	1733129.00
D. Add for excise duty			0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	1733129.00
E. Add for transportation upto work site @			3%	Rs:	51993.87
		Total		Rs:	1785122.87
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	243044.48
Add 2 leads					
Add 1 km lead charges for fabricated parts			27.88 per tonne		282.64
Unloading charges of fabricated parts Rs			127.51 per tonne		1292.7
Total cost for		5.069 tonne wt		Rs:	2029742.69
		50.000 t capacity		Rs:	
		Rate per tonne wt		Rs:	400422.70
		Rate per tonne capacity of hoist		Rs:	**40594.85**

SCREW GEAR HOISTS including plat form(UPTO 10 TON CAP)

IRR-GAW-2-10

Design, fabrication, supply, erection, testing and **commissioning of adequate capacity screw gear type hoist** consisting of supporting structure, platform, ladder etc., with all accessories for operating canal escape / regulator gate including cost of all materials, machinery, labour, cutting, bending, aligning, anchoring, welding,finishing etc.,complete with all leads and lifts. (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)

DATA: **RATE ANALYSIS** UNIT : **0.871** tonne

A. MATERIALS: **3.00** t capacity

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel				
	Angles / beams / channels / bars	kg	402.00000	56.00	22512.00
	Plates	kg	145.00000	61.00	8845.00
	Chequered plate	kg	176.00000	70.00	12320.00
2	Cast iron components :				
	Hoist body / Lock nut / Main nut	kg	55.00000	267.00	14685.00
3	Alloy steel components				
	Hoist stem	kg	75.00000	256.00	19200.00
4	Bronze alloy components :				
	Thrust bearings	kg	4.00000	1261.00	5044.00
5	MS Bolt / Nut / Washer	kg	8.00000	98.00	784.00
6	Oxygen gas	cum	18.00000	47.00	846.00
7	Acetyline gas	cum	6.00000	385.00	2310.00
8	Welding electrodes	Nos	7.00000	17.00	119.00
9	Welding electrodes (LH)	Nos	66.00000	22.00	1452.00
10	Grease	kg	2.00000	298.00	596.00
11	Use rate welding holder set	Hour	8.00000	9.09	72.72
12	Use rate gas cutting torch set	Hour	11.00000	25.60	281.60
13	Sundries	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**89151.32**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	8.00000	17.57	140.56
	Fuel / Energy charges	Hour	5.00000	101.52	507.60
2	Grinding machine	Hour	2.00000	24.32	48.64
	Fuel / Energy charges	Hour	2.00000	42.30	84.60
3	Drilling machines	Hour	2.00000	24.32	48.64
	Fuel / Energy charges	Hour	2.00000	42.30	84.60
4	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**998.64**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling machine	Hour	2.00000	360.75	721.50
2	Crew for Grinding machine	Hour	2.00000	360.75	721.50
3	Foreman	Day	4.00000	925.00	3700.00
4	Marker / Fabricator / Erector	Day	5.00000	990.00	4950.00
5	Gas cutter	Day	2.00000	820.00	1640.00
6	Welder (General)	Day	1.00000	820.00	820.00
7	Helper fabrication / erection	Day	9.00000	730.00	6570.00
8	Electrician	Day	0.50000	930.00	465.00
			Total cost of Labour	Rs:	**19588.00**
Add towards highly skilled labour charges @ 30% on total cost of labour					**5876.40**
Total Cost of Labour					**25464.40**

labour component/unit qty		8488.10
Add contractor's profit and overhead charges	13.615%	1155.70
labour component/unit qty (including contractor's profit)		**9643.80**

ABSTRACT:

A. Cost of Materials		Rs:	89151.32
B. Hire charges of Machinery		Rs:	998.64
C. Cost of Labour		Rs:	25464.40
	Total	Rs:	115614.36
D. Add for excise duty	0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)	Total	Rs:	115614.36
E. Add for transportation upto work site @	3%	Rs:	3468.43
	Total	Rs:	119082.79

F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%		Rs:	16213.12
Add 2 leads				
Add 1 km lead charges for fabricated parts		27.88 per tonne		48.56
Unloading charges of fabricated parts Rs		127.51 per tonne		222.12
Total cost for	0.871 tonne		Rs:	135566.59
	3.000 t capacity		Rs:	
	Rate per tonne		Rs:	155644.76
	Rate per tonne capacity		Rs:	**45188.86**

MANUAL OPERATED ROPE DRUM HOISTS

IRR-GAW-2-11 Design, fabrication, supply, erection, testing and **commissioning of adequate capacity manually operated rope drum hoist** consisting of hoist platform, rope drum, gear system, brake system, wire rope, ladder etc., with all accessories for operating canal regulator radial gate including cost of all materials, machinery, labour, welding, finishing, cleaning, ., complete **with all leads and lifts**

DATA: **RATE ANALYSIS** UNIT : **2.804** tonne

A. MATERIALS: **10.00** t capacity

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel				
	Angles / beams / channels / bars	kg	1229.00000	56.00	68824.00
	Plates	kg	453.00000	61.00	27633.00
	Chequered plate	kg	195.00000	70.00	13650.00
2	Cast steel components :				
	Rope drums 2 Nos / Gears	kg	384.00000	267.00	102528.00
	Pinions	kg	14.00000	258.00	3612.00
	Pulleys 6 Nos	kg	108.00000	222.00	23976.00
	Plummer blocks / Couplings	kg	47.00000	222.00	10434.00
3	Alloy steel components				
	Shafts	kg	75.00000	256.00	19200.00
	Pins	kg	24.00000	469.00	11256.00
4	Bronze alloy components :				
	Bronze bearings / bush	kg	11.00000	1261.00	13871.00
5	Wire rope 12 mm dia 6/36 construction	kg	42.00000	204.00	8568.00
6	MS Bolt / Nut / Washer	kg	64.00000	98.00	6272.00
7	Worm reducers	No.	1.00000	231700.00	231700.00
8	Manual operating system	No.	1.00000	33449.00	33449.00
9	Brake	No.	1.00000	33350.00	33350.00
10	Wire rope sockets	No	2.00000	5609.00	11218.00
11	Oxygen gas	cum	75.00000	47.00	3525.00
12	Acetyline gas	cum	25.00000	385.00	9625.00
13	Welding electrodes	Nos	69.00000	17.00	1173.00
14	Welding electrodes (LH)	Nos	622.00000	22.00	13684.00
15	Grease	kg	10.00000	298.00	2980.00
16	Use rate welding holder set	Hour	73.00000	9.09	663.57
17	Use rate gas cutting torch set	Hour	42.00000	25.60	1075.20
18	Sundries	LS	25.00000	42.00	1050.00
		Total cost of Materials		Rs:	**653316.77**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	73.00000	17.57	1282.61
	Fuel / Energy charges	Hour	46.00000	101.52	4669.92
2	Pug cutting machine	Hour	8.00000	6.86	54.88
	Fuel / Energy charges	Hour	8.00000	4.22	33.76
3	Mobile derric crane	Hour	4.00000	555.06	2220.24
	Fuel / Energy charges	Hour	4.00000	545.53	2182.12
4	Stationery derric crane	Hour	8.00000	87.64	701.12
	Fuel / Energy charges	Hour	8.00000	0.00	0.00
5	Grinding machine	Hour	8.00000	24.32	194.56
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
6	Drilling machines	Hour	16.00000	24.32	389.12
	Fuel / Energy charges	Hour	16.00000	42.30	676.80
7	Sundries	LS	25.00000	42.00	1050.00
	Total hire charges of Machinery			Rs:	**13793.53**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate	Amount
				in Rs.	in Rs.
1	Crew for Mobile crane	Hour	4.00000	316.88	1267.52
2	Crew for Drilling machine	Hour	16.00000	360.75	5772.00
3	Crew for Grinding machine	Hour	8.00000	360.75	2886.00
4	Foreman	Day	14.00000	925.00	12950.00
5	Marker / Fabricator / Erector	Day	20.00000	990.00	19800.00
6	Gas cutter	Day	6.00000	820.00	4920.00
7	Welder (General)	Day	7.00000	820.00	5740.00
8	Helper fabrication / erection	Day	44.00000	730.00	32120.00
9	Electrician	Day	2.00000	930.00	1860.00
			Total cost of Labour	Rs:	**87315.52**

Add towards highly skilled labour charges @ 30% on total cost of labour **26194.66**

Total Cost of Labour **113510.18**

labour component/unit qty 11351.00

Add contractor's profit and overhead charges 13.615% 1545.40

labour component/unit qty (including contractor's profit) **12896.40**

ABSTRACT:

A. Cost of Materials				Rs:	653316.77
B. Hire charges of Machinery				Rs:	13793.53
C. Cost of Labour				Rs:	113510.18
			Total	Rs:	780620.48
D. Add for excise duty			0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	780620.48
E. Add for transportation upto work site @			3%	Rs:	23418.61
		Total		Rs:	804039.09
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	109469.92
Add 2 leads					
Add 1 km lead charges for fabricated parts			27.88 per tonne		156.36
Unloading charges of fabricated parts Rs			127.51 per tonne		715.08
Total cost for	2.804	tonne		Rs:	914380.45
	10.000	t capacity			
Rate per	tonne			Rs:	326098.59
	Rate per	**tonne**		Rs:	**91438.05**
	capacity of hoist				

IRR-GAW-2-12
New Item
2015-16-2

OT SLUICE SHUTTERS Screw Gear Hoist Including Platform for below 5 Tons Capacity (Small Gates)

As per Guidelines of Chief Engineer, Central Designs Organization, Hyderabad Specification drawing for Krishna Delta System

Fabrication, supply, erection, testing and commissioning of Embedded parts consisting of supporting structure, platform etc. with all accessories for operating canal escape/ regulator gate with all accessories including cost of all materials, machinery, labour, cutting, bending, aligning, anchoring, welding, finishing etc. complete as per Specification and approved drawings

(without painting on mechanical cleaning surfaces which are added extra as per schedule of rates under items in this chapter and add as applicable separately)

DATA: **RATE ANALYSIS** UNIT : **0.869** tonne

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel angles/ beams / chanr	kg	445.78000	56.00	24963.68
2	Structural steel plates	kg	28.00000	61.00	1708.00
3	Chequered plate	kg	144.80000	70.00	10136.00
	Cast iron Components				
4	Hoist Body/lock nut/Main Nut etc.	Kg	83.00000	267.00	22161.00
	Bronze Alloy Steel Components				
5	Thrust Bearings	kg	3.00000	1261.00	3783.00
6	MS Bolt/Nut/ Washer	kg	16.00000	98.00	1568.00
7	Oxygen gas	cum	21.00000	47.00	987.00
8	Acetyline gas	cum	7.00000	385.00	2695.00
9	Welding electrodes	Nos	200.00000	17.00	3400.00
10	Welding electrodes (LH)	Nos	40.00000	22.00	880.00
11	Use rate welding holder set	Hour	72.00000	9.09	654.48
12	Use rate gas cutting torch set	Hour	36.00000	25.60	921.60
13	Sundries	LS	20.00000	42.00	840.00
			Total cost of Materials	Rs:	**74697.76**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	30.00000	17.57	527.10
	Fuel / Energy charges	Hour	30.00000	101.52	3045.60
2	Pug cutting machine	Hour	12.00000	6.86	82.32
	Fuel / Energy charges	Hour	12.00000	4.22	50.64
3	Drilling machine	Hour	8.00000	24.32	194.56
	Fuel / Energy charges	Hour	8.00000	42.30	338.40
4	Grinding machine	Hour	36.00000	24.32	875.52
	Fuel / Energy charges	Hour	36.00000	42.30	1522.80
5	Lathe machine (Screw Rod M/C)	Hour	16.00000	325.00	5200.00
6	Sundries	LS	10.00000	42.00	420.00
			Total hire charges of Machinery	Rs:	**12256.94**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling machine	Hour	8.00000	360.75	2886.00
2	Crew for Grinding machine	Hour	36.00000	360.75	12987.00
3	Foreman	Day	2.00000	925.00	1850.00
4	Marker / Fabricator / Erector	Day	10.00000	990.00	9900.00
5	Gas cutter	Day	4.00000	820.00	3280.00
6	Welder (General)	Day	4.00000	820.00	3280.00
7	Mazdoors	Day	6.00000	680.00	4080.00
8	Helper fabrication / erection	Day	6.00000	730.00	4380.00
			Total cost of Labour	Rs:	**42643.00**

labour component/unit qty		42643.00
Add contractor's profit and overhead charges	13.615%	5805.80
labour component/unit qty (including contractor's profit)		**48448.80**

ABSTRACT:

A. Cost of Materials			Rs:	74697.76
B. Hire charges of Machinery			Rs:	12256.94
C. Cost of Labour			Rs:	42643.00
		Total	Rs:	129597.70
D. Add for excise duty		0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total	Rs:	129597.70
E. Add for transportation upto work site @		3%	Rs:	3887.93
	Total		Rs:	133485.63
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%		Rs:	18174.07
Add 2 leads				
Add 1 km lead charges for fabricated parts		27.88 per tonne		48.46
Unloading charges of fabricated parts Rs		127.51 per tonne		221.62
Total cost for	0.869 tonne		Rs:	151929.78
	Rate per tonne		Rs:	**174832.89**

IRR-GAW-2-13
New Item
2015-16-3

OT SLUICE SHUTTERS EM parts for Below 5 Tons capacity (small gates)

As per Guidelines of Chief Engineer, Central Designs Organization, Hyderabad Specification drawing for Krishna Delta System

Fabrication, supply, erection, testing and commissioning of Embedded parts consisting of sil beam, slide tracks, seal seats, Guide plates etc. with all accessories including cost of all materials, machinery, labour, etc. complete as per specifications and approved drawings.

(without painting on mechanical cleaning surfaces which are added extra as per schedule of rates under items in this chapter and add as applicable separately)

Use rate of materials :

Cost of we	9093.00 / Each	R:	9093.00	
Life of welding set			1000	hours
Use rate o (cost / life)		R:	9.09	
Cost of ga:	15357.00 / Each	R:	15357.00	
Life of gas cutting set			600	hours
Use rate o (cost / life)		R:	25.60	
Height of EM parts: 5.4 M		Gate Size:		0.99 X 0.875 M

DATA: **RATE ANALYSIS** UNIT : **1.334** tonne

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel angles/ beams / channels	kg	440.57000	56.00	24671.92
2	Structural steel plates	kg	869.00000	61.00	53009.00
3	Stainless Steel Flats	kg	25.12000	279.00	7008.48
4	Oxygen gas	cum	12.00000	47.00	564.00
5	Acetyline gas	cum	4.00000	385.00	1540.00
6	Welding electrodes	Nos	210.00000	17.00	3570.00
7	Welding electrodes (Stainless Steel)	Nos	30.00000	28.00	840.00
8	Use rate welding holder set	Hour	62.00000	9.09	563.58
9	Use rate gas cutting torch set	Hour	32.00000	25.60	819.20
10	Sundries	LS	3.00000	42.00	126.00
			Total cost of Materials	Rs:	**92712.18**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	30.00000	17.57	527.10
	Fuel / Energy charges	Hour	30.00000	101.52	3045.60
2	Pug cutting machine	Hour	20.00000	6.86	137.20
	Fuel / Energy charges	Hour	20.00000	4.22	84.40
3	Drilling machine	Hour	4.00000	24.32	97.28
	Fuel / Energy charges	Hour	4.00000	42.30	169.20
4	Grinding machine	Hour	20.00000	24.32	486.40
	Fuel / Energy charges	Hour	20.00000	42.30	846.00
5	Sundries	LS	3.00000	42.00	126.00
			Total hire charges of Machinery	Rs:	**5519.18**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling machine	Hour	4.00000	360.75	1443.00
2	Crew for Grinding machine	Hour	20.00000	360.75	7215.00
3	Foreman	Day	8.00000	925.00	7400.00
4	Marker / Fabricator / Erector	Day	6.00000	990.00	5940.00
5	Gas cutter	Day	2.00000	820.00	1640.00
6	Welder (General)	Day	4.00000	820.00	3280.00
7	Mazdoors	Day	4.00000	680.00	2720.00
8	Helper fabrication / erection	Day	8.00000	730.00	5840.00
			Total cost of Labour	Rs:	**35478.00**

labour component/unit qty		35478.00
Add contractor's profit and overhead charges	13.615%	4830.30
labour component/unit qty (including contractor's profit)		**40308.30**

ABSTRACT:

A. Cost of Materials				Rs:	92712.18
B. Hire charges of Machinery				Rs:	5519.18
C. Cost of Labour				Rs:	35478.00
		Total		Rs:	133709.36
D. Add for excise duty		0.00%		Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total		Rs:	133709.36
E. Add for transportation upto work site @		3%		Rs:	4011.28
	Total			Rs:	137720.64
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	18750.67
Add 2 leads					
Add 1 km lead charges for fabricated parts		27.88	per tonne		74.38
Unloading charges of fabricated parts Rs		127.51	per tonne		340.2
Total cost for	1.334 tonne			Rs:	156885.89
	Rate per tonne			Rs:	**117605.61**

IRR-GAW-2-14
New Item
2015-16 -4

OT SLUICE SHUTTERS for Below 5 Tons capacity (small gates)

As per Guidelines of Chief Engineer, Central Designs Organization, Hyderabad Specification drawing for Krishna Delta System

Fabrication, supply, erection, testing and commissioning of Sluice Shutters consisting of skin plate, horizontal and vertical angles, stiffeners, rubber seals, clamps with all accessories for sluice shutters including cost of all materials, machinery, labour, seal fixing etc., complete as per specifications and approved drawings

(without painting on mechanical cleaning surfaces which are added extra as per schedule of rates under items in this chapter and add as applicable separately)

Gate Size: 0.99 X 0.875 M

DATA: **RATE ANALYSIS** UNIT : **0.161** tonne

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel angles/ beams / chan	kg	63.72000	56.00	3568.32
2	Structural steel plates	kg	96.50000	61.00	5886.50
3	GI Bolts/Nut/Washer	kg	20.00000	149.00	2980.00
	Rubber Seals				
4	Bottom Seal	Rm	0.82000	716.00	587.12
5	Side Seal/ Top Seal	Rm	1.75000	1176.00	2058.00
6	Oxygen gas	cum	15.00000	47.00	705.00
7	Acetyline gas	cum	5.00000	385.00	1925.00
8	Welding electrodes	Nos	110.00000	17.00	1870.00
9	Use rate welding holder set	Hour	30.00000	9.09	272.70
10	Use rate gas cutting torch set	Hour	12.00000	25.60	307.20
11	Sundries	LS	3.00000	42.00	126.00
			Total cost of Materials	Rs:	**20285.84**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	14.00000	17.57	245.98
	Fuel / Energy charges	Hour	14.00000	101.52	1421.28
2	Pug cutting machine	Hour	4.00000	6.86	27.44
	Fuel / Energy charges	Hour	4.00000	4.22	16.88
3	Drilling machine	Hour	2.00000	24.32	48.64
	Fuel / Energy charges	Hour	2.00000	42.30	84.60
4	Grinding machine	Hour	4.00000	24.32	97.28
	Fuel / Energy charges	Hour	4.00000	42.30	169.20
5	Sundries	LS	3.00000	42.00	126.00
			Total hire charges of Machinery	Rs:	**2237.30**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling machine	Hour	2.00000	360.75	721.50
2	Crew for Grinding machine	Hour	4.00000	360.75	1443.00
3	Foreman	Day	2.00000	925.00	1850.00
4	Marker / Fabricator / Erector	Day	3.00000	990.00	2970.00
5	Gas cutter	Day	1.00000	820.00	820.00
6	Welder (General)	Day	4.00000	820.00	3280.00
7	Mazdoors	Day	4.00000	680.00	2720.00
8	Helper fabrication / erection	Day	6.00000	730.00	4380.00
			Total cost of Labour	Rs:	**18184.50**

labour component/unit qty		18184.50
Add contractor's profit and overhead charges	13.615%	2475.80
labour component/unit qty (including contractor's profit)		**20660.30**

ABSTRACT:

A. Cost of Materials			Rs:	20285.84
B. Hire charges of Machinery			Rs:	2237.30
C. Cost of Labour			Rs:	18184.50
		Total	Rs:	40707.64
D. Add for excise duty		0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total	Rs:	40707.64
E. Add for transportation upto work site @		3%	Rs:	1221.23
	Total		Rs:	41928.87
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%		Rs:	5708.62
Add 2 leads				
Add 1 km lead charges for fabricated parts		27.88 per tonne		8.98
Unloading charges of fabricated parts Rs		127.51 per tonne		41.06
Total cost for	0.161 tonne		Rs:	47687.53
	Rate per tonne		Rs:	**296195.84**

IRR-GAW-3 **SAND BLASTING AND PAINTING AS PER IS:14177-1994**

IRR-GAW-3-1 **Cleaning gates / hoists / embedded parts/lifting beams** etc, to expose fresh metal surface for painting **by sand blasting method** as per specifications including cost of all materials, l abour, machinery, scaffolding, etc., complete **with initial lead for sand upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100** **sqm**

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Sand (Screened)	cum	30.00000	128.00	3840.00
2	Use rate of air hose	Hour	8.00000	18.13	145.04
3	Use rate of sand blast gun nozzle	Hour	8.00000	3.96	31.68
4	Sundries(Rust inhibitive, seive etc)	LS	5.00000	42.00	210.00
				Total	4226.72
	Add 10% towards scaffolding/laddor @			0.10	422.67
	Total cost of Materials			Rs:	**4649.39**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air compressor 7 cmm diesel	Hour	8.00000	246.16	1969.28
	Fuel / Energy charges	Hour	8.00000	1298.88	10391.04
2	Sand blasting equipment	Hour	8.00000	126.54	1012.32
	Fuel / Energy charges	Hour	8.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**13372.64**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Air compressor	Hour	8.00000	386.88	3095.04
2	Crew for Sand blasting equipment	Hour	8.00000	403.00	3224.00
3	mazdoor	Day	15.00000	680.00	10200.00
			Total cost of Labour	Rs:	**16519.04**

labour component/unit qty		165.20
Add contractor's profit and overhead charges	13.615%	22.50
labour component/unit qty (including contractor's profit)		**187.70**

ABSTRACT:

A. Cost of Materials			Rs:	4649.39
B. Hire charges of Machinery			Rs:	13372.64
C. Cost of Labour			Rs:	16519.04
		Total	Rs:	34541.07
D. Add for excise duty		0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total	Rs:	34541.07
E. Add for transportation upto work site @		3%	Rs:	1036.23
	Total		Rs:	35577.30
F. Add for contractor's profit and overheads on				
(A+B+C+D+E)	13.615%		Rs:	4843.85
Total cost for	100.00 sqm		Rs:	40421.15
	Rate per sqm		Rs:	**404.21**

IRR-GAW-3-2 **Painting of embedded metal parts** and all types of gates, stoplogs,etc, on sand blasted surfaces with one coat of inorganic zinc silicate (airless spray preferred)70+/- 5 and two super coats with a total thickness of 300 microns (each 150+/- 5) of solventless coaltar epoxy paint each coat 150 microns (total 300 microns) cost of all materials, labour, scaffolding etc., complete **with all leads and all lifts**

(Upstream surface of gates portion may be painted with solventless coaltar epoxy brown paint instead of solventless coaltar black. The rate for coaltar epoxy brown shall be adopted in data for Upstream side painting)

DATA: **RATE ANALYSIS** UNIT : **100 sqm**

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Inorganic zinc silicate	ltr	12.00000	619.00	7428.00
2	Thinner @ 10%	ltr	1.20000	114.00	136.80
3	Solventless Coal tar epoxy paint	ltr	40.00000	298.00	11920.00
4	Thinner @ 10%	ltr	4.00000	114.00	456.00
5	Sundries (brushes, ladders, platforms etc)	LS	3.00000	42.00	126.00
			Total cost of Materials	Rs:	**20066.80**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hire Charges of Airless Spray Gun	Hr	6.00000	125.84	755.04
2	Hire Charges of Air Compressor-7 Cmm (diesel)	Hr	6.00000	246.16	1476.96
3	Fuel Charges of Air Compressor	Hr	6.00000	1298.88	7793.28
			Total cost of Machinery	Rs:	**10025.28**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew Charges of Air Compressor	Day	6.00000	386.88	2321.28
2	Painter Class-I	Day	20.00000	935.00	18700.00
3	Helper	Day	20.00000	680.00	13600.00
			Total cost of Labour	Rs:	**34621.28**

labour component/unit qty		346.20
Add contractor's profit and overhead charges	13.615%	47.10
labour component/unit qty (including contractor's profit)		**393.30**

ABSTRACT:

A. Cost of Materials			Rs:	20066.80
B. Hire charges of Machinery			Rs:	10025.28
C. Cost of Labour			Rs:	34621.28
		Total	Rs:	64713.36
D. Add for excise duty		0	Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total	Rs:	64713.36
E. Add for transportation upto work site @		0.03	Rs:	1941.40
	Total		Rs:	66654.76
F. Add for contractor's profit and overheads on				
(A+B+C+D+E)	13.615%	Rs:	9075.05	9075.05
Total cost	100.00 sqm		Rs:	75729.81
	Rate per sqm		Rs:	**757.30**

IRR-GAW-3-3 **Painting of Lifting beams,cat walks and other similar structures**-painting hoist machinery, on sand blasted surfaces with two coats of zinc phosphate primer (airless spray preferred) 40microns/coat and twocoats of alkyd based micaccous iron oxide paint , 65 microns/coat cost of all materials, labour, scaffolding etc., complete **with all leads and all lifts**

DATA: **RATE ANALYSIS** UNIT : **100 sqm**

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	zinc phosphate primer	ltr	28.00000	228.00	6384.00
2	Thinner@10%	ltr	2.80000	114.00	319.20
3	alkyd based micaccous iron oxide paint	ltr	20.00000	164.00	3280.00
4	Thinner@10%	ltr	2.00000	114.00	228.00
5	Sundries (brushes,ladders,platforms etc)	LS	3.00000	42.00	126.00
		Total cost of Materials		Rs:	**10337.20**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hire Charges of Airless Spray Gun	Hr	6.00000	125.84	755.04
2	Hire Charges of Air Compressor-7 Cmm (diesel)	Hr	6.00000	246.16	1476.96
3	Fuel Charges of Air Compressor	Hr	6.00000	1298.88	7793.28
			Total cost of machinery	RS:	**10025.28**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew Charges of Air Compressor	Day	6.00000	386.88	2321.28
2	Painter Class-I	Day	15.00000	935.00	14025.00
3	Helper	Day	15.00000	680.00	10200.00
			Total cost of Labour	Rs:	**26546.28**

labour component/unit qty		265.50
Add contractor's profit and overhead charges	13.615%	36.10
labour component/unit qty (including contractor's profit)		**301.60**

ABSTRACT:

A. Cost of Materials			Rs:	10337.20
B. Hire charges of Machinery			Rs:	10025.28
C. Cost of Labour			Rs:	26546.28
		Total	Rs:	46908.76
D. Add for excise duty		0	Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total	Rs:	46908.76
E. Add for transportation upto work site @		0.03	Rs:	1407.26
	Total		Rs:	48316.02
F. Add for contractor's profit and overheads on				
(A+B+C+D+E)	13.615%	Rs:	6578.23	6578.23
Total cost for	100.00 sqm		Rs:	54894.25
	Rate per sqm		Rs:	**548.94**

IRR-GAW-3-4 **HOISTS:STRUCTURAL COMPONENTS--painting structurals on sand blasted surfaces with** two coats of zinc phosphate primer (airless spray preferred) 40microns/coat and one coat 65+/-5 of alkyd based micaccous iron oxide paint followed by two coats of synthetic enamel paint 25 microns/coat cost of all materials, labour, scaffolding etc., complete with all leads and
. **all lifts**

DATA: **RATE ANALYSIS** UNIT : **100** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	zinc phosphate primer	ltr	28.00000	228.00	6384.00
2	Thinner@10%	ltr	2.80000	114.00	319.20
3	alkyd based micaccous iron oxide paint	ltr	15.00000	164.00	2460.00
4	Thinner@10%	ltr	1.50000	114.00	171.00
5	synthetic enamel paint	ltr	17.00000	255.00	4335.00
6	Thinner@10%	ltr	1.70000	114.00	193.80
7	Sundries (brushes,ladders,platforms etc)	LS	3.00000	42.00	126.00
			Total cost of Materials	Rs:	**13989.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hire Charges of Airless Spray Gun	Hr	6.00000	125.84	755.04
2	Hire Charges of Air Compressor-7 Cmm (diesel)	Hr	6.00000	246.16	1476.96
3	Fuel Charges of Air Compressor	Hr	6.00000	1298.88	7793.28
			Total cost of Machinery	Rs:	**10025.28**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew Charges of Air Compressor	Day	6.00000	386.88	2321.28
2	Painter Class-I	Day	20.00000	935.00	18700.00
3	Helper	Day	20.00000	680.00	13600.00
			Total cost of Labour	Rs:	**34621.28**

labour component/unit qty		346.20
Add contractor's profit and overhead charges	13.615%	47.10
labour component/unit qty (including contractor's profit)		**393.30**

ABSTRACT:

A. Cost of Materials			Rs:	13989.00
B. Hire charges of Machinery			Rs:	10025.28
C. Cost of Labour			Rs:	34621.28
		Total	Rs:	58635.56
D. Add for excise duty		0	Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total	Rs:	58635.56
E. Add for transportation upto work site @		0.03	Rs:	1759.07
		Total	Rs:	60394.63
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%	Rs:	8222.73	8222.73
Total cost for	100.00 sqm		Rs:	68617.36
	Rate per sqm		Rs:	**686.17**

IRR-GAW-3-5 **HOISTS:machineryCOMPONENTS--painting hoist machinery, on sand blasted surfaces** with one coats of zinc phosphate primer (airless spray preferred) 50microns/coat and three coats of aluminium paint or synthetic enamel , 25 microns/coat cost of all materials, labour, scaffolding etc., complete with all leads and **all lifts**

DATA: **RATE ANALYSIS** UNIT : **100** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	zinc phosphate primer	ltr	14.00000	228.00	3192.00
2	Thinner@10%	ltr	1.40000	114.00	159.60
3	aluminium paint or synthetic enamel per coat	ltr	26.00000	255.00	6630.00
4	Thinner@10%	ltr	2.60000	114.00	296.40
5	Sundries (brushes,ladders,platforms etc)	LS	3.00000	42.00	126.00
			Total cost of Materials	Rs:	**10404.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hire Charges of Airless Spray Gun	Hr	6.00000	125.84	755.04
2	Hire Charges of Air Compressor-7 Cmm (diesel)	Hr	6.00000	246.16	1476.96
3	Fuel Charges of Air Compressor	Hr	6.00000	1298.88	7793.28
			Total cost of Machinery	Rs:	**10025.28**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew Charges of Air Compressor	Day	6.00000	386.88	2321.28
2	Painter Class-I	Day	20.00000	935.00	18700.00
3	Helper	Day	20.00000	680.00	13600.00
			Total cost of Labour	Rs:	**34621.28**

labour component/unit qty		346.20
Add contractor's profit and overhead charges	13.615%	47.10
labour component/unit qty (including contractor's profit)		**393.30**

ABSTRACT:

A. Cost of Materials			Rs:	10404.00
B. Hire charges of Machinery			Rs:	10025.28
C. Cost of Labour			Rs:	34621.28
		Total	Rs:	55050.56
D. Add for excise duty		0	Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total	Rs:	55050.56
E. Add for transportation upto work site @		0.03	Rs:	1651.52
	Total		Rs:	56702.08
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%	Rs:	7719.99	7719.99
Total cost for	100.00 sqm		Rs:	64422.07
	Rate per sqm		Rs:	**644.22**

IRR-GAW-4 **PAINTING WITHOUT SAND BLASTING**

IRR-GAW-4-1 **E.M Parts for ALL TYPES OF GATES**

Surface cleaning of metal surfaces by chemical cleaners and then by hand and power tool cleaners and removing dust. After cleaning,applying primary coat with **one** coat of **Protective Mastic** to athickness of 70±5 microns ,followed by finishing coats **2 coats** with Solventless Coal tar epoxy each coat with a DFT of 150±5 microns and total DFT of all coats including Primary coat should not be less than 350 microns with material, labour and all accessories with all leads and lifts

(**in respect of Heavily rusted (30 to 40% rusted) surfaces)**

DATA: **RATE ANALYSIS** UNIT : **100.000** Sq.m

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rust cleaner / inhibitor	ltr	13.00000	154.00	2002.00
2	Protective Mastic	ltr	25.00000	523.00	13075.00
3	Thinner@10%	ltr	2.50000	114.00	285.00
4	Solventless Coal tar epoxy paint	ltr	40.00000	298.00	11920.00
5	Thinner@10%	ltr	4.00000	114.00	456.00
6	Wire brush	Nc	2.00000	45.00	90.00
7	Sundries	LS	3.00000	42.00	126.00
			Total cost of Materials	Rs:	**27954.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hire Charges of Airless Spray Gun	Hr	6.00000	125.84	755.04
2	Hire Charges of Air Compressor-7 Cmm (diesel)	Hr	6.00000	246.16	1476.96
3	Fuel Charges of Air Compressor	Hr	6.00000	1298.88	7793.28
			Total cost of Machinery	Rs:	**10025.28**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew Charges of Air Compressor	Day	6.00000	386.88	2321.28
2	Painter Class-I	Day	20.00000	935.00	18700.00
3	Helper	Day	20.00000	680.00	13600.00
			Total cost of Labour	Rs:	**34621.28**

labour component/unit qty 346.20
Add contractor's profit and overhead charges 13.615% 47.10
labour component/unit qty (including contractor's profit) **393.30**

ABSTRACT:

A. Cost of Materials			Rs:	27954.00
B. Hire charges of Machinery			Rs:	10025.28
C. Cost of Labour			Rs:	34621.28
		Total	Rs:	72600.56
D. Add for excise duty		0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total	Rs:	72600.56
E. Add for transportation upto work site @		3%	Rs:	2178.02
		Total	Rs:	74778.58
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%		Rs:	10181.10
Total cost for	100.00 sqm		Rs:	84959.68
	Rate per sq.meter		Rs:	**849.60**

IRR-GAW-4-3 **HOIST BRIDGES ,HOISTING EQUIPMENT AND CRANES,Etc,**

Surface cleaning of metal surfaces by chemical cleaners and then by hand and power tool cleaners and removing dust. After cleaning,applying primary coat with **two** coats of Zinc chromite red oxide primer , followed by finishing coats **3 coats** with synthetic enamel paint with material, labour,and all accessories with all leads and lifts where surface cleaning by sand blasting is not feasible and based on specific recommendations of designers, it is to adopt surface preperation done manually by hand and power tool after cleaning by chemical treatment to remove grease, rust, scaling etc., and to form phasphate coating to prevent further rusting, before applying primer painting.

DATA: **RATE ANALYSIS** UNIT : **100.000** Sq.m

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rust cleaner / inhibitor	ltr	13.00000	154.00	2002.00
2	Zinc Chromite Red Oxide Primer	ltr	28.00000	185.00	5180.00
3	Thinner@10%	ltr	2.80000	114.00	319.20
4	Synthetic enamel Paint	ltr	17.00000	255.00	4335.00
5	Thinner@10%	ltr	1.70000	114.00	193.80
6	Wire brush	No	2.00000	45.00	90.00
7	Sundries	LS	3.00000	42.00	126.00
			Total cost of Materials	Rs:	**12246.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hire Charges of Airless Spray Gun	Hr	6.00000	125.84	755.04
2	Hire Charges of Air Compressor-7 Cmm (diesel)	Hr	6.00000	246.16	1476.96
3	Fuel Charges of Air Compressor	Hr	6.00000	1298.88	7793.28
			Total cost of Machinery	Rs:	**10025.28**

C. LABOUR

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew Charges of Air Compressor	Day	6.00000	386.88	2321.28
2	Painter Class-I	Day	20.00000	935.00	18700.00
3	Helper	Day	20.00000	680.00	13600.00
			Total cost of Labour	Rs:	**34621.28**

labour component/unit qty 346.20
Add contractor's profit and overhead charges 13.615% 47.10
labour component/unit qty (including contractor's profit) **393.30**

ABSTRACT:

A. Cost of Materials			Rs.	12246.00
B. Hire charges of Machinery			Rs.	10025.28
C. Cost of Labour			Rs.	34621.28
		Total	Rs:	56892.56
D. Add for excise duty		0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total	Rs:	56892.56
E. Add for transportation upto work site @		3%	Rs:	1706.78
	Total		Rs:	58599.34
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%		Rs:	7978.30
Total cost for	100.00 sqm		Rs:	66577.64
	Rate per sq.meter			**665.78**

WALK WAYS(CAT WALKS), LIFTING BEAMS,etc,

IRR-GAW-4-4 **Surface cleaning of metal surfaces by chemical cleaners** and then by hand and power tool cleaners and removing dust. After cleaning,applying primary coat with **one** coat of Zinc rich epoxy primer to a thickness of 40 microns ,followed by finishing coats **2 coats** with Solventless Coal tar epoxy with material, labour and all accessories **with all leads and lifts**

DATA: Consider 100 sqm area for painting:
Requirement of materials :

Theoretical spreading rate per one Coat of Paint	25	Sqm/Hr	
Assume Losses at 30% of the spreading area (as per field obserations)			
Actual Spreading Area	17.50	Sqm/Hr	
Total time required for 100 Sqm Area	5.71	Hr	
Say	6.00	Hr	

DATA: **RATE ANALYSIS** UNIT : **100.000** Sq.m

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rust cleaner / inhibitor	ltr	13.00000	154.00	2002.00
2	Zinc rich epoxy primer	ltr	14.00000	680.00	9520.00
3	Thinner@10%	ltr	1.40000	114.00	159.60
4	Solvetnless Coal tar epoxy paint	ltr	40.00000	298.00	11920.00
5	Thinner@10%	ltr	4.00000	114.00	456.00
6	Wire brush	Nos	2.00000	45.00	90.00
7	Sundries	LS	3.00000	42.00	126.00
			Total cost of Materials	Rs:	**24273.60**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hire Charges of Airless Spray Gun	Hr	6.00000	125.84	755.04
2	Hire Charges of Air Compressor-7 Cmm (diesel)	Hr	6.00000	246.16	1476.96
3	Fuel Charges of Air Compressor	Hr	6.00000	1298.88	7793.28
			Total cost of Machinery	Rs:	**10025.28**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew Charges of Air Compressor	Day	6.00000	386.88	2321.28
2	Painter Class-I	Day	13.00000	935.00	12155.00
3	Helper	Day	13.00000	680.00	8840.00
			Total cost of Labour	Rs:	**23316.28**

labour component/unit qty		233.20
Add contractor's profit and overhead charges	13.615%	31.80
labour component/unit qty (including contractor's profit)		**265.00**

ABSTRACT:

A. Cost of Materials			Rs:	24273.60
B. Hire charges of Machinery			Rs:	10025.28
C. Cost of Labour			Rs:	23316.28
		Total	Rs:	57615.16
D. Add for excise duty		0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total	Rs:	57615.16
E. Add for transportation upto work site @		3%	Rs:	1728.45
	Total		Rs:	59343.61
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%		Rs:	8079.63
Total cost for	100.00 sqm		Rs:	67423.24
	Rate per sq.meter		Rs:	**674.23**

CHAPTER-VI

PRELIMINARY AND MAINTENANCE WORKS - Standard Data

(STORED WITH E-N-C & TO INCORPORATE CHANGES YEARLY/ AS NEEDED)

For the Year : 2026-27

Index- code
IRR-PMW **PRELIMINARY & MAINTENANCE WORKS - DATA RATES**

Directions to add Seigniorage Charges and Additional Lead Charges

Seigniorage Charges:

1. The unit rate for work item in the Standard Data is **exclusive of Seigniorage Charges** wherever applicable.
2. The appropriate Seigniorage Charges for relevant materials are to be added in the Part-B of the estimate

Additional Lead and Lift Charges:

1. Unless otherwise specified the basic rates are inclusive of all lifts.
2. For concrete, masonry and reinforcement items **wherever** initial lead of 1km is considered in the basic rate, the additional lead as follows:

Additional lead charges for Steel, sand, coarse aggregate, stones and stone chips shall be worked out for total lead involved and 1 km lead charges included in basic rate shall be deducted from total lead charges. No loading and unloading charges shall be allowed for any item.

In case of Cement and Steel, Loading and unloading charges are already added in the work item while arriving the unit rate and hence should not be added again

Example:

Total lead for sand from approved sand quarry :			15	Km
Initial lead included in the basic rate in the basic item rate in the data (i.e., item specification) :			1	Km
Additional lead charges :	Lead charges for 5 km	Rs.	123.75	
	Lead charges for next 10 km	Rs.	185.647	
	Total lead charges for 15 km /cum	Rs.	309.40	
	Less 1 km initial lead charges /cum	Rs.	46.41	(-)
	Net additional lead charges / cum	Rs.	262.98	

3. The Leads for Steel shall be from the nearest market place to the Project area

4. For earth/rockfill embankments **wherever** initial lead of 1km is considered in the basic rate, the additional lead charges are to be added as follows:

Additional lead charges for Earth, Murrum etc., shall be worked out for total lead involved and 1 km lead charges included in basic rate shall be deducted from total lead charges. No loading and unloading charges shall be allowed for any item. (same as above)

Example:

Total lead for earth from approved borrow area :			15	Km
Initial lead included in the basic rate in the basic item rate in the data (i.e., item specification) :			1	Km
Additional lead charges :	Lead charges for 5 km	Rs.	123.75	
	Lead charges for next 10 km	Rs.	185.647	
	Total lead charges for 15 km /cum	Rs.	309.40	
	Less 1 km initial lead charges /cum	Rs.	46.41	(-)
	Net additional lead charges / cum	Rs.	262.98	

5. The initial lead up to 50 m as mentioned in some standard data items is meant for manual lead within the working area. For conveyance of materials, the lead required from quarry/Borrow area/ Dump Area to worksite shall be added to the data without deducting the 50 m initial lead charges

PMW - Work Items

IRR-PMW-1 **JUNGLE CLEARANCE :**

IRR-PMW-1-1 **Clearing thin jungle growth (more than 50 percent open space) including bushes** upto **30 cm / parthenium and other weeds** including burning or disposing off the same as directed etc., complete.

DATA: **RATE ANALYSIS** UNIT : **1000** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
		Total cost of Materials		Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
		Total hire charges of Machinery		Rs:	**0.00**

C. LABOUR:

Sl No	Description		Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector		Day	0.50000	920.00	460.00
2	mazdoor		Day	3.00000	680.00	2040.00
				Total cost of Labour	Rs:	**2500.00**
labour component/unit qty			2.50			
Add contractor's profit and overhead charges		13.615%	0.30			
labour component/unit qty (including contractor's profit)			**2.80**			

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2500.00
		Total	Rs:	2500.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	340.38
Total cost for	1000.00 sqm		Rs:	**2840.38**
Rate per sqm	(A+B+C+D)/1000.0		Rs.	**2.84**

IRR-PMW-1-2 **Clearing thick jungle growth (less than 50 percent open space) including bushes upto 30 cm / parthenium and other weeds** including burning or disposing off the same as directed etc., complete.

DATA:

RATE ANALYSIS UNIT : **1000** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.50000	920.00	460.00
2	mazdoor	Day	5.00000	680.00	3400.00
			Total cost of Labour	Rs:	**3860.00**

labour component/unit qty		3.90
Add contractor's profit and overhead charges	13.615%	0.50
labour component/unit qty (including contractor's profit)		**4.40**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	3860.00
		Total	Rs:	3860.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	525.54
Total cost for	1000.00 sqm		Rs:	**4385.54**
Rate per sqm	(A+B+C+D)/1000.0		Rs.	**4.39**

IRR-PMW-1-3 **Removing stumps, tree roots, roots of bamboo clusters etc., upto 1.50 m girth** including excavation, stacking the materials neatly and levelling the surface etc., complete with **initial lead upto 50 m and all lifts.**

DATA:

RATE ANALYSIS UNIT : **18** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.25000	920.00	230.00
2	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**1590.00**

labour component/unit qty		88.30
Add contractor's profit and overhead charges	13.615%	12.00
labour component/unit qty (including contractor's profit)		**100.30**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	1590.00
		Total	Rs:	1590.00

D. Add for contractor's profit and overheads
on (A+B+C) 13.615% Rs: 216.48
Total cost for 18.00 Nos. Rs: **1806.48**
Rate per each (A+B+C+D)/18.0 Rs. **100.36**

IRR-PMW-1-4 **Removing stumps, tree roots, roots of bamboo cluster etc., with girth above 1.50 m** and **upto 3.0 m** including excavation, stacking the materials neatly and levelling the area etc., **complete with initial lead upto 50 m and all lifts.**

DATA:

RATE ANALYSIS UNIT : **8** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.25000	920.00	230.00
2	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**1590.00**

labour component/unit qty 198.75
Add contractor's profit and overhead charges 13.615% 27.06
labour component/unit qty (including contractor's profit) **225.80**

ABSTRACT:
A. Cost of Materials Rs: 0.00
B. Hire charges of Machinery Rs: 0.00
C. Cost of Labour Rs: 1590.00
Total Rs: 1590.00
D. Add for contractor's profit and overheads
on (A+B+C) 13.615% Rs: 216.48
Total cost for 8.00 Nos. Rs: **1806.48**
Rate per each (A+B+C+D)/8.0 Rs. **225.81**

IRR-PMW-1-5 **Removing stumps, tree roots, roots of bamboo cluster etc., with girth** above **3.0 m** and upto **5.0 m** including excavation, stacking the materials neatly and levelling the area etc., complete **with initial lead upto 50 m and all lifts.**

DATA:

RATE ANALYSIS UNIT : **5** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.50000	920.00	460.00
2	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**3180.00**

labour component/unit qty 636.00
Add contractor's profit and overhead charges 13.615% 86.60
labour component/unit qty (including contractor's profit) **722.60**

ABSTRACT:
A. Cost of Materials Rs: 0.00
B. Hire charges of Machinery Rs: 0.00
C. Cost of Labour Rs: 3180.00
Total Rs: 3180.00
D. Add for contractor's profit and overheads
on (A+B+C) 13.615% Rs: 432.96
Total cost for 5.00 Nos. Rs: **3612.96**
Rate per each (A+B+C+D)/5.0 Rs. **722.59**

IRR-PMW-1-6 **Additional rate for every 0.5 m increase in girth** of tree stump / stumps of bamboo cluster beyond 5 m.

DATA: **RATE ANALYSIS** UNIT : **7** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.22000	920.00	202.40
2	mazdoor	Day	0.87500	680.00	595.00
			Total cost of Labour	Rs:	**797.40**

labour component/unit qty 113.90
Add contractor's profit and overhead charges 13.615% 15.50
labour component/unit qty (including contractor's profit) **129.40**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	797.40
		Total	Rs:	797.40
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	108.57
Total cost for	7.00 Nos.		Rs:	**905.97**
Rate per each	(A+B+C+D)/7.0		Rs.	**129.42**

IRR-PMW-1-7 **Cutting and stacking bamboos** excluding removing stumps and roots etc., complete with **initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **150** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.50000	920.00	460.00
2	mazdoor	Day	5.00000	680.00	3400.00
			Total cost of Labour	Rs:	**3860.00**

labour component/unit qty 25.73
Add contractor's profit and overhead charges 13.615% 3.50
labour component/unit qty (including contractor's profit) **29.20**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	3860.00
		Total	Rs:	3860.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	525.54
Total cost for	150.00 Nos.		Rs:	**4385.54**
Rate per each	(A+B+C+D)/150.0		Rs.	**29.24**

IRR-PMW-1-8 **Cutting and removing jauliflora bushes upto 1.5 m girth** excluding removal of stumps and including burning or disposing off the materials as directed **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.50000	920.00	460.00
2	mazdoor	Day	3.00000	680.00	2040.00
	Total cost of Labour			Rs:	**2500.00**

labour component/unit qty 25.00
Add contractor's profit and overhead charges 13.615% 3.40
labour component/unit qty (including contractor's profit) **28.40**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	2500.00
	Total	Rs:	2500.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	340.38
Total cost for	100.00 Nos	Rs:	**2840.38**
Rate per each	(A+B+C+D)/100.0	Rs.	**28.40**

IRR-PMW-1-9 **Cutting and removing jauliflora bushes above 1.5 m upto 3.0 m girth** excluding removal of stumps and including burning or disposing off the materials as directed **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **50** Nos

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description		Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector		Day	0.50000	920.00	460.00
2	mazdoor		Day	3.00000	680.00	2040.00
		Total cost of Labour			Rs:	**2500.00**

labour component/unit qty 50.00
Add contractor's profit and overhead charges 13.615% 6.80
labour component/unit qty (including contractor's profit) **56.80**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	2500.00
	Total	Rs:	2500.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	340.38
Total cost for	50.00 Nos	Rs:	**2840.38**
Rate per each	(A+B+C+D)/50.0	Rs.	**56.81**

IRR-PMW-1-10 **Cutting trees above 0.3 m and upto 0.6 m girth** excluding removal of stumps and including stacking the materials neatly as directed **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **14** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of ropes etc	LS	0.25000	203.00	50.75
			0.00000	0.00	0.00
	Total cost of Materials			Rs:	**50.75**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.25000	920.00	230.00
2	mazdoor	Day	3.00000	680.00	2040.00
			Total cost of Labour	Rs:	**2270.00**

labour component/unit qty 162.10
Add contractor's profit and overhead charges 13.615% 22.10
labour component/unit qty (including contractor's profit) **184.20**

ABSTRACT:

A. Cost of Materials			Rs:	50.75
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2270.00
		Total	Rs:	2320.75
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	315.97
Total cost for	14.00 Nos.		Rs:	**2636.72**
Rate per each	(A+B+C+D)/14.0		Rs.	**188.34**

IRR-PMW-1-11 **Cutting trees above 0.6 m and upto 1.2 m girth** excluding removal of stumps and including stacking the materials neatly as directed **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **4** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of ropes etc	LS	0.25000	203.00	50.75
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**50.75**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.25000	920.00	230.00
2	mazdoor	Day	3.00000	680.00	2040.00
			Total cost of Labour	Rs:	**2270.00**

labour component/unit qty 567.50
Add contractor's profit and overhead charges 13.615% 77.30
labour component/unit qty (including contractor's profit) **644.80**

ABSTRACT:

A. Cost of Materials			Rs:	50.75
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2270.00
		Total	Rs:	2320.75
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	315.97
Total cost for	4.00 Nos.		Rs:	**2636.72**
Rate per each	(A+B+C+D)/4.0		Rs.	**659.18**

IRR-PMW-1-12 **Cutting trees above 1.2 m and upto 1.8 m girth** excluding removal of stumps and including stacking the materials neatly as directed **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **2** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of ropes etc	LS	0.25000	203.00	50.75
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**50.75**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.25000	920.00	230.00
2	mazdoor	Day	3.00000	680.00	2040.00
			Total cost of Labour	Rs:	**2270.00**

labour component/unit qty 1135.00
Add contractor's profit and overhead charges 13.615% 154.50
labour component/unit qty (including contractor's profit) **1289.50**

ABSTRACT:

A. Cost of Materials			Rs:	50.75
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2270.00
		Total	Rs:	2320.75
D. Add for contractor's profit and overheads				
on (A+B+C)		13.615%	Rs:	315.97
Total cost for	2.00	Nos.	Rs:	**2636.72**
Rate per each	(A+B+C+D)/2.0		Rs.	**1318.36**

IRR-PMW-1-13 **Cutting trees above 1.8 m and upto 2.4 m girth** excluding removal of stumps and including stacking the materials neatly as directed **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **1** No.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of ropes etc	LS	0.25000	203.00	50.75
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**50.75**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.25000	920.00	230.00
2	mazdoor	Day	3.00000	680.00	2040.00
			Total cost of Labour	Rs:	**2270.00**

labour component/unit qty		2270.00
Add contractor's profit and overhead charges	13.615%	309.10
labour component/unit qty (including contractor's profit)		**2579.10**

ABSTRACT:

A. Cost of Materials			Rs:	50.75
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2270.00
		Total	Rs:	2320.75
D. Add for contractor's profit and overheads				
on (A+B+C)		13.615%	Rs:	315.97
Total cost for	1.00	No.	Rs:	**2636.72**
Rate per each	(A+B+C+D)/1.0		Rs.	**2636.72**

IRR-PMW-1-14 **Cutting trees above 2.4 m and upto 3.0 m girth** excluding removal of stumps and including stacking the materials neatly as directed **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **1** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of ropes etc	LS	0.50000	203.00	101.50
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**101.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.25000	920.00	230.00
2	mazdoor	Day	5.00000	680.00	3400.00
			Total cost of Labour	Rs:	**3630.00**

labour component/unit qty		3630.00
Add contractor's profit and overhead charges	13.615%	494.20
labour component/unit qty (including contractor's profit)		**4124.20**

ABSTRACT:

A. Cost of Materials			Rs:	101.50
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	3630.00
		Total	Rs:	3731.50
D. Add for contractor's profit and overheads				
on (A+B+C)		13.615%	Rs:	508.04
Total cost for	1.00	Nos.	Rs:	**4239.54**
Rate per each	(A+B+C+D)/1.0		Rs.	**4239.54**

IRR-PMW-1-15 **Additional rate for cutting tree for every 0.5 m increase in girth** of tree beyond 3 m.

DATA: **RATE ANALYSIS** UNIT : **1** No

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of ropes etc	LS	0.15000	203.00	30.45
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**30.45**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.10000	920.00	92.00
2	mazdoor	Day	1.75000	680.00	1190.00
			Total cost of Labour	Rs:	**1282.00**

labour component/unit qty 1282.00
Add contractor's profit and overhead charges 13.615% 174.50
labour component/unit qty (including contractor's profit) **1456.50**

ABSTRACT:

A. Cost of Materials		Rs:	30.45
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	1282.00
	Total	Rs:	1312.45
D. Add for contractor's profit and overheads			
on (A+B+C)	13.615%	Rs:	178.69
Total cost for	1.00 No	Rs:	**1491.14**
Rate per each	(A+B+C+D)/1.0	Rs.	**1491.14**

IRR-PMW-1-16 **Cutting and burning or disposing off Apu / Jondu from marshy areas** as directed with initial lead **upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **1000** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	mazdoor	Day	12.00000	680.00	8160.00
			Total cost of Labour	Rs:	**9080.00**

labour component/unit qty 9.10
Add contractor's profit and overhead charges 13.615% 1.20
labour component/unit qty (including contractor's profit) **10.30**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	9080.00
	Total	Rs:	9080.00
D. Add for contractor's profit and overheads			
on (A+B+C)	13.615%	Rs:	1236.24
Total cost for	1000.00 sqm	Rs:	**10316.24**
Rate per sqm	(A+B+C+D)/1000.0	Rs.	**10.32**

IRR-PMW-2 **PRELIMINARY WORKS :**

IRR-PMW-2-1 **Earthwork excavation for trial pits / borrow pits** and other investigation works in all kinds of soil including boulders **upto 30 cm dia** and disposing off excavated soil as directed with lead **upto 10 m and lift upto 3 m.**

DATA: **RATE ANALYSIS** UNIT : **10** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.50000	920.00	460.00
2	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**4540.00**

labour component/unit qty 454.00
Add contractor's profit and overhead charges 13.615% 61.81
labour component/unit qty (including contractor's profit) **515.80**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	4540.00
		Total	Rs:	4540.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	618.12
Total cost for	10.00 cum		Rs:	**5158.12**
Rate per cum	(A+B+C+D)/100.0		Rs.	**515.81**

IRR-PMW-2-2 **Earthwork excavation for trial pits / borrow pits** and other investigation works in **soft rock** including disposing off the excavated rock as directed with **lead upto 10 m and lift upto 3 m.**

DATA: **RATE ANALYSIS** UNIT : **10** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.50000	920.00	460.00
2	Crowbarman	Day	1.00000	730.00	730.00
3	mazdoor	Day	7.50000	680.00	5100.00
			Total cost of Labour	Rs:	**6290.00**

labour component/unit qty 629.00
Add contractor's profit and overhead charges 13.615% 85.60
labour component/unit qty (including contractor's profit) **714.60**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	6290.00
		Total	Rs:	6290.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	856.38
Total cost for	10.00 cum		Rs:	**7146.38**
Rate per cum	(A+B+C+D)/10.0		Rs.	**714.64**

IRR-PMW-2-3 **Conducting geophysical investigation studies by electrical resistivity method** in stages of 5m for sub-surface details such as depth of formations, shear zones, classification of strata, depth of water table etc., including cost of all materials, equipments, labour, analysing and reporting the details of field studies conducted etc., complete excluding cost of transportation arrangements.

DATA: **RATE ANALYSIS** UNIT : **20** Stages

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Sundries (misc. consumables)		5.00000	42.00	210.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**210.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Electric resistivity meter	Hour	8.00000	111.16	889.28
	Battery / charging cost etc @	20%			177.86
			Total hire charges of Machinery	Rs:	**1067.14**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Geophysist / Geologist	Day	2.00000	1625.00	3250.00
2	Graduate Engineer	Day	1.00000	1625.00	1625.00
3	Lab Assistant	Day	1.00000	930.00	930.00
4	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**8525.00**

labour component/unit qty		426.30	
Add contractor's profit and overhead charges	13.615%	58.00	
labour component/unit qty (including contractor's profit)		**484.30**	

ABSTRACT:

A. Cost of Materials			Rs:	210.00
B. Hire charges of Machinery			Rs:	1067.14
C. Cost of Labour			Rs:	8525.00
		Total	Rs:	9802.14
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1334.56
Total cost for	20.00	Stages	Rs:	**11136.70**
Rate per stage	(A+B+C+D)/20.0		Rs.	**556.84**

IRR-PMW-2-4 **Drilling 80 mm dia hole through over-burden using casing shoe bit** vertical or inclined upto 10 degrees to vertical as directed including cost of all materials, machinery, labour, water charges, reaming, collection of wash samples at suitable intervals, logging and lebelling, supplying honne wood core box, fixing casing pipes (excluding cost of casing pipes) etc., **complete for depth upto 30 m from surface.**

Data: **RATE ANALYSIS** UNIT : **3.00** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of casing shoe bit	Rm	3.00000	144.74	434.22
2	Use rate of reamer shell	Rm	3.00000	35.49	106.47
3	Use rate of extension rod set 16.5 m	Rm	3.00000	1.99	5.97
4	Use rate of honne core box	Rm	3.00000	222.72	668.16
			Total cost of Materials	Rs:	**1214.82**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Core drilling machine	Hour	1.00000	324.86	324.86
	Fuel / Energy charges	Hour	1.00000	432.96	432.96
2	5 hp pump (diesel) 2 Nos.	Hour	2.00000	10.73	21.46
	Fuel / Energy charges	Hour	2.00000	144.33	288.66
3	Sundries (samplers etc)	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**1151.94**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Core drilling machine	Hour	1.00000	516.36	516.36
2	Crew for Pump	Hour	2.00000	204.67	409.34
3	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**2285.70**

labour component/unit qty		761.90	
Add contractor's profit and overhead charges	13.615%	103.70	
labour component/unit qty (including contractor's profit)		**865.60**	

ABSTRACT:

A. Cost of Materials			Rs:	1214.82
B. Hire charges of Machinery			Rs:	1151.94
C. Cost of Labour			Rs:	2285.70
		Total	Rs:	4652.46
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	633.43
Total cost for	3.00	Rm	Rs:	**5285.89**
Rate per Rm	(A+B+C+D)/3.0		Rs.	**1761.96**

IRR-PMW-2-5 **Drilling 76 mm dia (NX) core hole in hard rock using diamond core bit** vertical / inclined upto 10 degree to vertical as directed including cost of all materials, machinery, labour, water charges, collection of core samples, logging and lebelling, supplying honne wood core box and redrilling in case of collapse of sides etc., **complete for depth upto 30 m from surface.**

Data: **RATE ANALYSIS** UNIT : **3.00** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of diamond core bit	Rm	3.00000	1063.13	3189.39
2	Use rate of reamer shell	Rm	3.00000	106.47	319.41
3	Use rate of double tube core barrel	Rm	3.00000	283.32	849.96
4	Use rate of extension rod set 16.5 m	Rm	3.00000	26.54	79.62
5	Use rate of honne core box	Rm	3.00000	501.12	1503.36
			Total cost of Materials	Rs:	**5941.74**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Core drilling machine	Hour	8.00000	324.86	2598.88
	Fuel / Energy charges	Hour	8.00000	432.96	3463.68
2	5 hp pump (diesel) 2 Nos.	Hour	16.00000	10.73	171.68
	Fuel / Energy charges	Hour	16.00000	144.33	2309.28
3	Sundries	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**8753.52**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Core drilling machine	Hour	8.00000	516.36	4130.88
2	Crew for Pump	Hour	16.00000	204.67	3274.72
3	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**8765.60**

labour component/unit qty		2921.90
Add contractor's profit and overhead charges	13.615%	397.80
labour component/unit qty (including contractor's profit)		**3319.70**

ABSTRACT:

A. Cost of Materials		Rs:	5941.74
B. Hire charges of Machinery		Rs:	8753.52
C. Cost of Labour		Rs:	8765.60
	Total	Rs:	23460.86
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	3194.2
Total cost for	3.00 Rm	Rs:	**26655.06**
Rate per Rm	(A+B+C+D)/3.0	Rs.	**8885.02**

NOTE: 1. For drilling in hard rock beyond 30 m upto 60 m from surface increase the basic rate per Rm by 25 percent.
2. For drilling in hard rock beyond 60 m upto 90 m from surface increase the basic rate per Rm by 40 percent.

IRR-PMW-2-5-A
New Item 2015-16-5

Drilling 76 mm dia (NX) core hole in all types of rocks (other than Hard Rock) including Masonry/CC (where drilling is not possible by casing shoe) using diamond core bit vertical / inclined upto 10 degree to vertical as directed including cost of all materials, machinery, labour, water charges, and redrilling in case of collapse of sides etc., complete for **depth upto 30 m from surface for Primary and Secondary Holes**

Data: **RATE ANALYSIS** UNIT : **3.00** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of diamond core bit	Rm	3.00000	1508.70	4526.10
2	Use rate of reamer shell	Rm	3.00000	63.88	191.64
4	Use rate of extension rod set 16.5 m	Rm	3.00000	15.93	47.79
			Total cost of Materials	Rs:	**4765.53**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Core drilling machine	Hour	4.77600	324.86	1551.53
	Fuel / Energy charges	Hour	4.77600	432.96	2067.82
2	5 hp pump (diesel) 2 Nos.	Hour	9.55200	10.73	102.49
	Fuel / Energy charges	Hour	9.55200	144.33	1378.64
3	Sundries	LS	2.99000	42.00	125.58
			Total hire charges of Machinery	Rs:	**5226.06**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Core drilling machine	Hour	4.77600	516.36	2466.14
2	Crew for Pump	Hour	9.55000	204.67	1954.60
3	mazdoor	Day	1.19000	680.00	809.20
			Total cost of Labour	Rs:	**5229.94**

labour component/unit qty		1743.30
Add contractor's profit and overhead charges	13.615%	237.40
labour component/unit qty (including contractor's profit)		**1980.70**

ABSTRACT:

A. Cost of Materials		Rs:	4765.53
B. Hire charges of Machinery		Rs:	5226.06
C. Cost of Labour		Rs:	5229.94
	Total	Rs:	15221.53
D. Add for contractor's profit and overheads	13.615%	Rs:	2072.41
Total cost for	3.00 Rm	Rs:	**17293.94**
Rate per Rm	(A+B+C+D)/3.0	Rs.	**5764.65**

NOTE: 1. For drilling in all types of rocks (other than hard rock) including masonry/CC beyond 30 m upto 60 m from surface increase the basic rate per Rm by 25 percent.
2. For drilling in all types of rocks (other than hard rock) including masonry/CC m from surface increase the basic beyond 60 m upto 90 rate per Rm by 40 percent.

IRR-PMW-2-5-B
New Item 2015-16-6

Drilling 76 mm dia (NX) core hole in all types of rocks (other than Hard Rock) including Masonry/CC (where drilling is not possible by casing shoe) using diamond core bit vertical / inclined upto 10 degree to vertical as directed including cost of all materials, machinery, labour, water charges, collection of core samples, logging and lebelling, supplying honne wood core box and redrilling in case of collapse of sides etc., **complete for depth upto 30 m from surface for Test Holes**

Data: **RATE ANALYSIS** UNIT : **3.00** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of diamond core bit	Rm	3.00000	1508.70	4526.10
2	Use rate of reamer shell	Rm	3.00000	63.88	191.64
3	Use rate of double tube core barrel	Rm	3.00000	169.99	509.97
4	Use rate of extension rod set 16.5 m	Rm	3.00000	15.93	47.79
5	Use rate of honne core box	Rm	3.00000	501.12	1503.36
			Total cost of Materials	Rs:	**6778.86**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Core drilling machine	Hour	4.77600	324.86	1551.53
	Fuel / Energy charges	Hour	4.77600	432.96	2067.82
2	5 hp pump (diesel) 2 Nos.	Hour	9.55200	10.73	102.49
	Fuel / Energy charges	Hour	9.55200	144.33	1378.64
3	Sundries	LS	2.99000	42.00	125.58
			Total hire charges of Machinery	Rs:	**5226.06**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Core drilling machine	Hour	4.77600	516.36	2466.14
2	Crew for Pump	Hour	9.55200	204.67	1955.01
3	mazdoor	Day	1.19400	680.00	811.92
			Total cost of Labour	Rs:	**5233.07**

labour component/unit qty		1744.40	
Add contractor's profit and overhead charges	13.615%	237.50	
labour component/unit qty (including contractor's profit)		**1981.90**	

ABSTRACT:

A. Cost of Materials			Rs:	6778.86
B. Hire charges of Machinery			Rs:	5226.06
C. Cost of Labour			Rs:	5233.07
		Total	Rs:	17237.99
D. Add for contractor's profit and overheads		13.615%	Rs:	2346.95
Total cost for	3.00	Rm	Rs:	**19584.94**
Rate per Rm	(A+B+C+D)/3.0		Rs.	**6528.31**

NOTE: 1. For drilling in all types of rocks (other than hard rock) including masonry/CC beyond 30 m upto 60 m from surface increase the basic rate per Rm by 25 percent.
2. For drilling in all types of rocks (other than hard rock) including masonry/CC m from surface increase the basic beyond 60 m upto 90 rate per Rm by 40 percent.

IRR-PMW-2-6

Drilling 47 mm (BX)dia core hole in hard rock using diamond core bit vertical / inclined upto 10 degree to vertical as directed including cost of all materials, machinery, labour, water charges,collection of core samples,logging, lebelling, supplying honne wood core box and redrilling in case of collapse of sides etc., **complete for depth upto 30 m from surface.**

Data: **RATE ANALYSIS** UNIT : **3.00** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of diamond core bit	Rm	3.00000	885.40	2656.20
2	Use rate of reamer shell	Rm	3.00000	106.47	319.41
3	Use rate of double tube core barrel	Rm	3.00000	283.32	849.96
4	Use rate of extension rod set 16.5 m	Rm	3.00000	26.54	79.62
5	Use rate of honne core box	Rm	3.00000	501.12	1503.36
			Total cost of Materials	Rs:	**5408.55**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Core drilling machine	Hour	8.00000	324.86	2598.88
	Fuel / Energy charges	Hour	8.00000	432.96	3463.68
2	5 hp pump (diesel) 2 Nos.	Hour	16.00000	10.73	171.68
	Fuel / Energy charges	Hour	16.00000	144.33	2309.28
3	Sundries	LS	5.00000	42.00	210.00
			Total hire charges of Machinery	Rs:	**8753.52**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Core drilling machine	Hour	8.00000	516.36	4130.88
2	Crew for Pump	Hour	16.00000	204.67	3274.72
3	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**8765.60**

labour component/unit qty		2921.90
Add contractor's profit and overhead charges	13.615%	397.80
labour component/unit qty (including contractor's profit)		**3319.70**

ABSTRACT:

A. Cost of Materials			Rs:	5408.55
B. Hire charges of Machinery			Rs:	8753.52
C. Cost of Labour			Rs:	8765.60
		Total	Rs:	22927.67
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	3121.6
Total cost for	3.00	Rm	Rs:	**26049.27**
Rate per Rm	(A+B+C+D)/3.0		Rs.	**8683.09**

NOTE: 1. For drilling in hard rock beyond 30 m upto 60 m from surface increase the basic rate for drilling upto 30 m from surface by 25 percent per Rm.
2. For drilling in hard rock beyond 60 m upto 90 m from surface increase the basic rate for drilling upto 30 m from surface by 40 percent per Rm.

IRR-PMW-2-6-A
New Item 2015-16-7

Drilling 47 mm (BX)dia core hole in all types of rocks (other than Hard Rock) including Masonry/CC (where drilling is not possible by casing shoe) using diamond core bit vertical / inclined upto 10 degree to vertical as directed including cost of all materials, machinery, labour, water charges, and redrilling in case of collapse of sides etc., complete for **depth upto 30 m**

Data: **RATE ANALYSIS** UNIT : **3.00** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of diamond core bit	Rm	3.00000	1256.48	3769.44
2	Use rate of reamer shell	Rm	3.00000	63.88	191.64
4	Use rate of extension rod set 16.5 m	Rm	3.00000	15.93	47.79
			Total cost of Materials	Rs:	**4008.87**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Core drilling machine	Hour	4.77600	324.86	1551.53
	Fuel / Energy charges	Hour	4.77600	432.96	2067.82
2	5 hp pump (diesel) 2 Nos.	Hour	9.55200	10.73	102.49
	Fuel / Energy charges	Hour	9.55200	144.33	1378.64
3	Sundries	LS	2.99000	42.00	125.58
			Total hire charges of Machinery	Rs:	**5226.06**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Core drilling machine	Hour	4.77600	516.36	2466.14
2	Crew for Pump	Hour	9.55000	204.67	1954.60
3	mazdoor	Day	1.19000	680.00	809.20
			Total cost of Labour	Rs:	**5229.94**

labour component/unit qty		1743.30
Add contractor's profit and overhead charges	13.615%	237.40
labour component/unit qty (including contractor's profit)		**1980.70**

ABSTRACT:

A. Cost of Materials			Rs:	4008.87
B. Hire charges of Machinery			Rs:	5226.06
C. Cost of Labour			Rs:	5229.94
		Total	Rs:	14464.87
D. Add for contractor's profit and overheads		13.615%	Rs:	1969.39
Total cost for	3.00	Rm	Rs:	**16434.26**
Rate per Rm	(A+B+C+D)/3.0		Rs.	**5478.09**

NOTE: 1. For drilling in all types of rocks (other than hard rock) including masonry/CC beyond 30 m upto 60 m from surface increase the basic rate per Rm by 25 percent.
2. For drilling in all types of rocks (other than hard rock) including masonry/CC m from surface increase the basic beyond 60 m upto 90 rate per Rm by 40 percent.

IRR-PMW-2-7

Providing and **fixing 20 x 20 x 75 cm size roughly dressed boundary / demarcation / chainage / arrow stones** including cost of all materials, labour, engraving marks, fixing in position, murum filling etc., complete **with lead upto 50 m and all lifts.**

Data: **RATE ANALYSIS** UNIT : **18** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rough stone 20x20x75 cm	Each	18.00000	34.00	612.00
2	Murrum	cum	1.00000	258.00	258.00
			Total cost of Materials	Rs:	**870.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	Stone chiseller Cl- I	Day	1.00000	830.00	830.00
3	mazdoor	Day	3.00000	680.00	2040.00
			Total cost of Labour	Rs:	**3790.00**

labour component/unit qty 210.60
Add contractor's profit and overhead charges 13.615% 28.70
labour component/unit qty (including contractor's profit) **239.30**

ABSTRACT:

A. Cost of Materials			Rs:	870.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	3790.00
		Total	Rs:	4660.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	634.46
Total cost for	18.00	Nos.	Rs:	**5294.46**
Rate per each	(A+B+C+D)/18.0		Rs.	**294.14**

IRR-PMW-2-8 Providing and **fixing 20 x 20 x 75 cm size temporary bench mark stone in CC 1 : 4 : 8** using **40 mm down size** graded coarse aggregate including cost of all materials, labour, dressing top surface, engraving BM data etc.,complete **with lead upto 50 m and all lifts.**

Data: **RATE ANALYSIS** UNIT : **10** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rough stone 20x20x75 cm	Each	10.00000	34.00	340.00
2	Cement for CC & top finishing	kg	91.00000	4.22	384.02
3	Coarse aggregate 40-20 mm	cum	0.25000	1562.00	390.50
	Coarse aggregate 20-10 mm	cum	0.15000	1635.00	245.25
	Coarse aggregate 10-4.75 mm	cum	0.10000	1190.00	119.00
4	Sand (Un-Screened)	cum	0.25000	0.00	0.00
			Total cost of Materials	Rs:	**1478.77**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	Stone chiseller Cl- I	Day	3.00000	830.00	2490.00
3	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**6130.00**

labour component/unit qty 613.00
Add contractor's profit and overhead charges 13.615% 83.50
labour component/unit qty (including contractor's profit) **696.50**

ABSTRACT:

A. Cost of Materials			Rs:	1478.77
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	6130.00
		Total	Rs:	7608.77
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1035.93
Total cost for	10.00	Nos.	Rs:	**8644.70**
Rate per each	(A+B+C+D)/10.0		Rs.	**864.47**

NOTE: For providing 30 cm thick compacted murum bed in B.C soil area including additional excavation for thickness of murum bedding add per Each Rs: 4.00

IRR-PMW-2-9 Providing and **fixing 20 x 20 x 75 cm size permanent bench mark stone in CC 1 :3 : 6** block of size 90 x 90 x 120 cm using **40 mm down size** graded coarse aggregate and providing 35 cm thick 30 cm high UCR masonry in CM 1 : 5 proportion protective wall alround the BM stone, including cost of all materials, labour, dressing top surface of stone, engraving BM data on top surface, excavation, finishing, curing etc., complete **with lead upto 50 m and all lifts.**

Data: **RATE ANALYSIS** UNIT : **1** No.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rough stone 20x20x75 cm	Each	1.00000	34.00	34.00
2	Cement	kg	262.00000	4.22	1105.64
3	Coarse aggregate 40-20 mm	cum	0.50000	1562.00	781.00
	Coarse aggregate 20-10 mm	cum	0.30000	1635.00	490.50
	Coarse aggregate 10-4.75 mm	cum	0.20000	1190.00	238.00
4	Rubble stone at quarry	cum	0.25000	424.00	106.00
5	Stone chips at quarry	cum	0.04000	498.00	19.92
6	Sand (Un-Screened)	cum	0.60000	0.00	0.00
			Total cost of Materials	Rs:	**2775.06**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	Stone chiseller Cl- I	Day	0.50000	830.00	415.00
3	Mason Cl- II	Day	1.00000	730.00	730.00
4	mazdoor	Day	5.00000	680.00	3400.00
			Total cost of Labour	Rs:	**5465.00**

labour component/unit qty 5465.00
Add contractor's profit and overhead charges 13.615% 744.10
labour component/unit qty (including contractor's profit) **6209.10**

ABSTRACT:

A. Cost of Materials		Rs:	2775.06
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	5465.00
	Total	Rs:	8240.06
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	1121.88
Total cost for	1.00 No.	Rs:	**9361.94**
Rate per each	(A+B+C+D)/1.0	Rs.	**9361.94**

IRR-PMW-3 **MAINTENANCE WORKS :**

IRR-PMW-3-1 **Removing dry stone rock-toe / rivetment and filter layers below rock-toe/ rivetment** including stacking all materials separately as directed **with initial lead upto 50 m and all lifts.**

Data: **RATE ANALYSIS** UNIT : **105** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	Mason Cl- II	Day	6.00000	730.00	4380.00
3	mazdoor	Day	48.00000	680.00	32640.00
			Total cost of Labour	Rs:	**37940.00**

labour component/unit qty 361.30
Add contractor's profit and overhead charges 13.615% 49.20
labour component/unit qty (including contractor's profit) **410.50**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	37940.00
	Total	Rs:	37940.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	5165.53
Total cost for	105.00 cum	Rs:	**43105.53**
Rate per cum	(A+B+C+D)/105.0	Rs.	**410.53**

IRR-PMW-3-2 **Re-constructing 60 cm thick hand packed rough stone revetment with through** stones at 1.5 m c / c over a backing of 45 cm thick graded filter media consisting of sand, 10 mm and 40 mm size graded aggregates satisfying filter criteria laid in layers of 15 cm thick each using sand from approved quarry and stones and filter aggregates obtained from revetment removed for re-construction including cost of all machinery, labour, laying filter and stones to specified slopes, wedging with chips, finishing etc. complete **with initial lead upto 50 m and all lifts.**

Data: **RATE ANALYSIS** UNIT : **100** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Sand (Un-Screened) (from quarry)	cum	15.30000	0.00	0.00
2	Coarse aggregate 10 mm (available)	cum	15.30000	0.00	0.00
3	Coarse aggr. 40-20 mm (available)	cum	15.30000	0.00	0.00
4	Stone chips (available)	cum	9.00000	0.00	0.00
5	Rough stones (available)	cum	57.60000	0.00	0.00
6	Through stones (available)	Nos	44.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	Mason Cl- II	Day	5.00000	730.00	3650.00
3	mazdoor	Day	33.00000	680.00	22440.00
			Total cost of Labour	Rs:	**27010.00**

labour component/unit qty 270.10
Add contractor's profit and overhead charges 13.615% 36.80
labour component/unit qty (including contractor's profit) **306.90**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	27010.00
		Total	Rs:	27010.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	3677.41
Total cost for	100.00	sqm	Rs:	**30687.41**
Rate per sqm	(A+B+C+D)/100.0		Rs.	**306.87**

IRR-PMW-3-3 **Re-constructing dry rubble rock-toe and filter media for rock-toe** consisting of sand 20 mm and 80 mm size graded aggregates satisfying filter criteria laid in layers of 15 cm thick each using sand from approved quarry and stones and filter aggregates obtained from rock-toe removed for re-construction including cost of all machinery, labour, laying filter and stones to specified slopes, wedging with chips, finishing etc. complete with initial lead upto **50 m and all lifts.**

Data: **RATE ANALYSIS** UNIT : **100** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rubble (available)	cum	58.20000	0.00	0.00
2	Stone chips (available)	cum	8.70000	0.00	0.00
3	80-20 mm filter (available)	cum	19.40000	0.00	0.00
4	20 mm down filter (available)	cum	12.10000	0.00	0.00
5	Sand (Un-Screened) (fresh from quarry)	cum	9.80000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	Mason Cl- II	Day	7.00000	730.00	5110.00
3	mazdoor	Day	48.00000	680.00	32640.00
			Total cost of Labour	Rs:	**38670.00**

labour component/unit qty 386.70
Add contractor's profit and overhead charges 13.615% 52.60
labour component/unit qty (including contractor's profit) **439.30**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	38670.00
		Total	Rs:	38670.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	5264.92
Total cost for	100.00	cum	Rs:	**43934.92**
Rate per cum	(A+B+C+D)/100.0		Rs.	**439.35**

IRR-PMW-3-4 **Removing and resetting disturbed Yarguntla / Shahabad / Talikot / PCC / Other types of slab** lining set in **CM 1 : 3** including flush cement mortar pointing in CM 1 : 3 **with lead upto 50 m and all lifts.**

Data: **RATE ANALYSIS** UNIT : **100** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	kg	101.00000	4.22	426.22
2	Sand (Screened)	cum	0.21000	128.00	26.88
			Total cost of Materials	Rs:	**453.10**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	Mason Class I	Day	4.00000	840.00	3360.00
3	mazdoor	Day	6.00000	680.00	4080.00
4	Cartman with Double Bullock cart for water	Day	1.00000	810.00	810.00
			Total cost of Labour	Rs:	**9170.00**

labour component/unit qty 91.70
Add contractor's profit and overhead charges 13.615% 12.50
labour component/unit qty (including contractor's profit) **104.20**

ABSTRACT:

A. Cost of Materials		Rs:	453.10
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	9170.00
	Total	Rs:	9623.10
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	1310.19
Total cost for	100.00 sqm	Rs:	**10933.29**
Rate per sqm	(A+B+C+D)/100.0	Rs.	**109.33**

IRR-PMW-3-5 **Removing and resetting disturbed dry rubble / khandki stone pitching 25 to 45 cm** thick including packing, wedging, finishing etc., complete **with all leads and lifts.**

Data: **RATE ANALYSIS** UNIT : **100** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	Mason Class II	Day	6.00000	730.00	4380.00
3	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**9380.00**

labour component/unit qty 93.80
Add contractor's profit and overhead charges 13.615% 12.80
labour component/unit qty (including contractor's profit) **106.60**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	9380.00
	Total	Rs:	9380.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	1277.09
Total cost for	100.00 sqm	Rs:	**10657.09**
Rate per sqm	(A+B+C+D)/100.0	Rs.	**106.57**

IRR-PMW-3-6 **Removing and refixing disturbed chainage / demarcation / hectometre / guard stones** including excavation, back filling etc., complete **with all leads and lifts.**

DATA: **RATE ANALYSIS** UNIT : **18** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**2280.00**

labour component/unit qty 126.67
Add contractor's profit and overhead charges 13.615% 17.25
labour component/unit qty (including contractor's profit) **143.90**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2280.00
	Total		Rs:	2280.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	310.42
Total cost for	18.00 Nos.		Rs:	**2590.42**
Rate per each	(A+B+C+D)/18.0		Rs.	**143.91**

IRR-PMW-3-7 **Removing and refixing disturbed km stone / sign board / hecto-metre stone etc.**, including excavation, back filling with available stuff after refixing, forming base platform of size 90 x 90 x 7.5 cm including watering, ramming etc complete **with all leads and lifts.**

DATA: **RATE ANALYSIS** UNIT : **8** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**2280.00**

labour component/unit qty		285.00
Add contractor's profit and overhead charges	13.615%	38.80
labour component/unit qty (including contractor's profit)		**323.80**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2280.00
	Total		Rs:	2280.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	310.42
Total cost for	8.00 Nos.		Rs:	**2590.42**
Rate per each	(A+B+C+D)/18.0		Rs.	**323.80**

IRR-PMW-3-8 **Providing impervious hearting for breached / damaged portion of embankment** with soil from **approved borrow areas** in **layers of 10 to 15 cm** before compaction including cost of all materials, machinery, labour, all operations such as collection of soil, sorting out, spreading soil to specified thickness, breaking clods, sectioning, watering, compacting each layer to density control of **not less than 98 percent** or as stipulated **by rolling or by using mechanical tampers etc., complete with initial lead upto 1 km and all lifts.**

Data: **RATE ANALYSIS** UNIT : **480** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer	Hour	5.00000	1610.29	8051.45
	Fuel / Energy charges	Hour	5.00000	1110.54	5552.70
2	Shovel 0.50 cum capacity	Hour	8.00000	1047.41	8379.28
	Fuel / Energy charges	Hour	8.00000	865.93	6927.44
3	Tippers 5.00 cum capacity 4 Nos.	Hour	32.00000	493.27	15784.64
	Fuel / Energy charges	Hour	32.00000	545.53	17456.96
4	Pump 5 hp (diesel)	Hour	2.00000	10.73	21.46
	Fuel / Energy charges	Hour	2.00000	144.33	288.66
5	Water tanker 8000 ltr	Hour	4.00000	458.01	1832.04
	Fuel / Energy charges	Hour	4.00000	545.53	2182.12
6	Vibratory pad foot roller 8 tonne	Hour	6.00000	1344.20	8065.20
	Fuel / Energy charges	Hour	6.00000	1876.16	11256.96
7	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**85882.91**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	4.00000	430.30	1721.20
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	32.00000	322.73	10327.36
4	Crew for Pump	Hour	3.00000	204.67	614.01
5	Crew for Water tanker	Hour	5.00000	316.88	1584.40
6	Crew for Roller	Hour	6.00000	483.60	2901.60
7	work inspector	Day	2.00000	920.00	1840.00
8	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**25150.97**

labour component/unit qty 52.40
Add contractor's profit and overhead charges 13.615% 7.10
labour component/unit qty (including contractor's profit) **59.50**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	85882.91
C. Cost of Labour		Rs:	25150.97
	Total	Rs:	111033.88
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	15117.26
Total cost for	480.00 cum	Rs:	**126151.14**
Rate per cum	(A+B+C+D)/480.0	Rs.	**262.81**

IRR-PMW-3-9 **Providing pervious/semi-pervious casing for breached / damaged portion of embankment** with soil from **approved borrow areas** in layers of **10 to 15 cm** before compaction including cost of all materials, machinery, labour, all operations such as collection of soil, sorting out, spreading soil to specified thickness, breaking clods, sectioning, watering, compacting each layer to density control of not less than 98 percent or as stipulated by rolling or by using mechanical tampers etc., complete **with initial lead upto 1 km and all lifts.**

Data: **RATE ANALYSIS** UNIT : **325** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.50000	1610.29	5636.02
	Fuel / Energy charges	Hour	3.50000	1110.54	3886.89
2	Shovel 0.50 cum capacity	Hour	8.00000	1047.41	8379.28
	Fuel / Energy charges	Hour	8.00000	865.93	6927.44
3	Tippers 5.00 cum capacity 3 Nos.	Hour	24.00000	493.27	11838.48
	Fuel / Energy charges	Hour	24.00000	545.53	13092.72
4	Pump 5 hp (diesel)	Hour	1.50000	10.73	16.10
	Fuel / Energy charges	Hour	1.50000	144.33	216.50
5	Water tanker 8000 ltr	Hour	3.00000	458.01	1374.03
	Fuel / Energy charges	Hour	3.00000	545.53	1636.59
6	Vibratory pad foot roller 8 tonne	Hour	4.00000	1344.20	5376.80
	Fuel / Energy charges	Hour	4.00000	1876.16	7504.64
7	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**65969.49**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.50000	430.30	1506.05
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	24.00000	322.73	7745.52
4	Crew for Pump	Hour	1.50000	204.67	307.01
5	Crew for Water tanker	Hour	3.00000	316.88	950.64
6	Crew for Roller	Hour	4.00000	483.60	1934.40
7	work inspector	Day	2.00000	920.00	1840.00
8	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**20446.02**

labour component/unit qty 62.90
Add contractor's profit and overhead charges 13.615% 8.60
labour component/unit qty (including contractor's profit) **71.50**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	65969.49
C. Cost of Labour		Rs:	20446.02
	Total	Rs:	86415.51
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	11765.47
Total cost for	325.00 cum	Rs:	**98180.98**
Rate per cum	(A+B+C+D)/325.0	Rs.	**302.10**

IRR-PMW-3-10 **Providing impervious hearting for breached / damaged portion of embankment** with soil from **approved dump areas** in **layers of 10 to 15 cm** before compaction including cost of all materials, machinery, labour, all operations such as collection of soil,sorting out, spreading soil to specified thickness, breaking clods, sectioning, watering, compacting each layer to density control of **not less than 98 percent** or as stipulated by **rolling or by using mechanical tampers etc., complete with initial lead upto 1 km and all lifts.**

Data: **RATE ANALYSIS** UNIT : **612** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer	Hour	4.00000	1610.29	6441.16
	Fuel / Energy charges	Hour	4.00000	1110.54	4442.16
2	Shovel 0.50 cum capacity	Hour	8.00000	1047.41	8379.28
	Fuel / Energy charges	Hour	8.00000	865.93	6927.44
3	Tippers 5.00 cum capacity 5 Nos.	Hour	40.00000	493.27	19730.80
	Fuel / Energy charges	Hour	40.00000	545.53	21821.20
4	Pump 5 hp (diesel)	Hour	4.00000	10.73	42.92
	Fuel / Energy charges	Hour	4.00000	144.33	577.32
5	Water tanker 8000 ltr	Hour	7.00000	458.01	3206.07
	Fuel / Energy charges	Hour	7.00000	545.53	3818.71
6	Vibratory pad foot roller 8 tonne	Hour	7.50000	1344.20	10081.50
	Fuel / Energy charges	Hour	7.50000	1876.16	14071.20
7	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**99623.76**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	4.00000	430.30	1721.20
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	40.00000	322.73	12909.20
4	Crew for Pump	Hour	4.00000	204.67	818.68
5	Crew for Water tanker	Hour	7.00000	316.88	2218.16
6	Crew for Roller	Hour	7.50000	483.60	3627.00
7	work inspector	Day	2.00000	920.00	1840.00
8	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**30656.64**

labour component/unit qty		50.10	
Add contractor's profit and overhead charges	13.615%	6.80	
labour component/unit qty (including contractor's profit)		**56.90**	

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	99623.76
C. Cost of Labour			Rs:	30656.64
		Total	Rs:	130280.40
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	17737.68
Total cost for	612.00 cum		Rs:	**148018.08**
Rate per cum	(A+B+C+D)/612.0		Rs.	**241.86**

IRR-PMW-3-11 **Providing pervious /semi-pervious casing for breached /damaged portion of embankment** with soil from **approved dump areas** in **layers of 10 to 15 cm** before compaction including cost of all materials, machinery, labour, all operations such as collection of soil, sorting out, spreading soil to specified thickness, breaking clods, sectioning, watering, compacting each layer to density control of **not less than 98 percent** or as stipulated **by rolling or by using mechanical tampers etc., complete with initial lead upto 1 km and all lifts.**

Data: **RATE ANALYSIS** UNIT : **440** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.00000	1610.29	4830.87
	Fuel / Energy charges	Hour	3.00000	1110.54	3331.62
2	Shovel 0.50 cum capacity	Hour	8.00000	1047.41	8379.28
	Fuel / Energy charges	Hour	8.00000	865.93	6927.44
3	Tippers 5.00 cum capacity 4 Nos.	Hour	32.00000	493.27	15784.64
	Fuel / Energy charges	Hour	32.00000	545.53	17456.96
4	Pump 5 hp (diesel)	Hour	3.00000	10.73	32.19
	Fuel / Energy charges	Hour	3.00000	144.33	432.99
5	Water tanker 8000 ltr	Hour	6.00000	458.01	2748.06
	Fuel / Energy charges	Hour	6.00000	545.53	3273.18
6	Vibratory pad foot roller 8 tonne	Hour	5.50000	1344.20	7393.10
	Fuel / Energy charges	Hour	5.50000	1876.16	10318.88
7	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**80993.21**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.00000	430.30	1290.90
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	32.00000	322.73	10327.36
4	Crew for Pump	Hour	3.00000	204.67	614.01
5	Crew for Water tanker	Hour	6.00000	316.88	1901.28
6	Crew for Roller	Hour	5.50000	483.60	2659.80
7	work inspector	Day	2.00000	920.00	1840.00
8	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**26155.75**

labour component/unit qty 59.40
Add contractor's profit and overhead charges 13.615% 8.10
labour component/unit qty (including contractor's profit) **67.50**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	80993.21
C. Cost of Labour		Rs:	26155.75
	Total	Rs:	107148.96
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	14588.33
Total cost for	440.00 cum	Rs:	**121737.29**
Rate per cum	(A+B+C+D)/440.0	Rs.	**276.68**

IRR-PMW-3-12 **Repairing rain cuts / resectioning canal slopes to required lines and grades** as directed using available soil including dressing, clod breaking, packing, tamping etc., **complete with all leads and lifts.**

DATA: **RATE ANALYSIS** UNIT : **1000** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00000	920.00	920.00
2	mazdoor	Day	8.00000	680.00	5440.00
			Total cost of Labour	Rs:	**6360.00**

labour component/unit qty 6.36
Add contractor's profit and overhead charges 13.615% 0.87
labour component/unit qty (including contractor's profit) **7.20**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	6360.00
	Total	Rs:	6360.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	865.91
Total cost for	1000.00 sqm	Rs:	**7225.91**
Rate per sqm	(A+B+C+D)/1000.0	Rs.	**7.23**

IRR-PMW-3-13 **Cleaning drainage gallery, adits, instrumentation galleries etc., by scrubbing / brushing** including chiselling and removing leached lime deposit and disposing off all the waste material out side adits in specified location etc., **complete with all leads and lifts.**

DATA: **RATE ANALYSIS** UNIT : **100** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Wire brush	Each	5.00000	45.00	225.00
2	Coir brush	Each	10.00000	54.00	540.00
3	Sundries (brooms, gloves etc)	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**849.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Chiseller Cl II	Day	2.00000	730.00	1460.00
2	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**5540.00**

labour component/unit qty 55.40
Add contractor's profit and overhead charges 13.615% 7.50
labour component/unit qty (including contractor's profit) **62.90**

ABSTRACT:

A. Cost of Materials		Rs:	849.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	5540.00
	Total	Rs:	6389.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	869.86
Total cost for	100.00 Rm	Rs:	**7258.86**
Rate per Rm	(A+B+C+D)/100.0	Rs.	**72.59**

IRR-PMW-3-14 **Cleaning dam parapet inner face and top using oxalic acid and water by scrubbing / brushing** and washing to remove all surface coatings etc., complete .

DATA: **RATE ANALYSIS** UNIT : **100** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Oxalic acid	ltr	5.00000	80.00	400.00
2	Wire brush	Each	5.00000	45.00	225.00
3	Coir brush	Each	10.00000	54.00	540.00
4	Sundries (brooms, gloves etc)	LS	2.00000	42.00	84.00
			Total cost of Materials	Rs:	**1249.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**4080.00**

labour component/unit qty 40.80
Add contractor's profit and overhead charges 13.615% 5.60
labour component/unit qty (including contractor's profit) **46.40**

ABSTRACT:

A. Cost of Materials		Rs:	1249.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	4080.00
	Total	Rs:	5329.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	725.54
Total cost for	100.00 Rm	Rs:	**6054.54**
Rate per Rm	(A+B+C+D)/100.0	Rs.	**60.55**

IRR-PMW-3-20 **Excavation and removal of silt and silt mixed with sand from canal bed in dry condition** including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **10** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
		Total hire charges of Machinery		Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	mazdoor	Day	4.00000	680.00	2720.00
			Total cost of Labour	Rs:	**2720.00**

labour component/unit qty 272.00
Add contractor's profit and overhead charges 13.615% 37.00
labour component/unit qty (including contractor's profit) **309.00**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	2720.00
	Total	Rs:	2720.00
D. Add for contractor's profit and overheads			
on (A+B+C)	13.615%	Rs:	370.33
Total cost for	10.00 cum	Rs:	**3090.33**
Rate per cum	(A+B+C+D)/10.0	Rs.	**309.03**

IRR-PMW-3-21 **Excavation and removal of silt or silt mixed with sand in slussy condition from canal bed** including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **12** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
		Total hire charges of Machinery		Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	mazdoor	Day	6.00000	680.00	4080.00
			Total cost of Labour	Rs:	**4080.00**

labour component/unit qty 340.00
Add contractor's profit and overhead charges 13.615% 46.30
labour component/unit qty (including contractor's profit) **386.30**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	4080.00
	Total	Rs:	4080.00
D. Add for contractor's profit and overheads			
on (A+B+C)	13.615%	Rs:	555.49
Total cost for	12.00 cum	Rs:	**4635.49**
Rate per cum	(A+B+C+D)/12.0	Rs.	**386.29**

IRR-PMW-3-22 **Providing homogeneous embankment** using soil from **approved borrow**
New Item5 - 2010-11 **area** in **layers of 25 to 30 cm** before compaction including cost of all
(For Minor Works) materials, machinery, labour, all operations such as excavation, sorting out, transportation, spreading soil in layer of specified thickness, breaking clods, **sectioning,etc.,complete with initial lead upto 1 km and all lifts.**

RATE ANALYSIS

A. MATERIALS: Unit: **807.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Angle dozer 90 hp	Hour	2.70000	1610.29	4347.78
	Fuel / Energy charges	Hour	2.70000	1110.54	2998.46
2	Shovel 0.85 cum capacity	Hour	8.00000	1749.78	13998.24
	Fuel / Energy charges	Hour	8.00000	1587.53	12700.24
3	Tippers 5.00 cum capacity 5 Nos.	Hour	40.00000	493.27	19730.80
	Fuel / Energy charges	Hour	40.0000	545.53	21821.20
			Total hire charges of Machinery	Rs:	**75596.72**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Dozer	Hour	2.70000	430.30	1161.81
2	Crew for Shovel	Hour	8.00000	430.30	3442.40
3	Crew for Tipper	Hour	40.00000	322.73	12909.20
4	work inspector	Day	1.00000	920.00	920.00
5	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**19793.41**

labour component/unit qty 24.50
Add contractor's profit and overhead charges 13.615% 3.30
labour component/unit qty (including contractor's profit) **27.80**

ABSTRACT:

A. Cost of Materials	Rs:	0.00
B. Hire charges of Machinery	Rs:	75596.72
C. Cost of Labour	Rs:	19793.41
Total	Rs:	95390.13
D.Add for contractor's profit and overheads on (A+B+C) 13.615%	Rs.	12987.37
Total cost for 807.00 cum	Rs:	**108377.50**
Rate per cum (A+B+C+D)/807	Rs:	**134.30**

IRR-PMW-3-23
New Item6 - 2010-11
(For Minor Works)

Providing homogeneous embankment using soil from **approved borrow area** in **layers of 25 to 30 cm** before compaction including cost of all materials, machinery, labour, all operations such as watering, compacting to density control of **not less than 95 percent** or as stipulated using **8T roller etc., complete with initial lead upto 1 km and all lifts.**

RATE ANALYSIS

A. MATERIALS: UNIT : **807.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Angle dozer 90 hp	Hour	2.70000	1610.29	4347.78
	Fuel / Energy charges	Hour	2.70000	1110.54	2998.46
2	Pump 5 hp (ele)	Hour	4.00000	3.27	13.08
	Fuel / Energy charges	Hour	4.00000	42.30	169.20
3	Water tanker 8000 ltr	Hour	8.00000	458.01	3664.08
	Fuel / Energy charges	Hour	8.00000	545.53	4364.24
4	Vibratory pad foot roller 8 tonne	Hour	6.40000	1344.20	8602.88
	Fuel / Energy charges	Hour	6.40000	1876.16	12007.42
5	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**36251.14**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Dozer	Hour	2.70000	430.30	1161.81
4	Crew for Pump	Hour	4.00000	153.47	613.88
5	Crew for Water tanker	Hour	8.00000	316.88	2535.04
6	Crew for Roller	Hour	6.40000	483.60	3095.04
7	work inspector	Day	1.00000	920.00	920.00
8	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**9685.77**

labour component/unit qty 12.00
Add contractor's profit and overhead charges 13.615% 1.60
labour component/unit qty (including contractor's profit) **13.60**

ABSTRACT:

A. Cost of Materials	Rs:	0.00
B. Hire charges of Machinery	Rs:	36251.14
C. Cost of Labour	Rs:	9685.77
Total	Rs:	45936.91
D.Add for contractor's profit and overheads on (A+B+C) 13.615%	Rs.	6254.31
Total cost for 807.00 cum	Rs:	**52191.22**
Rate per cum (A+B+C+D)/807	Rs:	**64.67**

IRR-PMW-3-24
New Item 7 - 2010-11

Providing homogeneous embankment using soil from **approved borrow area** in **layers of 25 to 30 cm** before compaction including cost of all materials, machinery, labour, all operations such as compacting to density control of **not less than 90 percent** or as stipulated using **2T roller etc., complete with initial lead upto 1 km and all lifts.**

RATE ANALYSIS

A. MATERIALS: UNIT : **807.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00000	0.00	0.00
			0.00000	0.00	0.00
			Total cost of Materials	Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Tractor with 2T Roller	Hour	10.00000	550.00	5500.00
2	Sundries	LS	2.00000	42.00	84.00
			Total hire charges of Machinery	Rs:	**5584.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	0.50000	920.00	460.00
2	mazdoor	Day	2.00000	680.00	1360.00
			Total cost of Labour	Rs:	**1820.00**

labour component/unit qty		2.30
Add contractor's profit and overhead charges	13.615%	0.30
labour component/unit qty (including contractor's profit)		**2.60**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	5584.00
C. Cost of Labour		Rs:	1820.00
Total		Rs:	7404.00
D.Add for contractor's profit and overheads	13.615%	Rs.	1008.05
Total cost for	807.00 cum	Rs:	**8412.05**
Rate per cum	(A+B+C+D)/807	Rs:	**10.42**

IRR-PMW-3-25 **Weed Removal by Manual Means**

(New Item 2012-13-3)

IRR-PMW-3-25(a) **Removal of Water Hyacinth up to 30 cm thick**

RATE ANALYSIS

Unit : **2000** Sqm

A. MATERIALS

Sl. No.	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			Total Cost of Materials	Rs.	**0.00**

B. MACHINERY

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs.	**0.00**

C. LABOUR

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Work Inspector	Day	3.50000	920.00	3220.00
2	Mazdoor	Day	28.00000	680.00	19040.00
			Total Cost of Labour	Rs.	**22260.00**

ABSTRACT:

A.COST OF MATERIALS		Rs.	0.00
B.COST OF MACHINERY		Rs.	0.00
C.COST OF LABOUR		Rs.	22260.00
	Total		22260.00
D. Add for Contractor's Profit and overheads	13.615%		3030.70
Total Cost for removal weed in the extent of	2000 Sqm		**25290.70**
Rate per Sqm	(A+B+C+D)/2000		**12.65**

IRR-PMW-3-25(b) **Removal of Water Hyacinth beyond 30 cm thick**

RATE ANALYSIS

Unit : **2000** Sqm

A. MATERIALS

Sl. No.	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			Total Cost of Materials	Rs.	**0.00**

B. MACHINERY

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs.	**0.00**

C. LABOUR

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Work Inspector	Day	5.00000	920.00	4600.00
2	Mazdoor	Day	38.00000	680.00	25840.00
			Total Cost of Labour	Rs.	**30440.00**

ABSTRACT:

A.COST OF MATERIALS		Rs.	0.00
B.COST OF MACHINERY		Rs.	0.00
C.COST OF LABOUR		Rs.	30440.00
	Total		30440.00
D. Add for Contractor's Profit and overheads	13.615%		4144.41
Total Cost for removal weed in the extent of	2000 Sqm		**34584.41**
Rate per Sqm	(A+B+C+D)/2000		**17.29**

IRR-PMW-3-25(c) **Clearing Alchi Tilla**

RATE ANALYSIS

Unit : **2000** Sqm

A. MATERIALS

Sl. No.	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			Total Cost of Materials	Rs.	**0.00**

B. MACHINERY

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs.	**0.00**

C. LABOUR

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Work Inspector	Day	3.00000	920.00	2760.00
2	Mazdoor	Day	26.00000	680.00	17680.00
			Total Cost of Labour	Rs.	**20440.00**

ABSTRACT:

A.COST OF MATERIALS		Rs.	0.00
B.COST OF MACHINERY		Rs.	0.00
C.COST OF LABOUR		Rs.	20440.00
	Total		20440.00
D. Add for Contractor's Profit and overheads	13.615%		2782.91
Total Cost for removal weed in the extent of	2000 Sqm		**23222.91**
Rate per Sqm	(A+B+C+D)/2000		**11.61**

IRR-PMW-3-25(d) **Removal of Jammu**

RATE ANALYSIS

Unit : **2000** Sqm

A. MATERIALS

Sl. No.	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			Total Cost of Materials	Rs.	**0.00**

B. MACHINERY

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs.	**0.00**

C. LABOUR

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Work Inspector	Day	2.50000	920.00	2300.00
2	Mazdoor	Day	22.00000	680.00	14960.00
			Total Cost of Labour	Rs.	**17260.00**

ABSTRACT:

A.COST OF MATERIALS		Rs.	0.00
B.COST OF MACHINERY		Rs.	0.00
C.COST OF LABOUR		Rs.	17260.00
	Total		17260.00
D. Add for Contractor's Profit and overheads	13.615%		2349.95
Total Cost for removal weed in the extent of	2000 Sqm		**19609.95**
Rate per Sqm	(A+B+C+D)/2000		**9.8**

IRR-PMW-3-25(e) **Removal of Imponea, Cornea**

RATE ANALYSIS

Unit : **2000** Sqm

A. MATERIALS

Sl. No.	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			Total Cost of Materials	Rs.	**0.00**

B. MACHINERY

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs.	**0.00**

C. LABOUR

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Work Inspector	Day	3.00000	920.00	2760.00
2	Mazdoor	Day	26.00000	680.00	17680.00
			Total Cost of Labour	Rs.	**20440.00**

ABSTRACT:

A.COST OF MATERIALS		Rs.	0.00
B.COST OF MACHINERY		Rs.	0.00
C.COST OF LABOUR		Rs.	20440.00
	Total		20440.00
D. Add for Contractor's Profit and overheads	13.615%		2782.91
Total Cost for removal weed in the extent of	2000 Sqm		**23222.91**
Rate per Sqm	(A+B+C+D)/2000		**11.61**

IRR-PMW-3-25(f) **Removal of Natchu, goobi, thooti, etc.**

RATE ANALYSIS

Unit : **2000** Sqm

A. MATERIALS

Sl. No.	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			Total Cost of Materials	Rs.	**0.00**

B. MACHINERY

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00000	0.00	0.00
			Total hire charges of Machinery	Rs.	**0.00**

C. LABOUR

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Work Inspector	Day	1.20000	920.00	1104.00
2	Mazdoor	Day	8.00000	680.00	5440.00
			Total Cost of Labour	Rs.	**6544.00**

ABSTRACT:

A.COST OF MATERIALS		Rs.	0.00
B.COST OF MACHINERY		Rs.	0.00
C.COST OF LABOUR		Rs.	6544.00
	Total		6544.00
D. Add for Contractor's Profit and overheads	14%		890.97
Total Cost for removal weed in the extent of	2000 Sqm		**7434.97**
Rate per Sqm	(A+B+C+D)/2000		**3.72**

IRR-PMW-3-26
New Item
2015-16-8

PAINTING OF SLUICES FOR MAINTENANCE WORKS

Surface cleaning of metal surfaces by chemical cleaners and then by hand and power tool cleaners and removing dust. After cleaniong, applying primary coat with **one coat** of Zinc rich epoxy primer to a thickness of 100 microns, followed by finishing coats **2 coats** with Coal tar epoxy with material, labour, and all accessories with all leads and lifts.

Data: **Rate Analysis** Unit: 100 Sqm

A. Materials

Sl. No.	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rust Cleaner/ Inhibitor	ltr	13.00000	154.00	2002.00
2	Zinc rich epoxy primer	ltr	14.00000	680.00	9520.00
3	Thinner@10%	ltr	1.40000	114.00	159.60
4	Coal Tar epoxy paint	ltr	40.00000	213.00	8520.00
5	Thinner@10%	ltr	4.00000	114.00	456.00
6	Wire Brush	ltr	2.00000	45.00	90.00
7	Sundries (brushes, Ladders, platforms)	LS	3.00000	42.00	126.00
			Total Cost of Materials	Rs.	**20873.60**

B. Machinery

Sl. No.	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
	NIL				
		Total Cost of Machinery			**0.00**

C. Labour

Sl. No.	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Painter Class-II	Day	20.00000	730.00	14600.00
2	Helper	Day	20.00000	680.00	13600.00
			Total Cost of Machinery	Rs.	**28200.00**

Labour Component/ Unit Qty.		282	
Add Contractor's Profit and and Overhead Charges @	13.615%	38.3943	
Labour Component/ Unit Qty (including contractor' profit)		**320.3943**	

ABSTRACT:

A. Cost of Materials:		20873.60	
B. Hire Charges of Machinery		0.00	
C. Cost of Labour		28200.00	
	Total	**49073.60**	
D. Add for Excise Duty on 75% cost excluding cost of mater	0%	0.00	
	Total	**49073.60**	
E. Add for transportation Charges upto worksite @	3%	1472.21	
	Total	**50545.81**	
F. Add for Contractor's Profit and Overhead Charges @	13.615%	6881.81	
Total Cost per	100 Sqm	57427.62	
Rate per	Sqm	**574.28**	

IRR-PMW-3-27
New Item2018-19

A. Lifting of water_ from rivers/drains to agricultural fields and where there is no element of excavation- Water lifting charges using Electrical driven pump

Rate Analysis

MACHINERY:					**Hp_hr calculation**					
					5 hP		**10 HP**		**20 HP**	
Sl No	**Description**		**Unit**	**Quantity**	**Rate**	**Amount**	**Rate**	**Amount**	**Rate**	**Amount**
					in Rs.	in Rs.	in Rs.	in Rs.	in Rs.	in Rs.
1	Electric pump		Hour	1.00000	3.27	3.27	7.29	7.29	13.68	13.68
2	Fuel / Energy charges		Hour	1.00000	42.30	42.30	84.60	84.60	169.19	169.19
3	Total hire charges of Machinery		per hour			45.57		91.89		182.87
4	Add Contractor's Profit and Overheads			@	0.13615	6.2		12.51		24.90
5	Total hire charges of Machinery				per hour	51.77		104.40		207.77
6	Total hire charges of Machinery				per hphr	10.35		10.44		10.39
7	Average of three				**per hphr**	**10.39**				

Other pumping arrangements including pipes, labour, pump operator etc.,

A. MATERIALS: **Per Hr.**

Sl No	Particulars	Unit	Quantity	Rate	Amount
				in Rs.	in Rs.
1	Use rate of G.I.pipe 100 mm dia	Hour	1.00000	7.35	7.35
2	Sundries (Starter/Switches etc)	LS	0.20000	42.00	8.40
	Total cost of Materials			Rs:	15.75
B. LABOUR:					
Sl No	Description	Unit	Quantity	Rate	Amount
				in Rs.	in Rs.
1	Crew charges for Pump	Hour	1.00000	153.47	153.47
2	Laying & dismantling pipe	LS	0.05000	42.00	2.10
3	mazdoor	Day	0.10000	680	68.00
	Total cost of Labour			Rs:	223.57
Total cost for Materials and Labour			per hour		239.32
Add Contractor's Profit and and Overhead Charges @			13.615%		32.58
Total cost of Materials and Labour			**per hour**		**271.90**

B. Lifting of water_ from rivers/drains to agricultural fields and where there is no element of excavation- Water lifting charges using Diesel driven pump

Rate Analysis

MACHINERY:				**Hp_hr calculation**					
				5 HP		**10 HP**		**20 HP**	
Sl No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**	**Rate**	**Amount**	**Rate**	**Amount**
				in Rs.	in Rs.	in Rs.	in Rs.	in Rs.	in Rs.
1	Diesel Pump	Hour	1.00000	10.73	10.73	16.86	16.86	53.26	53.26
2	Fuel / Energy charges	Hour	1.00000	144.33	144.33	288.64	288.64	577.28	577.28
3	Total hire charges of Machinery			per hour	155.06		305.50		630.54
4	Add Contractor's Profit and Overheads		@	0.13615	21.11		41.59		85.85
5	Total hire charges of Machinery			per hour	176.17		347.09		716.4
6	Total hire charges of Machinery			per hphr	35.23		34.71		35.82
7	Average of the above three			per hphr	**35.25**				

Other pumping arrangements including pipes, labour, pump operator etc.,

A. MATERIALS: **Per Hr.**

Sl No	**Particulars**	**Unit**	**Quantity**	**Rate**	**Amount**
				in Rs.	**in Rs.**
1	Use rate of G.I.pipe 100 mm dia	Hour	1.00000	7.35	7.35
2	expenses)	LS	0.20000	42.00	8.40
	Total cost of Materials			Rs:	15.75
B. LABOUR:					
Sl No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
				in Rs.	**in Rs.**
1	Crew charges for Pump	Hour	1.00000	204.67	204.67
2	Laying & dismantling pipe	LS	0.05000	42.00	2.10
3	mazdoor	Day	0.10000	680	68.00
	Total cost of Labour			Rs:	274.77
Total cost for Materials and Labour			per hour		290.52
Add Contractor's Profit and and Overhead Charges @			13.615%		39.55
Total cost of Materials and Labour			per hour		**330.07**

(Common to all Departments)

Index_code			
COM_MWRK	**A. Manual Works**		
COM_MWRK-1	New extra items-- common item for all earth works using only manual labour for all other works without involving contractors (**Manual**) Excavation **in all kinds of soil** including boulders **upto 0.30 m dia.** for foundations of canal cross drainage and other appurtenant structures and placing excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete **with initial lead upto 10 m and initial lift upto 1.5 m. (Without involving the contractors for specified works)** **With 3 Cum per day output**	per cum	226.67
COM_MWRK-2	(**Manual**)Excavation **in all kinds of soil/ HDR** including boulders **upto 0.30 m dia.** for foundations of canal cross drainage and other appurtenant structures and placing excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete with **initial lead upto 10 m and initial lift upto 1.5 m. (Without involving the contractors for specified works)** **With 2.5 Cum per day output**	per cum	272.00
COM_MWRK-3	(**Manua**l) Excavation in **soft rock (including F&F) without blasting**, including boulders upto 0.30 m dia. for foundations of canal cross drainage and other appurtenant structuresand placing excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete with initial **lead upto 10 m and initial lift upto 1.5 m. (Without involving the contractors for specified works)** **Soft rock 1.33 Cum / Day**	per cum	511.28
COM_MWRK-4	(**Manual**)Excavation **in hard rock**, including boulders **upto 0.30 m dia**. for foundations of canal cross drainage and other appurtenant structures and placing excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete **with initial lead upto 10 m and initial lift upto 1.5 m. (Without involving the contractors for specified works)** **Hard rock 0.67Cum/ day**	per cum	1014.93

COM-LDLFT

Chapter VII

LEAD/LIFT/LOADING & UNLOADING CHARGES
(WILL BE WITH E-N-C & TO INCORPORATE CHANGES YEARLY/ AS NEEDED)
FOR THE YEAR : 2026-27

LEAD, LIFT, LOADING AND UNLOADING CHARGES FOR MATERIALS

COM-LDLFT

1. For total lead upto 150 m (including initial lead) lead charges by head load only shall be adopted irrespective of mode of conveyance.
2. For total lead exceeding 150 m conveyance by mechanical means only shall be adopted irrespective of mode of conveyance.
3. The rates for loading at quarry including idle hire charges of trucks and hire charges per for each kilometer and upto 5 km are cumulative and inclusive of total charges for preceding lead.
4. Unless otherwise specified lead charges for Earth / Sand / Gravel / Aggregates and Stones are for loose volume and not for compacted or in-situ volume.
5. The rates for lift charges,lead charges, hire charges are cumulative and inclusive of rates for preceding lift,lead and hire charges
6. Lift charges are not payable where conveyance of materials is by mechanical means to final placing point.
7. Loading and unloading charges are not payable for conveyance by head load.
8. Loading charges are not payable for conveyance by mechanical means for disposal of excavated materials beyond initial lead of 50 m wherever specified.
9. Loading and unloading charges are not payable for conveyance by mechanical means for disposal of excavated materials beyond initial lead of 1 km wherever specified.
10. The rates for unloading of materials except earth, sand, gravel, coarse aggregate, rubble, size stone and cut stone are inclusive of stacking.
11. Hire charges are per 1KM for tippers and trucks for tranport of materials from work site to dump yard & other places are cumulative and includes previous km upto 5 kms
12. The lead & lift charges are exclusive of contractor's profit and overhead charges of 13.615%
13. The loading & unloading charges are exclusive of contractor's profit and overhead charges of 13.615%
14. During the BoCE meeting held on 10.06.2015,the BoCEs has recommended to withdraw lead charges,loading and unloading charges for Cement as per the minutes of meeting of Sub-Committee held on 29.06.2015.(The conveyance charges ,loading & unloading charges for cement are displayed for information purpose only).
15.As per the BOCE meeting held on 21.08.2019 in order to simplify the procedure of adding lead charges to the data items in the CFMS work module, the BOCE recommended to delete the contractor profit and over head charges from the calculation of Lead, Lift, Loading and Unloading charges. But at the time of preparation of estimates the contractor profit and over head charges on Lead, Lift, Loading and Unloading charges shall be added as usual.

FOR THE YEAR: 2026-27

COM-LDLFT-1

A. (Lead) Conveyance Charges for materials by head load

Sl No.	Total distance (Total lead includes initial lead)	Earth / Sand /Gravel / Murrum/ Lime/ Surki/ Size stone / Cut stone Rubble / Coarse aggregate Rs/ Cum	Cement / Reinforce-ment steel Str steel Rs / tonne	PCC slab/ Shahbad slab / CC block/ BS slab/ Late-rite / Wood Rs / cum
1	2	3	4	5
1	Total lead upto 50 m (covered by item rate)	initial lead	initial lead	initial lead
2	Total lead upto 100 m	97.14	56.67	123.64
3	Total lead upto 150 m	194.29	113.33	247.27

Notes: 1. No loading or unloading charges are admissible for conveyance by head load.
2. For total lead exceeding 150 m conveyance charges by mechanical means only shall be adopted irrespective of mode of conveyance.

COM-LDLFT-2

B.(Lead) Conveyance charges for machinery per kilometer for transporting materials by tippers and trucks excluding loading, unloading and idle hire charges of machinery.

FOR THE YEAR: 2026-27

(No loading and unloading charges allowed for machinery loading and unloading)

Sl No.	Distance	(Lead) charges for tippers for Earth / Sand /Gravel / Murrum/ Lime/ Surki/ per cu.meter	(Lead) charges for trucks for Rubble/Size stones/ Cut Stones/ Coarse aggregate per cu.meter	(Lead) charges for trucks for Cement/ Steel/ RCC poles/ AC & GI sheets/ Packed materials/tonne	(Lead) charges for trucks per cu.meter for PCC slabs/ Shahabad slabs/ CC & Laterite blocks/ Wood/ cum	(Lead) charges for per Cu.m. for water/ 1000 litres	(Lead) charges for trucks per 1000 Nos. of Bricks
1	2	3	4	5	6	7	8
1	Lead upto 1 km	40.85	39.27	24.54	57.74	24.76	65.44
2	Lead upto 2 km	57.18	54.97	34.36	80.84	34.66	91.62
3	Lead upto 3 km	76.25	73.30	45.81	107.79	46.22	122.16
4	Lead upto 4 km	92.58	89.00	55.63	130.89	56.12	148.34
5	Lead upto 5 km	108.92	104.71	65.44	153.98	66.02	174.51
6	for Every km beyond 5 km upto 30 km	16.34	15.71	9.82	23.10	9.90	26.18
7	for Every km beyond 30 km	13.62	13.09	8.18	19.25	8.25	21.81

COM-LDLFT-3

C. LOADING AND UNLOADING CHARGES BY MANUAL MEANS (idle hire charges of trucks are not added)

Sl No.	Description of item	Earth / Sand /Gravel Murrum/ / Surki/ Rs / cum	Rubble/ size stone/ cut stone/ Coarse aggregate,Lime in Rs/cum	cement in Rs/tonne	steel in Rs./tonne	brick work Rs/1000 No
1	2	3	4	5	6	7
1	Loading	32.24	64.47	106.38	127.51	88.65
2	Unloading	16.12	32.24	106.38	127.51	88.65

COM-LDLFT-4

D. LOADING AND UNLOADING CHARGES BY MANUAL MEANS (including idle hire charges of trucks)

Sl No.	Description of item	Earth / Sand /Gravel Murrum/ / Surki/ Rs / cum	Rubble/ size stone/ cut stone/ Coarse aggregate,Lime in Rs/cum	cement in Rs/tonne	steel in Rs./tonne	brick work Rs/1000 No
1	2	3	4	5	6	7
1	Loading	151.23	183.46	237.27	258.40	304.62
2	Unloading	55.62	91.73	237.27	258.40	304.62

E. LOADING AND UNLOADING CHARGES BY MECHANICAL MEANS (including idle hire charges of trucks)

COM-LDLFT-5

Sl No.	Description of item	Earth / Sand /Gravel Murrum/ / Surki/ Rs / cum	Rubble/ size stone/ cut stone/ Coarse aggregate,Lime in Rs/cum
1	2	3	4
1	Loading	63.67	126.31
2	Unloading	20.63	20.63

F. LIFT CHARGES FOR MATERIALS BY HEAD LOAD

COM-LDLFT-6

Sl No.	Total lift (Total lift includes initial lift)	Earth / Sand /Gravel Murrum/ Lime/ Surki/ Size stone / Cut stone Rubble / Coarse aggregate Rs / cum	Cement / Reinforce-ment steel Str steel Rs / tonne	PCC slab/ Shahbad slab / CC block/ BS slab / Laterite / Wood Rs / cum
1	2	3	4	5
1	Total lift upto 3 m (covered by item rate)	Initial lift	Initial lift	Initial lift
2	For Every 1.00 Lift beyond initial lift of 3 meters	11.33	8.19	15.11

DETAILED DATA

LEAD / LIFT / LOADING & UNLOADING CHARGES - DATA RATES

I. GENERAL DATA FOR LEAD / LIFT / LOADING & UNLOADING:
A . DATA FOR LEAD CHARGES BY HEAD LOAD :

For the purpose of working out conveyance charges by head load the category of materials as classified in (I) above are grouped together as under :
CATEGORY : Earth / Sand / Gravel / Murrum / Lime / Surki / Coarse aggregate / Rubble stone / Size stone / Cut stone
In this group materials which are comperatively lighter and generally conveyed by head load by light / heavy mazdoor are included. Method of conveyance, approximate weight per load and time required to cover specified additional distance will be generally same Therefore common data is considered for conveyance by head load for materials under this category.

CATEGORY : Cement in bag / Reinforcement steel / Structural steel sections
In this group the materials in packed / rolled / fabricated condition which are heavier per load compared to the materials under Category above and which can not be split into small quantities for the purpose of conveyance are included. The unit of measurement for these materials is per tonne.

CATEGORY : PCC slab / Shahabad stone slab / CC block / Laterite stone / BS slab / Wood
In this group the materials in moulded condition / cut to standard size which are heavier per load compared to materials under Category above are included.

COM-DTL-LDLFT-1

A. (Lead) Conveyance Charges for materials by head load
CATEGORY : Earth / Sand / Gravel / Murrum / Lime / Surki / Coarse aggregate / Rubble stone / Size stone / Cut stone
Lead: Upto 50 m :
This is initial lead and cost is covered under item basic rate.

Lead: Upto 100 m :

Average distance to be covered beyond initial lead of 50 m	25	m
Average speed of conveyance by head load	60	m / minute
Round trip cycle time for 25 m considering 50 min/ hr working (2 x 25 x 60 / 50 / 60)	1	min
No. of trips per day for additional lead (8 x 60 / 1)	480	
Quantity of material by head load per load	0.015	cum
Quantity of material by head load per day (480 x 0.015) say	7	cum
Deploy one mazdoor for every 50 m additional lead beyond initial lead.		
Unit:	7	cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mazdoor	Day	1.00000	680.00	680.00
Total for materials under this Category for		7.00	cum	Rs:	680.00
		Rate per	cum	Rs:	**97.14**

Lead: Upto 150 m :

Average distance to be covered beyond initial of 50 m :	50	m
Deploy two mazdoors for conveyance beyond initial lead.		
Unit:	7	cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mazdoor	Day	2.00000	680.00	1360.00
Total for materials under this Category for		7.00	cum	Rs:	1360.00
		Rate per	cum	Rs:	**194.29**

CATEGORY : Cement in bag / Reinforcement steel / Structural steel sections
Lead: Upto 50 m :
This is initial lead and cost is covered under item basic rate.

Lead: Upto 100 m :

Average distance to be covered beyond initial lead of 50 m	25	m
Average speed of conveyance by head load	30	m / minute
Round trip cycle time for 25 m considering 50 min/ hr working (2 x 25 x 60 / 50 / 30)	2	min
No. of trips per day for lead upto 100 m (8 x 60 / 2)	240	
Quantity of material by head load per load	50	kg
Quantity of material by head load per day (240 x 50 / 1000)	12	tonne
Deploy one mazdoor for every 50 m additional lead beyond initial lead.		
Unit:	12	tonne

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement /steel handling mazdoor	Day	1.00000	680.00	680.00
Total for materials under this Category for		12.00	tonne	Rs:	680.00
		Rate per	tonne	Rs:	**56.67**

Lead: Upto 150 m :
Average distance to be covered beyond initial of 50 m : 50 m
Deploy two mazdoors for conveyance beyond initial lead.
Unit: 12 tonne

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement /steel handling Mazdoor	Day	2.00000	680.00	1360.00
Total for materials under this Category for		12.00	tonne	Rs:	1360.00
		Rate per	tonne	Rs:	**113.33**

CATEGORY : PCC slab / Shahabad stone slab / CC block / Laterite stone / BS slab / Wood

Lead: Upto 50 m :
This is initial lead and cost is covered under item basic rate.

Lead: Upto 100 m :
Average distance to be covered beyond initial lead of 50 m 25 m
Average speed of conveyance by head load 40 m / minute
Round trip cycle time for 25 m considering 50 min/ hr working
(2 x 25 x 60 / 50 / 40) 1.5 min
No. of trips per day for lead upto 100 m (8 x 60 / 1.5) 320
Quantity of material by head load per load 0.017 cum
Quantity of material by head load per day (320 x 0.017) say 5.5 cum
Deploy one mazdoor for every 50 m additional lead beyond initial lead.
Unit: 5.5 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mazdoor	Day	1.00000	680.00	680.00
Total for materials under this Category for		5.50	cum	Rs:	680.00
		Rate per	cum	Rs:	**123.64**

Lead: Upto 150 m :
Average distance to be covered beyond initial of 50 m : 50 m
Deploy two mazdoors for conveyance beyond initial lead.
Unit: 5.5 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mazdoor	Day	2.00000	680.00	1360.00
Total for materials under this Category for		5.50	cum	Rs:	1360.00
		Rate per	cum	Rs:	**247.27**

COM-DTL-LDLFT-2 **B.(Lead) Conveyance charges for machinery per kilometer for transporting materials by tippers and trucks excluding loading, unloading and idle hire charges of machinery.**

CATEGORY : Earth / Sand / Gravel / Murrum / Lime / Surki /

For total lead upto 1 km Unit: 5 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.15000	493.27	73.99
	Fuel charges	Hour	0.15000	545.53	81.83
2	Crew charges	Hour	0.15000	322.73	48.41
			Total Rs:		204.23
	Total for	5	cum	Rs:	204.23
	Rate per cum				**40.85**

For total lead more than 1 km upto 2 km Unit: 5 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.21000	493.27	103.59
	Fuel charges	Hour	0.21000	545.53	114.56
2	Crew charges	Hour	0.21000	322.73	67.77
			Total Rs:		285.92
	Total for	5	cum	Rs:	285.92
	Rate per cum				**57.18**

For total lead more than 2 km upto 3 km Unit: 5 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.28000	493.27	138.12
	Fuel charges	Hour	0.28000	545.53	152.75
2	Crew charges	Hour	0.28000	322.73	90.36
			Total Rs:		381.23
	Total for	5	cum	Rs:	381.23
	Rate per cum				**76.25**

For total lead more than 3 km upto 4 km Unit: 5 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.34000	493.27	167.71
	Fuel charges	Hour	0.34000	545.53	185.48
2	Crew charges	Hour	0.34000	322.73	109.73
			Total Rs:		462.92
	Total for	5	cum	Rs:	462.92
	Rate per cum				**92.58**

For total lead more than 4 km upto 5 km Unit: 5 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.40000	493.27	197.31
	Fuel charges	Hour	0.40000	545.53	218.21
2	Crew charges	Hour	0.40000	322.73	129.09
			Total Rs:		544.61
	Total for	5	cum	Rs:	544.61
	Rate per cum				**108.92**

For lead beyond 5 km upto 30 km for every km Unit: 5 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.06000	493.27	29.60
	Fuel charges	Hour	0.06000	545.53	32.73
2	Crew charges	Hour	0.06000	322.73	19.36
			Total Rs:		81.69
	Total for	5	cum	Rs:	81.69
	Rate per cum				**16.34**

For lead beyond 30 km for every km Unit: 5 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.05000	493.27	24.66
	Fuel charges	Hour	0.05000	545.53	27.28
2	Crew charges	Hour	0.05000	322.73	16.14
			Total Rs:		68.08
	Total for	5	cum	Rs:	68.08
	Rate per cum				**13.62**

CATEGORY : Coarse aggregate / Rubble stone / Size stone / Cut stone

For total lead upto 1 km Unit: 5 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.15000	446.46	66.97
	Fuel charges	Hour	0.15000	545.53	81.83
2	Crew charges	Hour	0.15000	316.88	47.53
			Total Rs:		196.33
	Total for	5	cum	Rs:	196.33
	Rate per cum				**39.27**

For total lead more than 1 km upto 2 km Unit: 5 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.21000	446.46	93.76
	Fuel charges	Hour	0.21000	545.53	114.56
2	Crew charges	Hour	0.21000	316.88	66.54
			Total Rs:		274.86
	Total for	5	cum	Rs:	274.86
	Rate per cum				**54.97**

For total lead more than 2 km upto 3 km Unit: 5 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.28000	446.46	125.01
	Fuel charges	Hour	0.28000	545.53	152.75
2	Crew charges	Hour	0.28000	316.88	88.73
			Total Rs:		366.49
	Total for	5	cum	Rs:	366.49
	Rate per cum				**73.30**

For total lead more than 3 km upto 4 km Unit: 5 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.34000	446.46	151.80
	Fuel charges	Hour	0.34000	545.53	185.48
2	Crew charges	Hour	0.34000	316.88	107.74
			Total Rs:		445.02
	Total for	5	cum	Rs:	445.02
	Rate per cum				**89.00**

For total lead more than 4 km upto 5 km Unit: 5 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.40000	446.46	178.58
	Fuel charges	Hour	0.40000	545.53	218.21
2	Crew charges	Hour	0.40000	316.88	126.75
			Total Rs:	0.00	523.54
	Total for	5	cum	Rs:	523.54
	Rate per cum				**104.71**

For lead beyond 5 km upto 30 km for every km Unit: 5 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.06000	446.46	26.79
	Fuel charges	Hour	0.06000	545.53	32.73
2	Crew charges	Hour	0.06000	316.88	19.01
			Total Rs:		78.53
	Total for	5	cum	Rs:	78.53
	Rate per cum				**15.71**

For lead beyond 30 km for every km Unit: 5 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.05000	446.46	22.32
	Fuel charges	Hour	0.05000	545.53	27.28
2	Crew charges	Hour	0.05000	316.88	15.84
			Total Rs:		65.44
	Total for	5	cum	Rs:	65.44
	Rate per cum				**13.09**

CATEGORY : Cement/ Steel/ Pipes/ RCC poles/ AC & GI sheets/ Packed materials

For total lead upto 1 km Unit: 8 tonne

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.15000	446.46	66.97
	Fuel charges	Hour	0.15000	545.53	81.83
2	Crew charges	Hour	0.15000	316.88	47.53
			Total Rs:		196.33
	Total for	8	tonne	Rs:	196.33
	Rate per tonne				**24.54**

For total lead more than 1 km upto 2 km Unit: 8 tonne

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.21000	446.46	93.76
	Fuel charges	Hour	0.21000	545.53	114.56
2	Crew charges	Hour	0.21000	316.88	66.54
			Total Rs:		274.86
	Total for	8	tonne	Rs:	274.86
	Rate per tonne				**34.36**

For total lead more than 2 km upto 3 km Unit: 8 tonne

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.28000	446.46	125.01
	Fuel charges	Hour	0.28000	545.53	152.75
2	Crew charges	Hour	0.28000	316.88	88.73
			Total Rs:		366.49
	Total for	8	tonne	Rs:	366.49
	Rate per tonne				**45.81**

For total lead more than 3 km upto 4 km Unit: 8 tonne

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.34000	446.46	151.80
	Fuel charges	Hour	0.34000	545.53	185.48
2	Crew charges	Hour	0.34000	316.88	107.74
			Total Rs:		445.02
	Total for	8	tonne	Rs:	445.02
	Rate per tonne				**55.63**

For total lead more than 4 km upto 5 km Unit: 8 tonne

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.40000	446.46	178.58
	Fuel charges	Hour	0.40000	545.53	218.21
2	Crew charges	Hour	0.40000	316.88	126.75
			Total Rs:		523.54
	Total for	8	tonne	Rs:	523.54
	Rate per tonne				**65.44**

For lead beyond 5 km upto 30 km for every km Unit: 8 tonne

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.06000	446.46	26.79
	Fuel charges	Hour	0.06000	545.53	32.73
2	Crew charges	Hour	0.06000	316.88	19.01
			Total Rs:		78.53
	Total for	8	tonne	Rs:	78.53
	Rate per tonne				**9.82**

For lead beyond 30 km for every km Unit: 8 tonne

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.05000	446.46	22.32
	Fuel charges	Hour	0.05000	545.53	27.28
2	Crew charges	Hour	0.05000	316.88	15.84
			Total Rs:		65.44
	Total for	8	tonne	Rs:	65.44
	Rate per tonne				**8.18**

CATEGORY : PCC slabs/ Shahabad slabs/ BS slabs/ CC & Laterite blocks/ Wood

For total lead upto 1 km Unit: 3.4 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.15000	446.46	66.97
	Fuel charges	Hour	0.15000	545.53	81.83
2	Crew charges	Hour	0.15000	316.88	47.53
			Total Rs:		196.33
	Total for	3.4	cum	Rs:	196.33
	Rate per cum				**57.74**

For total lead more than 1 km upto 2 km Unit: 3.4 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.21000	446.46	93.76
	Fuel charges	Hour	0.21000	545.53	114.56
2	Crew charges	Hour	0.21000	316.88	66.54
			Total Rs:		274.86
	Total for	3.4	cum	Rs:	274.86
	Rate per cum				**80.84**

For total lead more than 2 km upto 3 km Unit: 3.4 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.28000	446.46	125.01
	Fuel charges	Hour	0.28000	545.53	152.75
2	Crew charges	Hour	0.28000	316.88	88.73
			Total Rs:		366.49
	Total for	3.4	cum	Rs:	366.49
	Rate per cum				**107.79**

For total lead more than 3 km upto 4 km Unit: 3.4 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.34000	446.46	151.80
	Fuel charges	Hour	0.34000	545.53	185.48
2	Crew charges	Hour	0.34000	316.88	107.74
			Total Rs:		445.02
	Total for	3.4	cum	Rs:	445.02
	Rate per cum				**130.89**

For total lead more than 4 km upto 5 km Unit: 3.4 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.40000	446.46	178.58
	Fuel charges	Hour	0.40000	545.53	218.21
2	Crew charges	Hour	0.40000	316.88	126.75
			Total Rs:		523.54
	Total for	3.4	cum	Rs:	523.54
	Rate per cum				**153.98**

For lead beyond 5 km upto 30 km for every km — Unit: 3.4 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.06000	446.46	26.79
	Fuel charges	Hour	0.06000	545.53	32.73
2	Crew charges	Hour	0.06000	316.88	19.01
			Total Rs:		78.53
	Total for	3.4	cum	Rs:	78.53
	Rate per cum				**23.10**

For lead beyond 30 km for every km — Unit: 3.4 cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.05000	446.46	22.32
	Fuel charges	Hour	0.05000	545.53	27.28
2	Crew charges	Hour	0.05000	316.88	15.84
			Total Rs:		65.44
	Total for	3.4	cum	Rs:	65.44
	Rate per cum				**19.25**

CATEGORY : water

For total lead upto 1 km — Unit: 8000 litres

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker hire charges	Hour	0.15000	458.01	68.70
	Fuel charges	Hour	0.15000	545.53	81.83
2	Crew charges	Hour	0.15000	316.88	47.53
			Total Rs:		198.06
	Total for	8000	litres	Rs:	198.06
	Rate per 1000 litres				**24.76**

For total lead more than 1 km upto 2 km — Unit: 8000 litres

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker hire charges	Hour	0.21000	458.01	96.18
	Fuel charges	Hour	0.21000	545.53	114.56
2	Crew charges	Hour	0.21000	316.88	66.54
			Total Rs:		277.28
	Total for	8000	litres	Rs:	277.28
	Rate per 1000 litres				**34.66**

For total lead more than 2 km upto 3 km — Unit: 8000 litres

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker hire charges	Hour	0.28000	458.01	128.24
	Fuel charges	Hour	0.28000	545.53	152.75
2	Crew charges	Hour	0.28000	316.88	88.73
			Total Rs:		369.72
	Total for	8000	litres	Rs:	369.72
	Rate per 1000 litres				**46.22**

For total lead more than 3 km upto 4 km — Unit: 8000 litres

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker hire charges	Hour	0.34000	458.01	155.72
	Fuel charges	Hour	0.34000	545.53	185.48
2	Crew charges	Hour	0.34000	316.88	107.74
			Total Rs:		448.94
	Total for	8000	litres	Rs:	448.94
	Rate per 1000 litres				**56.12**

For total lead more than 4 km upto 5 km — Unit: 8000 litres

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker hire charges	Hour	0.40000	458.01	183.20
	Fuel charges	Hour	0.40000	545.53	218.21
2	Crew charges	Hour	0.40000	316.88	126.75
			Total Rs:		528.16
	Total for	8000	litres	Rs:	528.16
	Rate per 1000 litres				**66.02**

For lead beyond 5 km upto 30 km for every km — Unit: 8000 litres

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker hire charges	Hour	0.06000	458.01	27.48
	Fuel charges	Hour	0.06000	545.53	32.73
2	Crew charges	Hour	0.06000	316.88	19.01
			Total Rs:		79.22
	Total for	8000	litres	Rs:	79.22
	Rate per 1000 litres				**9.90**

For lead beyond 30 km for every km Unit: 8000 litres

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker hire charges	Hour	0.05000	458.01	22.90
	Fuel charges	Hour	0.05000	545.53	27.28
2	Crew charges	Hour	0.05000	316.88	15.84
			Total Rs:		66.02
	Total for	8000	litres	Rs:	66.02
	Rate per 1000 litres				**8.25**

CATEGORY : Bricks (as adopted by R&B(Buildings))

For total lead upto 1 km Unit: 3000 bricks

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck 10 T charges	Hour	0.15000	446.46	66.97
	Fuel charges	Hour	0.15000	545.53	81.83
2	Crew charges	Hour	0.15000	316.88	47.53
			Total Rs:		196.33
	Total for	3000	bricks	Rs:	196.33
	Rate per 1000 bricks				**65.44**

For total lead more than 1 km upto 2 km Unit: 3000 bricks

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck 10 T charges	Hour	0.21000	446.46	93.76
	Fuel charges	Hour	0.21000	545.53	114.56
2	Crew charges	Hour	0.21000	316.88	66.54
			Total Rs:		274.86
	Total for	3000	bricks	Rs:	274.86
	Rate per 1000 bricks				**91.62**

For total lead more than 2 km upto 3 km Unit: 3000 bricks

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck 10 T charges	Hour	0.28000	446.46	125.01
	Fuel charges	Hour	0.28000	545.53	152.75
2	Crew charges	Hour	0.28000	316.88	88.73
			Total Rs:		366.49
	Total for	3000	bricks	Rs:	366.49
	Rate per 1000 bricks				**122.16**

For total lead more than 3 km upto 4 km Unit: 3000 bricks

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck 10 T charges	Hour	0.34000	446.46	151.80
	Fuel charges	Hour	0.34000	545.53	185.48
2	Crew charges	Hour	0.34000	316.88	107.74
			Total Rs:		445.02
	Total for	3000	bricks	Rs:	445.02
	Rate per 1000 bricks				**148.34**

For total lead more than 4 km upto 5 km Unit: 3000 bricks

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck 10 T charges	Hour	0.40000	446.46	178.58
	Fuel charges	Hour	0.40000	545.53	218.21
2	Crew charges	Hour	0.40000	316.88	126.75
			Total Rs:		523.54
	Total for	3000	bricks	Rs:	523.54
	Rate per 1000 bricks				**174.51**

For lead beyond 5 km upto 30 km for every km Unit: 3000 bricks

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck 10 T charges	Hour	0.06000	446.46	26.79
	Fuel charges	Hour	0.06000	545.53	32.73
2	Crew charges	Hour	0.06000	316.88	19.01
			Total Rs:		78.53
	Total for	3000	bricks	Rs:	78.53
	Rate per 1000 bricks				**26.18**

For lead beyond 30 km for every km Unit: 3000 bricks

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck 10 T charges	Hour	0.05000	446.46	22.32
	Fuel charges	Hour	0.05000	545.53	27.28
2	Crew charges	Hour	0.05000	316.88	15.84
			Total Rs:		65.44
	Total for	3000	bricks	Rs:	65.44
	Rate per 1000 litres				**21.81**

COM-DTL-LDLFT-3 **C. LOADING AND UNLOADING CHARGES BY MANUAL MEANS (idle hire charges of trucks are not added)**

MORD -data

1	Loading of Lime, Aggregate, Stone Boulder,					
a) Loading	Brick Aggregate, Kankar, Building Rubbish,		Unit	Quantity	Rate Rs.	Amount Rs.
	Building Rubbish, Crushed Slag, Stone for Masonry					
	Work by manual means including a lead upto 30 m					
	Unit = cum					
	Taking output = 5.5 cum					
	Labour					
	Head Mazdoor		day	0.02000	730.00	14.60
	Mazdoor		day	0.50000	680	340.00
			Total in Rs.			354.60
	Rate per cum =				Rs.	**64.47**

b) Unloadin 50% of the loading charges **32.24**

2	Loading of Earth, Sand, Moorum, Manure, Fly	Unit	Quantity	Rate Rs.	Amount Rs.
a) Loading	by manual means including a lead upto 30 m				
	Unit = cum				
	Taking output = 5.5 cum				
	Labour				
	Head Mazdoor	day	0.01000	730.00	7.30
	Mazdoor	day	0.25000	680.00	170.00
		Total in Rs.			177.30
	Rate per cum =			Rs.	**32.24**

b) Unloadin 50% of the loading charges **16.12**

3	Loading of Bricks by manual means	Unit	Quantity	Rate Rs.	Amount Rs.
a) Loading	including a lead upto 30 m				
	Unit = 1000 Nos.				
	Taking output = 2000 Nos				
	a) Labour				
	Head Mazdoor	day	0.01000	730.00	7.30
	Mazdoor	day	0.25000	680	170.00
	Cost for 2000 Nos. =				177.30
	Rate per cum =			Rs.	**88.65**

100% of loading charges
b) Unloadin i.e., Rs. 88.65

4	Loading of Cement by manual means	Unit	Quantity	Rate Rs.	Amount Rs.
a) Loading	including a lead upto 30 m				
	Unit = 1 t				
	Taking output = 10 t				
	a) Labour				
	Head mazdoor	day	0.06000	730.00	43.80
	Mazdoor	day	1.50000	680	1020.00
	Cost for 10 t =				1063.80
	Rate per 1 tonne =			Rs.	**106.38**

b) Unloadin 100% of loading charges I.e **106.38**

5	Loading of Structural Steel, Steel Bars by man	Unit	Quantity	Rate Rs.	Amount Rs.
a) Loading	including a lead upto 30 m				
	Unit = 1 t				
	Taking output = 10 t				
	a) Labour				
	head Mazdoor	day	0.07000	730.00	51.1
	Mazdoor	day	1.80000	680.00	1224.00
	Cost for 10 t =				1275.10
	Rate per 1 tonne =			Rs.	**127.51**

100% of loading charges
b) Unloadin I.e., Rs. **127.51**

6	Loading of Bricks - 1000 Nos (Regular sizes -	Unit	Quantity	Rate Rs.	Amount Rs.
a) Loading	225x140x70 mm) by manual means including				
	Unit = 1000 Nos.				
	Taking output = 2000 Nos.				
	a) Labour				
	head Mazdoor	day	0.01000	730.00	7.3
	Mazdoor	day	0.25000	680.00	170.00
	Cost for 2000 Nos. =				177.30
	Rate per 1000 Nos. =			Rs.	**88.65**

100% of loading charges
b) Unloadin I.e., Rs. 88.65

COM-DTL-LDLFT-4 **D. LOADING AND UNLOADING CHARGES BY MANUAL MEANS (including idle hire charges of trucks)**

1	Loading of Lime, Aggregate, Stone Boulder,		Unit	Quantity	Rate Rs.	
a) Loading	Brick Aggregate, Kankar, Building Rubbish,					Amount Rs.
	Building Rubbish, Crushed Slag, Stone for Mas					
	Work by manual means including a lead upto 30 m					
	Unit = cum					
	Taking output = 5.5 cum					
	a) Labour					
	Head Mazdoor		day	0.02000	730.00	14.60
	Mazdoor		day	0.50000	680.00	340.00
	b) Machinery					
	Truck 10t		hour	0.50000	1308.87	654.44
	Cost for 5.5 cum =					1009.04
	Rate per cum =				Rs.	**183.46**

b) Unloadin 50% of the loading charges i.e., 91.73

2	Loading of Earth, Sand, Moorum, Manure, Fly		Unit	Quantity	Rate Rs.	Amount Rs.
a) Loading	by manual means including a lead upto 30 m					
	Unit = cum					
	Taking output = 5.5 cum					
	Labour					
	Head Mazdoor		day	0.01000	730.00	7.30
	Mazdoor		day	0.25000	680.00	170.00
	b) Machinery					
	Truck 10t		hour	0.50000	1308.87	654.44
	Cost for 5.5 cum =					831.74
	Rate per cum =				Rs.	**151.23**

b) Unloadin	Unloading of Earth, Sand, Moorum, Manure, F		Unit	Quantity	Rate Rs.	Amount Rs.
	by manual means including a lead upto 30 m					
	Unit = cum					
	Taking output = 5.5 cum					
	a) Labour					
	Mate		day	0.00500	730.00	3.65
	Mazdoor(unskilled)		day	0.12500	680	85.00
	b) Machinery					
	Truck 10t		hour	0.16600	1308.87	217.27
	Cost for 5.5 cum =					305.92
	Rate per cum =				Rs.	**55.62**

3	Loading of Bricks by manual means		Unit	Quantity	Rate Rs.	Total
a) Loading	including a lead upto 30 m					
	Unit = 1000 Nos.					
	Taking output = 2000 Nos					
	a) Labour					
	Mate		day	0.01000	730.00	7.30
	Mazdoor(unskilled)		day	0.25000	680.00	170.00
	b) Machinery					
	Truck 10t		hour	0.33000	1308.87	431.93
	Cost for 2000 Nos. =					609.23
	Rate per 1000 bricks =				Rs.	**304.62**

b) Unloadin 100% of loading charges i.e **304.62**

4	Loading of Cement by manual means		Unit	Quantity	Rate Rs.	Total
a) Loading	including a lead upto 30 m					
	Unit = 1 t					
	Taking output = 10 t					
	a) Labour					
	Mate		day	0.06000	730.00	43.80
	Mazdoor(unskilled)		day	1.50000	680	1020.00
	b) Machinery					
	Truck 10t		hour	1.00000	1308.87	1308.87
	Cost for 10 t =					2372.67
	Rate per 1 tonne =				Rs.	**237.27**

b) Unloadin 100% of loading charges i.e 237.27

5	Loading of Structural Steel, Steel Bars by		Unit	Quantity	Rate Rs.	Total
a) Loading	manual means including a lead upto 30 m					
	Unit = 1 t					
	Taking output = 10 t					
	a) Labour					
	Mate		day	0.07000	730.00	51.10
	Mazdoor(unskilled)		day	1.80000	680	1224.00
	b) Machinery					
	Truck 10t		hour	1.00000	1308.87	1308.87
	Cost for 10 t =					2583.97
	Rate per 1 tonne =				Rs.	**258.40**

b) Unloadin 100% of loading charges i.e 258.40

COM-DTL-LDLFT-5 **E. LOADING AND UNLOADING CHARGES BY MECHANICAL MEANS (including idle hire charges of trucks)**

COM-DTL-LDLFT-5-A

1	Loading of Lime, Aggregate, Stone Boulder,					
a) Loading	Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry work by mechanical means including a lead upto 30 m Placing tipper at loading point, loading with front end loader excluding time for haulage and return trip.		Unit	Quantity	Rate Rs.	Total
	Unit = cum					
	Taking output = 5.5 cum					
	Time required for					
	i) Positioning of tipper at loading point		Min	1		
	ii) Loading by front end loader 1 cum bucket ca		Min	7.33		
	@ 45 / 25 cum per hour					
	iii) Manoevouring, reversing, dumping and turn		Min	-		
	for return					
	iv) Waiting time, unforeseen contingencies, etc		Min	2		
	Total		Min	10.33		
	a) Machinery					
	Tipper 10 t capacity		hour	0.17217	1361.53	234.41
	Front end-loader 1 cum bucket capacity @ 45		hour	0.12217	3767.61	460.29
	per hour					
	Cost for 5.5 cum =					694.70
	Rate per cum = (a+b)/5.5				Rs.	**126.31**

b) Unloadin see below. COM-LDLFT-5-B

COM-DTL-LDLFT-5-B

2	Loading of Earth, sand, Moorum, Manure, Flyash,					
a) Loading	by mechanical means including a lead upto 30 m Placing tipper at loading point, loading with front end loader excluding time for haulage and retu Placing tipper at loading point, loading with front end loader excluding time for haulage and return trip.		Unit	Quantity	Rate Rs.	Total
	Unit = cum					
	Taking output = 5.5 cum					
	Time required for					
	i) Positioning of tipper at loading point		Min	1		
	ii) Loading by front end loader 1 cum bucket ca		Min	3.3		
	@ 45 / 25 cum per hour					
	iii) Waiting time, unforeseen contingencies, etc		Min	2		
	Total		Min	6.3		
	a) Machinery					
	Tipper 10 t capacity		hour	0.10500	1361.53	142.96
	Front end-loader 1 cum bucket capacity @ 45		hour	0.05500	3767.61	207.22
	per hour					
	Cost for 5.5 cum =					350.18
	Rate per cum = (a+b)/5.5				Rs.	**63.67**

b) Unloadin	Unloading of Earth, sand, Moorum, Manure, Flyash,					
	lime, Aggregate, Stone boulder, Brick aggregate, Kankar, Building rubbish, Manure, Crushed Sla Flyash, Stone for Masonry work by mechanical means including a lead upto 30 m		Unit	Quantity	Rate Rs.	Total
	Placing tipper at unloading point, excluding time for haulage and return trip.					
	Taking output = 5.5 cum					
	Time required for					
	i) Positioning of tipper at loading point		Min	1		
	ii) Loading by front end loader 1 cum bucket ca		Min	2		
	@ 45 / 25 cum per hour					
	iii) Waiting time, unforeseen contingencies, etc		Min	2		
	Total			5		
	a) Machinery					
	Tipper 10 t capacity		hour	0.08333	1361.53	113.46
	Cost for 5.5 cum =					113.46
	Rate per cum = (a+b)/5.5					**20.63**

COM-DTL-LDLFT-6 **F. LIFT CHARGES FOR MATERIALS BY HEAD LOAD**

FOR CATEGORY : Earth / Sand / Gravel / Murrum / Lime / Surki / Coarse aggregate / Rubble stone / Size stone / Cut stone

Lift : Upto 3.00 m
This is the initial lift and forms integral part of the activities in the basic rate of work item.
Lift charges are admissible only lifting effort beyond initial lift specified in the work item.

Lift : ADDITIONAL LIFT CHARGES FOR each 1 METER LIFT BEYOND 3 M INITIAL LIFT

For additional lift of 1m beyond initial lift of 3 m		
one meter lift is taken equivalent to 6 meters lead		
average speed of conveyance by head load	60 m/minute	
Round trip cycle time for 1.00 m considering 50 min/ hr working		
1 x6x 60 / 50 / 60)	0.12	min
No. of trips per day for lift 1.0 m above 3 m (8 x 60 / 0..12)	4000	
Quantity of material by head load	0.015	cum
Quantity of material by head load per day (4000x 0.015)	60	cum
Deploy 1 mazdoor for every additional lift of 1.0 m beyond initial lift.		
Lift : Upto 3.00 m for materials under this Category Unit:	60	cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	2	3	4	5	6
	Mazdoor	Day	1.00000	680.00	680.00
		Total Rs: for 60 cum			680.00
	Rate per cum				**11.33**

FOR CATEGORY: Cement bag / Reinforcement steel / Structural steel sections
Lift : Upto 3.00 m
This is the initial lift and forms integral part of the activities in the basic rate of work item.
Lift charges are admissible only lifting effort beyond initial lift specified in the work item.

Lift : ADDITIONAL LIFT CHARGES FOR each 1 METER LIFT BEYOND 3 M INITIAL LIFT

For additional lift of 1m beyond initial lift of 3 m		
one meter lift is taken equivalent to 6 meters lead		
average speed of conveyance by head load	25 m/minute	
Round trip cycle time for 1.00 m considering 50 min/ hr working		
1 x6x 60 / 50 / 25)	0.29	min
No. of trips per day foradditional lift 1.0 m above 3 m (8 x 60 / 0.29)	1655	
Quantity of material by head load	50	kgs
Quantity of material by head load per day (1655x50x 0.015)	83	tons
Deploy 1 mazdoor for every additional lift of 1.5 m beyond initial lift.or2/3 mazdoor		
Lift : Upto 3.00 m for materials under this Category Unit:	83	TONS

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	2	3	4	5	6
	Mazdoor	Day	1.00000	680.00	680.00
		Total Rs: for 83 Tonnes			680.00
	Rate per tonne				**8.19**

FOR CATEGORY : PCC slab / Shahabad stone slab / CC block / Laterite stone / BS slab / Wood

Lift : Upto 3.00 m
This is the initial lift and forms integral part of the activities in the basic rate of work item.
Lift charges are admissible only lifting effort beyond initial lift specified in the work item.
Lift : ADDITIONAL LIFT CHARGES FOR EACH 1 METER LIFT BEYOND 3 M INITIAL LIFT

For additional lift of 1m beyond initial lift of 3 m		
one meter lift is taken equivalent to 6 meters lead		
average speed of conveyance by head load	40 m/minute	
Round trip cycle time for 1.00 m considering 50 min/ hr working		
1 x6x 60 / 50 / 40)	0.18	min
No. of trips per day for lift 1.0 m (8 x 60 / 0.18)	2667	
Quantity of material by head load	0.017	cum
Quantity of material by head load per day (1667x 0.018)	45	cum
Deploy 1 mazdoor for every additional lift of 1.5 m beyond initial lift.or2/3 mazdoor		
Lift : Upto 3.00 m for materials under Category Unit:	45	cum

Sl No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	2	3	4	5	6
	Mazdoor	Day	1.00000	680.00	680.00
		Total Rs: for 45 cum			680.00
	Rate per cum				**15.11**

HIRE CHARGES OF MACHINERY FOR THE YEAR : 2026-27

Sl No	Description of machinery	Unit	Hire charge in Rs	Fuel charge in Rs	Crew Charge in Rs.	Total in Rs
1	2	3	4	5	6	7
1	Agitator car / Transit mixer 2 cum	Hour	791.29	1587.53	516.36	2895.18
2	Air compressor 5 cmm (electric)	Hour	109.48	285.52	302.25	697.25
3	Air compressor 7 cmm (diesel)	Hour	246.16	1298.88	386.88	1931.92
4	Air compressor 7 cmm (electric)	Hour	137.00	380.69	302.25	819.94
5	Air compressor 8.5 cmm (diesel	Hour	288.50	1623.60	386.88	2298.98
6	Air compressor 8.5 cmm (electric)	Hour	177.65	475.86	302.25	955.76
7	Air compressor 15 cmm (electric)	Hour	140.61	1057.45	322.40	1520.46
8	Angle Dozer 90 hp	Hour	1610.29	1110.54	430.30	3151.13
9	Batching plant 0.5 cum(6 cum/hr)	Hour	111.48	126.90	621.38	859.76
10	Batching plant 2 x 1.00 cum(15 cum/hr)	Hour	394.33	380.69	621.38	1396.40
11	Batching plant 2 x 1.50 cum(50 cum/hr)	Hour	603.83	465.28	621.38	1690.49
12	Bending machine 3000 x 12 mm	Hour	44.50	126.90	241.80	413.20
13	Clamp shell and hoisting ropes	Hour	6.12	0.00	0.00	6.12
14	Concrete bucket 1.5 cum	Hour	18.00	0.00	0.00	18.00
15	Concrete hand mixer 45 / 30 ltr	Hour	5.66	0.00	0.00	5.66
16	Concrete mixer 300 / 200 (diesel)	Hour	55.40	144.33	403.00	602.73
17	Concrete mixer 300 / 200 ltr (electric)	Hour	54.10	42.30	403.00	499.40
18	Concrete mixer 600 / 400 (diesel)	Hour	94.27	288.64	403.00	785.91
19	Concrete mixer 600 / 400 ltr (electric	Hour	92.33	84.60	403.00	579.93
20	Concrete paver 100 sqm / hr	Hour	359.30	0.00	773.76	1133.06
21	Convey mucker	Hour	834.82	294.40	322.40	1451.62
22	Core drilling machine	Hour	324.86	432.96	516.36	1274.18
23	Diesel generating set 30 KVA	Hour	68.01	1154.56	241.80	1464.37
24	Diesel generating set 50 KVA	Hour	84.94	1731.84	241.80	2058.58
25	Diesel Loco 45 hp	Hour	389.48	974.16	302.25	1665.89
26	Dewatering pump 5 hp (diesel)	Hour	10.73	144.33	204.67	359.73
27	Dewatering pump 5 hp (electric)	Hour	3.27	42.30	153.47	199.04
28	Dewatering pump 10 hp (diesel)	Hour	16.86	288.64	204.67	510.17
29	Dewatering pump 10 hp (electric	Hour	7.29	84.60	153.47	245.36
30	Dewatering pump 20 hp (diesel)	Hour	53.26	577.28	204.67	835.21
31	Dewatering pump 20 hp (electric	Hour	13.68	169.19	153.47	336.34
32	Drifter	Hour	328.35	0.00	645.45	973.80
33	Drilling jumbo	Hour	396.21	77.94	322.40	796.55
34	Dumper 4.5 cum	Hour	641.87	727.38	413.09	1782.34
35	Geophysical Electric resistivity meter	Hour	111.16	0.00	0.00	111.16
36	Grouting pump	Hour	24.49	42.30	483.60	550.39
37	Guniting / sand blast equipment	Hour	126.54	0.00	403.00	529.54
38	Ice plant & accessories 30 t / day	Hour	190.00	1205.50	241.80	1637.30
39	Jack hammer	Hour	19.11	0.00	604.50	623.61

HIRE CHARGES OF MACHINERY FOR THE YEAR : 2026-27

Sl No	Description of machinery	Unit	Hire charge in Rs	Fuel charge in Rs	Crew Charge in Rs.	Total in Rs
1	2	3	4	5	6	7
40	Needle vibrator 40 mm (petrol)	Hour	8.50	32.39	290.10	330.99
41	Needle vibrator 40 mm (electric)	Hour	8.10	8.46	290.10	306.66
42	Needle vibrator 60 mm (petrol)	Hour	10.39	48.59	290.10	349.08
43	Needle vibrator 60 mm (electric)	Hour	8.44	12.68	290.10	311.22
44	Planing machine 4 m stroke	Hour	133.17	126.90	386.88	646.95
45	Plate shearing machine upto 12 mm	Hour	47.53	169.19	258.18	474.90
46	Pneumatic placer 0.5 cum	Hour	168.98	0.00	159.90	328.88
47	Pneumatic tamper	Hour	20.15	0.00	483.60	503.75
48	Pug cutting machine	Hour	6.86	4.22	0.00	11.08
49	Pusher leg	Hour	15.15	0.00	0.00	15.15
50	Road roller diesel 10 t	Hour	194.64	1298.88	394.37	1887.89
51	Shovel 0.50 cum 75 hp	Hour	1047.41	865.93	430.30	2343.64
52	Shovel 0.85 cum 110 hp	Hour	1749.78	1587.53	430.30	3767.61
53	Stationery derric crane	Hour	87.64	0.00	0.00	87.64
54	Tipper 5 cum	Hour	493.27	545.53	322.73	1361.53
55	Tipping tub 1.5 cum	Hour	75.02	0.00	0.00	75.02
56	Tower crane 5 tonne	Hour	870.74	219.95	344.24	1434.93
57	Transformer 250 KVA	Hour	5825.73	0.00	0.00	5825.73
58	Truck 10 t	Hour	446.46	545.53	316.88	1308.87
59	Truck mounted derric crane 5 t	Hour	555.06	545.53	316.88	1417.47
60	Upright drilling machine/Grinder	Hour	24.32	42.30	360.75	427.37
61	Ventilation fan 20 hp	Hour	12.99	169.19	52.94	235.12
62	Vibratory pad foot roller 8 t	Hour	1344.20	1876.16	483.60	3703.96
63	Wagon drill	Hour	204.05	0.00	516.36	720.41
64	Water tanker 8000 ltr	Hour	458.01	545.53	316.88	1320.42
65	Welding set	Hour	17.57	101.52	0.00	119.09
66	Winch 35 hp (electric)	Hour	143.13	207.26	483.60	833.99
67	Hydraulic Truck Crane 30T	Hour	3282.18	2141.85	959.71	6383.74
68	Hydraulic Truck Crane 16T	Hour	2320.41	1894.20	959.71	5174.32
69	Heavy Duty Airless Spray Painting Equipment	Hour	125.84	0.00	0.00	125.84
70	Concrete Placer Pump 25 Cum/Hr	Hour	965.22	507.58	302.25	1775.05
71	Tractor with 2 T roller	Hour	550.00	0.00	0.00	550.00
72	Lathe Machine	Hour	325	0	0	325.00