

Government of Jammu and Kashmir (UT)  
**OFFICE OF THE EXECUTIVE ENGINEER**  
**JAL SHAKTI (PHE) MECHANICAL DIVISION SOUTH AWANTIPORA.**  
E-MAIL ID:-xenphemechsouthawp@gmail.com Fax/phone. 01933-295537



Allotment Order No: 126 of 08/2023

M/S Kanon Envirotec Engineers  
Prop: Atul Singh  
R/o: RZ -101/13-E, Street No. 04, Mohan Nagar, Pankha Road New Delhi-110046  
GST No: 07BHVPS632H1ZV  
Cell No: 9717044494  
Email: kanonatul@gmail.com

AA Accorded vide Order No.	SE/Hyd/DB/16 of 2021 Dated: 25/05/2021
Tech. Sanction Accorded vide Order No.	01 of 2021 vide No.: PHE/MCS/TS/1152-55 Dated: 25/08/2021
Adv. Cost:	Rs. 79,52,000/-
Allotted Cost:	Rs. 70,82,957/-

**Subject:-** Design, Supply, Installation, Testing and Commissioning of 8000 GPH Pressure Type Iron Removal Plant with O&M for 3 Years and Allied Civil & Electro Mechanical Works at WSS Malikabad Badwani under JJM.

**Reference:-**

1. This office e-NIT No.: 33 of 2021-22 Dated: 27/08/2021 issued under endorsement No.: JSD/PHE/MDSA/1235-37 Dated: 27/08/2021 read with Corrigendum No. JSD/PHE/MDSE/1286-88 Dated: 01/09/2021.
2. Superintending Engineer Hydraulic Circle Anantnag/Kulgam [HQ] Anantnag (Member Secretary JJM) Authorization No.: SE/Hyd/Cors/4688-91 Dated: 17-08-2023
3. LOI issued by this office vide No.: MDSA/3486-87 Dated: 19-01-2022.
4. Reasonability of Rates submitted by Executive Engineer PHE Division Qazigund for civil items vide office letter No.: PHEQ/3469 Dated: 18-10-2021.
5. Acceptance of rates as well as JJM Guidelines/Extension of validity of tender confirmed by you.

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Dear Sir,

For and on behalf of Lt. Governor of J&K U.T contract for execution of aforementioned job is hereby fixed with you on item rate basis. This is in response to your online bid and subsequent acceptance of rates, specifications, terms and conditions as contained in Annexure "A & B" of this allotment order.

Encl. 15/w

No.: MDSA/ 2763-70

Dated: 25 /08/2023

Yours Sincerely

Executive Engineer  
Jal Shakti PHE Mechanical Division  
(South) Awantipora  
(Member JJM)

Copy to the:

1. Chief Engineer Jal Shakti (PHE) Department Srinagar for information.
2. District Development Commissioner (Chairman DJJM) Kulgam for information.
3. Superintending Engineer Jal Shakti (PHE) Mechanical Circle (South) Srinagar for information.
4. Superintending Engineer Jal Shakti (PHE) Hydraulic Circle Anantnag/Kulgam for information. This is with reference to your office letter quoted above.
5. Executive Engineer Jal Shakti (PHE) Division Qazigund for information & n/a in light of civil components.
6. Provisional Head, TPIA JJM Kashmir, (WAPCOS Limited) Corporate Office 76-C Institutional area Sector-18 Gurugram-122015 (Haryana) for information.
7. Assistant Executive Engineer Jal Shakti (PHE) Mech. Sub Division Qazigund for information & necessary action. He will ensure execution of work strictly in accordance with the rates, specifications, terms / conditions & within the stipulated time, besides, the cost of work should not exceed beyond allotted cost. In case of any delay in completion of work, the reasons shall be justified.
8. File concerned.

ANNEXURE "A" to this office Allotment Order No: 126 of 08/2023

Name of work: Design, Supply, Installation, Testing and Commissioning of 8000 GPH Pressure Type Iron Removal Plant with O&M for 3 Years and Allied Civil & Electro Mechanical Works at WSS Malikabad Badwani under JJM.

General Terms and Conditions:-

1. TIME OF COMPLETION: The scheme shall have to be completed/tested/commissioned within a period of 30 days from the date of issuance of Authorization accorded by the DJJM/formal allotment issued by this office.
2. AGREEMENT: A formal agreement deed shall be executed by the firm with the department within a period of 07 days from the date of issue of this allotment order after deposition of performance security @ 03% of allotted cost. However, non drawl of agreement will not prevent the contract from being enforced upon you.
3. PENALTY: In the event the contractor failing or delaying the work or a part thereof, & or non-complying with any of the terms and conditions of the contract, the NIT & the Agreement, the Department, without prejudice to the remedies available under the law in force in J&K UT, may terminate the contract after seven days' notice, and or recover the amount of loss caused by failure/delay or default of the contractor. The amount of such recoveries shall be determined by the Superintending Engineer PHE Mechanical Circle South Srinagar and or impose a penalty as the Government /Department may determine and or forfeit the performance security and or resort to any or all the remedial actions available under the law in force in the UT of J&K at the time of the dispute.
4. ARBITRATION: In case of any dispute arising at any stage between the contractor and the Department, the same shall be referred to the Superintending Engineer PHE Mechanical Circle South Srinagar /Govt. of J&K who may give a decision or nominate any other person of Government for arbitration. The decision to such arbitration shall be final and binding on both the parties.
5. PERFORMANCE SECURITY DEPOSIT: Performance security deposited in the shape of FDR pledged to Executive Engineer PHE Mechanical Division (South) Awantipora vide No.: U10052753897 Dated: 03-01-2022 for Rs. 1,00,000/- & No.: U10052753921 Dated: 12-05-2023 for Rs. 1,13,400/- in Axis Bank Janakpuri Delhi, which shall be released after expiry of defect liability period/report of concerned AEE (After fulfillment of all contractual obligations).
6. JURISDICTION OF COURT: All disputes pertaining to this contract shall be subject to the jurisdiction of the Courts of J&K UT only.
7. TERMINATION OF CONTRACT: The department reserves the right to terminate the contract at any stage in case performance of the firm is found un-satisfactory in terms of any or all clauses of the NIT/Contract/Agreement in vogue.
8. ADVANCE PAYMENT: The Department shall in no case entertain any condition or request of making advance payment of any kind to the contractor during the execution of the work.
9. TAXES, DUTIES LEVIES etc:- The rates offered by the Department shall be firm and final. Payment of Income Tax/GST, Octroi, Toll tax, Entry tax, Cess service tax duties and other levies etc. of the central or the UT Government and incidental charges of any shall be the responsibility of the contractor/firm.
10. FORCE MAJEURE CLAUSE: Any failure or omission to carrying out the provision of the contract shall not give rise to any claim by the department or the contractor one against the other if such failure or omission arises from the Act of God which shall include all natural calamities such as fire, floods, earthquakes, hurricane strikes, riots, embargoes from any political or other reasons beyond the control of parties including the war whether declared or not civil war or a state of insurrection.
11. ENGAGEMENT OF LABOURS: The contractor shall not engage any workman below the age of 18 years. Firm/Contractor shall also comply with the provisions of labour laws and rules framed thereof and as prevalent in the UT of J&K. The contractor shall be responsible for any accident to the human life which may occur during the execution of work, compensation as shall be provided under law or any law will be payable by the contractor.
12. INSURANCE: The contractor shall insure all work-man at his own cost till the completion of work and take over by the department.
13. DEFECT LIABILITY PERIOD:- The defect Liability period shall be for a period of 12 Months which shall commence after the successful completion of Trial run, during the defects Liability period (DLP) the firm shall have to operate & maintain the scheme as it is required for its successful running & as per Standard Engineering Practices, to the full satisfaction of the department. The bidder shall be responsible to make good & remedy at

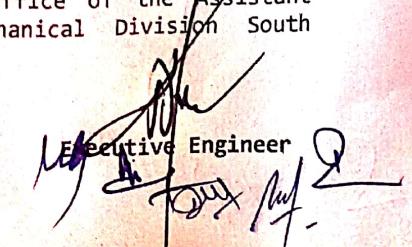
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Executive Engineer

his own expense any defect in works which is noticed during the DLP. In case any defect remains unattended by the firm at the completion of DLP, the department may extend the DLP for such time as deemed fit for getting the defect rectified subject to a maximum ceiling of 6 Months.

- 14. TRANSIT INSURANCE:-** Prior to dispatch, the ordered equipment shall be insured through a Nationalized Insurance Company up to its final destination, against all transit risks. The firm should, therefore, take appropriate insurance policy in advance for covering the transit of the goods, charges for which shall be borne by the tenderer and shall be included in his quoted rates. The department shall pay no extra charges on this account.
- 15. SUBLETTING OF WORK:-** The bidder shall not sublet the whole or part of the work. The bidder shall not assign the work or any part thereof or any benefit or any interest thereon or any claim arising of the contract, without prior written consent of the allotting authority.
- 16. LIQUIDATED DAMAGES (LD):-** In the event of firm's/joint venture failing, declining, neglecting or delaying the supplies / works or in the event of any damage occurring or being caused by the firm/ joint venture or in the event of any default or failure by the firm in complying with any of the terms and conditions of the contract, the Department shall with or without prejudice to any other remedies available to it under any law for the time being enforce in the UT:
- a) Terminate the contract after 15 days' notice  
and/or
  - b) Recover the amount of loss caused by damage, failure or default, as may be determined by the department.  
and/or
  - c) Recover the extra cost, if any, involved in allotting contract to other party.  
and/or
  - d) Impose Liquidated damages on account of delay beyond the schedule completion period to the tune of 0.5% of the delayed portion of contract every week but not exceeding 10% value of the contract.  
and/or
  - e) Forfeit the performance security and blacklist the firm.
- 17. THIRD PARTY MONITORING:** The allotted works shall be subject to check by the third party monitoring agency appointed by the Department in Kashmir. The agency shall check the quality of works executed by the agencies, quality of materials used for construction and quality of machinery installed in each scheme. The TPIQM's role shall be that of an assistant to the Employer's Representative for the purpose of monitoring and evaluation of the performance of the Contract during the Contract Period.
- 18. STORAGE AT SITE:** The bidder shall at his own cost make arrangements for proper storage especially towards Rain and Snow damages of the equipment/ materials at sites till its erection/completion. For the purpose the bidder shall, with the approval of Engineer in charge construct temporary storage accommodation for equipment/ material at site for which land shall be provided by the department near the site of work.
- 19. OPERATION AND MAINTENANCE MANUALS:** The bidder shall supply, free of cost to the Department, six complete sets of operation and maintenance manuals for the Pumping Equipment. The delivery of these manuals shall be made by the bidder to the Engineer along with the supply of equipment. The manuals shall be appropriately bound in book form and shall contain all necessary instructions regarding operation, preventive maintenance, repairs, trouble shooting, overhauling etc.
- 20. OEM Certificate:** The contractor shall produce all relevant test certificates of the manufacturer to the Engineer in-charge before start of the work. The test certificates of the equipment's on whole or all accessories/ attachments and mountings thereof shall be appended with the invoice at the time of submission of the claim to Divisional office. Failure to do so shall result in non-acceptance of invoice/bills by the Divisional office.
- 21. CLARIFICATION:** If any clarification is required by the Firm/contractor in relation of technical specifications, the same shall be had from the office of the Assistant Executive Engineer concerned/ Executive Engineer PHE Mechanical Division South Awantipora before the date of start of work.

(Contd. On page...3<sup>rd</sup>...)



Executive Engineer

22. CONSIGNEE/PAYING AUTHORITY: The consignee/paying authority in respect of electromechanical component and associated civil works shall be the concerned Executive Engineer, Jal Shakti (PHE) Mechanical Division Awantipora. Besides, the supervision of the various components of the civil work shall be carried out by the concerned Division under the overall coordination of the concerned Superintending Engineer Hydraulic Circle.
23. TERMS OF PAYMENT: All payments to the contractor for fulfilling the contract will be made as per the unit rates of Price Schedule (BOQ). All payments will be made in Indian Currency and will be subject to deduction of Income tax, GST, Cess at source, on the rates as are in vogue at the time of release of payment:-
- a) 65% of the contract value shall be paid on receipt of the material at site (as per the BOQ) in full & verification thereof by the concerned Assistant Executive Engineer.
  - b) 15% of the contract value shall be released on installation of ordered equipment/material in full at site.
  - c) 10% of the Contract Value shall be released after successful testing and commissioning of the entire equipment on full load, commissioning and trial run.
  - d) 10% of the Contract Value shall be released after commissioning of the scheme and satisfactory performance of the equipment for the period as enunciated in warranty clause. However the balance amount can be released against furnishing of Bank Guarantee for an equivalent value valid for three months beyond the expiry of the warranty period of the contract.

**CIVIL COMPONENT:**

Payment shall be released as per work done, as per actual measured work done not less than 30% of the allotted cost on monthly basis (for a completion period of three months)

24. WARRANTY:- The Firm/contractor shall be bound for satisfactory performance of equipment/work **12 months** after the successful completion of trial run. If during warranty period, any malfunctioning/defect arises, the firm shall have to rectify the same within a period of ten days of receipt of intimation. In case of any failure on the part of the firm to remove the defect, the Department may get the defects rectified by any other agency and cost thereof shall be recovered from the firm and shall be recommended for further punitive action as governed under the relevant clause of contract including blacklisting.
25. TRIAL RUN:- After completion of work, the firm/contractor will have to make a trial run of the scheme for a period of **03 months** during which the manpower required for operation shall be provided by the Department.
26. EQUIPMENT MAKE: The supplied material/equipments should confirm as per specification of the contract as well as make confirmed by the Firm/contractor.
27. The work done claim should be supported with Geo tagged photographs before, during and after execution of the job.
28. SITE OFFICE: - The Firm/Contractor has to maintain at his own cost a suitable site office at the site of work to which the Department sends communications/instructions.
29. TRAINING OF DEPARTMENTAL STAFF: - The bidder shall arrange at his own cost and risk to depute at least one competent Engineer of the equipment manufacturer to train up to twelve departmental representatives in the operation & maintenance of the equipment at site. This training shall be for duration of at least 04 consecutive months and shall commence from the date of successful commissioning of the equipment or as may be mutually agreed upon. To groups of Departmental Engineers shall also be deputed to bidders/manufacturers works for short duration to obtain training free cost in the operation & maintenance of the equipment.
30. DRAWING & QUALITY ASSURANCE PLAN: - The Firm/Contractor shall be necessarily furnish within two weeks of the date of placement of this order which shall be approved by the Department within two weeks from the receipt by the consignee:-
- a) Sectional drawing of pumps.
  - b) General Arrangement Drawings (GAD)/ layout of the equipment fully dimensioned for pumps, motors, starters, shunt capacitors, panels, delivery manifold, cables etc.
  - c) Detailed circuit diagrams of LT Panels, Starters, Shunt Capacitors etc.
- Quality assurance plan (QAP) of each piece of equipment to Third Party Inspection Agency (TPA) and Department for their approval.
- No manufacturing/fabrication activity shall be started by the Firm without approval of the drawings of each ordered equipment by the competent authority. Additional time consumed due to observations/summary rejection of QAP/GAD shall not be considered in the delivery period of the contract and the bidder shall be wholly and solely held responsible for the delay thus caused.

(Contd. On page 4<sup>th</sup> ...)

Executive Engineer

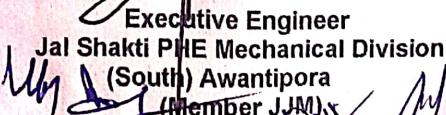
**31. INSPECTION & TESTING:-** Before dispatch from the works of the OEM, the electro-mechanical equipment shall be inspected by a third party inspection agency i.e. M/S CEIL/Rites/WAPCOS etc. New Delhi. However, the Firm (Bidder) shall make payment to the Inspection Agency (in case of 3<sup>rd</sup> Party Inspection) which shall subsequently be reimbursed by the Department. The successful tenderer shall intimate the Department and the Inspecting Agency/Authority in advance regarding the readiness of the equipment for dispatch and shall furnish test certificates. It shall be responsibility of the suppliers to tie up with the third party nominated for inspection and get necessary inspection of the material done within the delivery period. Any delay on the part of the third party shall not be entertained as an excuse for timely supply of material. The product/ material at site shall be inspected by Assistant Executive Engineer concerned or any other official(s) of the department designated by the concerned Executive Engineer. Any modifications to the works as specified in the specifications considered to be necessary for smooth and trouble-free operation of the equipment by the Department or the third-party inspection agency, the firm shall have to execute the same without any extra cost, to the best satisfaction of the department. The firm shall as such keep the department informed about arrival of material at site. It shall be obligatory on the part of the firm to rectify the defects pointed out by the AEE, if any, and also to incorporate any modification within the scope of work which may be deemed necessary for better performance/finish and workmanship. The supplier upon demand by the department or its representative shall rectify or replace defective unsuitable equipment. The Department reserves the right to nominate his representative for inspection of the goods at the works of the supplier/ manufacturers. As such the department at all reasonable times shall have access to the works and to the site and to all workshops and places where work is being executed and where material / manufactured articles and machinery are being obtained. In case of Sub-Station and power/feeder lines, the firm shall have to obtain a clearance certificate from the concerned inspection Division of the Power Development Department. The list of electromechanical equipment in which third party inspection from CEIL/RITES/WAPCOS is to carried on:-

- 1) DG Set > 100 KVA.
- 2) Pumping Unit > 100 HP (Horizontal and Vertical)
- 3) Valves >300 mm
- 4) Pipe > 200mm dia
- 5) HT Transformers > 300 KVA
- 6) Voltage Stabilizers > 500 KVA
- 7) Iron Removal Plant

For items other than those manufacturers test certificate shall have to be provided. The HT transformers shall have to be got inspected from the corresponding wing of Power Development department and the necessary certificate shall be submitted along with the manufacturers test certificate.

32. The work is executed strictly in close supervision of AEE/JE/Supervisory staff concerned. However, the civil work if involved should be executed under close supervision of civil counterpart.
33. **WATCH & WARD OF WORKS:** The Firm shall in connection with the work provide and maintain at his own cost all lights, guards, fencing and watching, when and where necessary or required by the Department for the protection of the work or safety and convenience of the Public etc.
34. All other terms and conditions shall be the part of this contract as laid down in e-NIT/SBD/GFR-2017/e-procurement manual 2019 and PWD form "25" double.

Executive Engineer  
 Jal Shakti PHE Mechanical Division  
 (South) Awantipora  
 (Member J.H.M.)



S No.	Description of work	Qty	Rate	Amount				
1	<p>Design, Supply, installation, testing and commissioning of Submersible pumping units for lifting water from the existing tube well of following specifications :-</p> <p><b>PUMP:-</b> Discharge:-8000 GPH Head:- 82 Mtrs Speed : 2900 rpm Type of pump: submersible Impeller : Bronze / SS /Chrome steel Quality of water to be handled :- Underground clear Cold Water</p> <p><b>MOTOR:-</b> Type :- Submersible Rating : Not less than 17.5 HP Method of starting : Star Delta Speed: - 2900 rpm Voltage : 415 V + 15 % Class of Insulation : F</p> <p>The submersible motor shall be squirrel cage induction type and the winding shall be wet type. The motor windings and bearing bushes of the rotary shall be cooled / lubricated by water. The unit shall be provided with name plate giving following details / information.</p> <ul style="list-style-type: none"> <li>Name of the manufacturer or trade mark</li> <li>Serial No. Of the pump set</li> <li>Total head and discharge</li> <li>Induction motor</li> <li>Frequency in Hz</li> <li>Number of phases</li> <li>Rated output in KW / HP</li> <li>Rated voltage and including connections</li> <li>Speed in revolutions per minute at rated output</li> <li>Approx. current in Amps at rated output</li> <li>Test Certificate of OEM.</li> </ul> <p>The pumping unit shall be provided with allied accessories / attachments viz. MS interlocking arrangement, coupling, suitable size nipple having one side flanged and other side threaded and Suitable Size M.S Clamp pair etc.</p>	2 jobs	74368.00	148736.00				
2	<table border="1"> <tr> <td>Pre Filtration Unit</td> <td> <p>Iron Removal Unit should be equipped with Pre- Filtration unit/oxidation chamber (preferably MS Epoxy Painted construction) as per IS 2825 and the raw water should pass through Pre filter before entering iron removal unit. Pre-filter unit should be fitted with necessary pipelines, fittings, nest of valves, sampling cocks, Pressure Gauges and initial charge of filtering media Their task should be to protect the IRP unit against mechanical damage by coarse particles often present in raw water &amp; remove the suspended solids. Size and No. of Pre filtration vessels as per design parameters of quality &amp;quantity of water to be filtered.</p> </td> </tr> <tr> <td>Iron Removal Filtration Unit.</td> <td> <p>Iron Removal Filtration Unit (preferably MS Epoxy Painted construction) measuring as per design parameters of quality &amp; Quantity of water to be filtrated on straight fitted with necessary pipelines, fittings, nest of valves, sampling cocks. Pressure Gauges and initial charge of filtering media as per IS 2825.</p> <p><b>SHELL THICK:</b> As per vessel size  <b>DISH THICK :</b> As per vessel size  <b>FRONTAL PIPE SIZE:</b> as per requirement.  <b>No. of Vessels:</b> As per requirement,  <b>Working pressure:</b> As per design.  <b>Total Pressure:</b> As per design.</p> <p><b>Filter media:</b> The media should be advanced catalytic water filtration media that has extremely high capabilities of removing Iron through low cost catalytic oxidation and retention of precipitate. Media should be certified to NSF/ANSI 61 / FDA for drinking water applications. Media should not require any recharge or regeneration. It should work on back wash only. The active components should be permanently fused to the surface and shall not be subjected to depletion through abrasion during the service and backwash.IRF plant should be compact, sturdy designed and easy to operate. It should remove Iron either below or upto WHO standards (<math>\leq 0.3\text{ppm}</math> as Fe)</p> </td> </tr> </table>	Pre Filtration Unit	<p>Iron Removal Unit should be equipped with Pre- Filtration unit/oxidation chamber (preferably MS Epoxy Painted construction) as per IS 2825 and the raw water should pass through Pre filter before entering iron removal unit. Pre-filter unit should be fitted with necessary pipelines, fittings, nest of valves, sampling cocks, Pressure Gauges and initial charge of filtering media Their task should be to protect the IRP unit against mechanical damage by coarse particles often present in raw water &amp; remove the suspended solids. Size and No. of Pre filtration vessels as per design parameters of quality &amp;quantity of water to be filtered.</p>	Iron Removal Filtration Unit.	<p>Iron Removal Filtration Unit (preferably MS Epoxy Painted construction) measuring as per design parameters of quality &amp; Quantity of water to be filtrated on straight fitted with necessary pipelines, fittings, nest of valves, sampling cocks. Pressure Gauges and initial charge of filtering media as per IS 2825.</p> <p><b>SHELL THICK:</b> As per vessel size  <b>DISH THICK :</b> As per vessel size  <b>FRONTAL PIPE SIZE:</b> as per requirement.  <b>No. of Vessels:</b> As per requirement,  <b>Working pressure:</b> As per design.  <b>Total Pressure:</b> As per design.</p> <p><b>Filter media:</b> The media should be advanced catalytic water filtration media that has extremely high capabilities of removing Iron through low cost catalytic oxidation and retention of precipitate. Media should be certified to NSF/ANSI 61 / FDA for drinking water applications. Media should not require any recharge or regeneration. It should work on back wash only. The active components should be permanently fused to the surface and shall not be subjected to depletion through abrasion during the service and backwash.IRF plant should be compact, sturdy designed and easy to operate. It should remove Iron either below or upto WHO standards (<math>\leq 0.3\text{ppm}</math> as Fe)</p>	01 job	2560600.00	2560600.00
Pre Filtration Unit	<p>Iron Removal Unit should be equipped with Pre- Filtration unit/oxidation chamber (preferably MS Epoxy Painted construction) as per IS 2825 and the raw water should pass through Pre filter before entering iron removal unit. Pre-filter unit should be fitted with necessary pipelines, fittings, nest of valves, sampling cocks, Pressure Gauges and initial charge of filtering media Their task should be to protect the IRP unit against mechanical damage by coarse particles often present in raw water &amp; remove the suspended solids. Size and No. of Pre filtration vessels as per design parameters of quality &amp;quantity of water to be filtered.</p>							
Iron Removal Filtration Unit.	<p>Iron Removal Filtration Unit (preferably MS Epoxy Painted construction) measuring as per design parameters of quality &amp; Quantity of water to be filtrated on straight fitted with necessary pipelines, fittings, nest of valves, sampling cocks. Pressure Gauges and initial charge of filtering media as per IS 2825.</p> <p><b>SHELL THICK:</b> As per vessel size  <b>DISH THICK :</b> As per vessel size  <b>FRONTAL PIPE SIZE:</b> as per requirement.  <b>No. of Vessels:</b> As per requirement,  <b>Working pressure:</b> As per design.  <b>Total Pressure:</b> As per design.</p> <p><b>Filter media:</b> The media should be advanced catalytic water filtration media that has extremely high capabilities of removing Iron through low cost catalytic oxidation and retention of precipitate. Media should be certified to NSF/ANSI 61 / FDA for drinking water applications. Media should not require any recharge or regeneration. It should work on back wash only. The active components should be permanently fused to the surface and shall not be subjected to depletion through abrasion during the service and backwash.IRF plant should be compact, sturdy designed and easy to operate. It should remove Iron either below or upto WHO standards (<math>\leq 0.3\text{ppm}</math> as Fe)</p>							

Executive Engineer

S No.	Description of work	Qty	Rate	Amount
Backwash System.	The filter units should require periodic backwashing at least once in a day depending on the pressure drop across the filter beds. The backwashing system shall be accomplished with backwash air blower (02 No's, with one as standby) filtered water to be made available from a proposed RCC clear water sump by installation of proper discharge and head horizontal Submersible Pump motors (02 No) 01 no working and 01 no standby with proper sluicing, controlling and to and fro piping arrangement with all allied works as per site requirement including necessary arrangement for disposal of drain outs as per latest government norms. A simple water backwash should remove trapped iron particles from the bed and same to be disposed off as per laid environmental norms.			
Disinfection & chemical dosing.	Suitable mechanism for Alum and chlorine dosing and any other chemical treatment required as per WHO norms, comprising of metering type dosing pumps, chemical preparation tanks, dosing tanks with agitators etc as per requirement should be put in place for removal of turbidity and microbial infections to enhance the quality of water. The job includes 200 Lts capacity tanks, pipe valves and pumps. The treated water from plant should be as per IS 10500/2012 norms.			
Pipe Line and Valve Fitting	Necessary interconnecting MS pipelines, fittings, valves etc., as required for all the above mentioned equipment for efficient operation of the system. The scope of work shall include pipe line(s) from feed pump to pre-filter unit through IRP unit to clear water sump, to and fro piping for backwashing and painting of the pipe system.			
Testing Kit.	Iron Test Kit as recommended by IRP manufacturer.			
Fitting/ accessories and control panel.	All the fittings and accessories required as per the design and site conditions for supply ,installation and commissioning of IRP shall be included in the contract on SITC/Turnkey Basic includes pedestal type/wall mounted control panel for air compressor, air blower, backwash ,alum and chlorine pumps with wire, meters and switches.			
Drawings	The equipment drawings with every detail are to be provided to this office along with technical specification & also prior to dispatch of equipment for land development with allied works as per site are carried out.			
Operation and maintenance manuals	The contractor shall supply, free of cost to the Department, three complete sets of operation and maintenance manuals for the entire equipment. The delivery of these manuals shall be made by the contractor along with the supply of equipment. The manuals shall be appropriately bound in book form and shall contain all necessary instructions regarding operation, preventive maintenance, repairs, troubleshooting, overhauling, etc. The manuals shall also include detailed drawings of the equipment, circuit diagrams wherever applicable. The manuals shall also include the spare parts catalogues with part numbers clearly given, which must tally with index numbers in the drawings.			
Consumables	The contractor shall provide all the material such as filter media, oxidising media, chemicals, disinfecting chemicals lubricants, pipe breakage (if any) replacements as required for smooth operation of the plant for a period of 3 years. The contract shall include all kinds of consumables required for smooth operation for a period of 03 years which shall be borne by the contractor and have to be supplied and fitted/installed by the contractor from time to time and as and when required.			
Air Blowers	Suitable capacity as per design air blower with discharge of 90 CFM(155 cum/Hr) against 0.35 Kg/cm <sup>2</sup> pressure (02 No) 01 working and 01 standby with pipe line, pressure measuring meter and control valves.			
Air Compressors	Suitable capacity as per design air compressor to deliver oil free air @ 12 CFM against 7.0 Bar with electric motor, pipe line, and accessories including air filter, pressure gauge and outlet			

Executive Engineer  
Date: M. 2

S No.	Description of work	Qty	Rate	Amount
	<p>control valves etc (02 No) 01 working and 01 standby.</p> <p>Cost on account of 03 year operation &amp; maintenance of plant involving engagement of sufficient No. of skilled / trained person in the said field, who shall be responsible for exclusively operating and maintaining the plant for first three months besides imparting training to the staff to be posted by the department at the said plant and the contractor shall comply with the portions of all labour laws &amp; rules framed there under, repair/ replacement cost, daily water quality analysis, chemical cost, grease, m-oil, annual painting of structures, water quality recording ,training of departmental employees etc shall be included in the contract on SITC/ Turnkey Basic. The defective parts shall have to be replaced by the agency / manufacturer during the contract period. The turnkey job shall include all kinds of consumables and spares required for smooth operation for a period of 03 years and have to be supplied and installed by the contractor from time to time and as and when required. The firm has to attend the site immediately as and when the quality of water is found to be below acceptable norms.</p>			
3	<p>Design, Supply, installation, testing and commissioning of Submersible pumping units for Clear water Sump of following specifications :-</p> <p>PUMP:-</p> <p>Discharge:-7500 GPH</p> <p>Head:- 110Mtrs</p> <p>Speed : 2900 rpm</p> <p>Type of pump: submersible</p> <p>Impeller : Bronze / SS /Chrome steel</p> <p>Quality of water to be handled :- Underground clear Cold Water</p> <p>MOTOR:-</p> <p>Type :- Submersible</p> <p>Rating : Not less than 25 HP</p> <p>Method of starting : Star Delta</p> <p>Speed: - 2900 rpm</p> <p>Voltage : 415 V + 15 %</p> <p>Class of Insulation : F</p> <p>The submersible motor shall be squirrel cage induction type and the winding shall be wet type. The motor windings and bearing bushes of the rotary shall be cooled / lubricated by water. The unit shall be provided with name plate giving following details / information.</p> <p>Name of the manufacturer or trade mark</p> <p>Serial No. Of the pump set</p> <p>Total head and discharge</p> <p>Induction motor</p> <p>Frequency in Hz</p> <p>Number of phases</p> <p>Rated output in KW / HP</p> <p>Rated voltage and including connections</p> <p>Speed in revolutions per minute at rated output</p> <p>Approx. current in Amps at rated output</p> <p>Test certificate of OEM</p> <p>The pumping unit shall be provided with allied accessories / attachments viz. MS interlocking arrangement, coupling, suitable size nipple having one side flanged and other side threaded and Suitable Size M.S Clamp pair etc.</p>	02 jobs (1W+1S)	116480.00	232960.00
4	<p>Fabrication / Erection of MS Gantry fabricated out of channel iron column to act as support for monorail crane and laying of Concrete Blocks of size 2x2x3 feet as per following specifications :-</p> <p>a) Vertical posts ISMC – 150 = 4.5 m x 2 x 2 = 18 m @ 16.4 Kg / m= 295.2 kg</p> <p>b) ISMC – 75 = 0.35 m x 20 x 2 = 14 m @ 6.9 kg / m =96.6 kg</p> <p>c) Plate -12 mm thick = 112.8 kg</p> <p>d) Monorail ISMB – 200 = 5 m @ 25.4 kg / m = 127 kg</p> <p>e) Nuts and Bolts assorted incl foundation bolts 6/8 " x 2' each = 10 kg</p> <p>Total wt. for one gantry = 642 kgs</p> <p>Providing Painting of MS Gantry in two coats of enamel paint of parrot green shade/appropriate shade after applying anticorrosive metal primer.</p>	642 kg	87.65	56271.56
5	Providing and laying of concrete blocks in 1:2:4 (cement: sand: aggregate) for	0.84 cum	5563.94	4673.71

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S No.	Description of work	Qty	Rate	Amount
	grouting foundation bolts / matching / base plates. Each block shall be of (0.75 x 0.75 x 0.75) m size. The job includes all the charges on account of trench cutting, arrangement of material, skilled labour, form work, shuttering etc.			
6	Supply, installation and testing of 03 ton capacity, manually operated chain pulley block as per IS. The chain pulley block shall have 6 m lift. It shall also include suspension arrangement made of 10 mm steel wire rope or GI wire capable of supporting rated load (one No for Existing Gantry).	02 job	30208.00	60416.00
7	Design/Providing /fitting of GI class-B pipes along with control valves, flanges, washers nuts and bolts etc from tube well to IRP vessels, washouts, suction and delivery side as per requirement at site Providing/Fitting of 100mm Dia. Ductile Cast Iron Sluice Valves with table -5 flanges (02 no), nuts, bolts and washers as per following specifications:- <b>Sluice Valve</b> Size DN 100 Pressure Rating PN 10 Sealing Soft Sealing Construction of Body, cover, Shut-Off Wedge Ductile Iron	(02 No)	19352.00	38704.00
8	Providing/Fitting of 100mm Dia Ductile Cast Iron Non Return Valve with table -5 flanges (02 no), nuts, bolts and washers as per following specifications:- <b>Non Return Valve</b> Size DN 100 Pressure Rating PN 10 Sealing Soft Sealing Construction of Body, cover, Shut-Off Flap Ductile Iron	02 job	20296.00	40592.00
9	Providing, fitting and Laying of 100 mm diameter flanged G.I. (Class – B) pipe fitted with Table -5 flange for connecting 100mm Dia existing rising main and washout with the IRP System comprising of flanged GI pipes. The pipe line has to be laid underground by trenching and completely embedded to the requisite depth. For well and Sump:- GI Pipe IS: 1239 (Part 1st). Nominal dia. – 100 mm Wall thickness – 4.5mm	50 mtrs	1482.08	74104.00
10	Providing, fitting and Laying of Flanged 80 mm diameter, 3 mts long G.I. (Class – B) column pipes with nuts, bolts and washers after retrieving 65 mm Dia. existing column pipes which are technically unfit for carrying 8000 GPH discharge from the tube well. GI Pipe IS: 1239 (Part 1st). Nominal dia. – 80 mm Wall thickness – 4.0mm Working Pressure 10 kgf/cm sq Flange thickness 16 mm(table 5)	66 mtrs	1066.72	70403.52
11	Fabrication / Providing / Fitting and testing of Modular control panel with MUG 30 starters/equivalent for operation of tube well pump motors of appropriate size fabricated out of 16 SWG steel sheet having required openings / vents and fitted with accessories as under :- a) Change over switch Quantity : One No Type : Front operated / On load / 04 pole Rating : 250 Amp / 415 V + 15 % , 50 Hz + 3 % b) Circuit Breaker : MCCB for main supply Thermal release range ( Amp ) : 160-200 Breaking Capacity : Icu at 415 V AC, 50 HZ : 50 KA No of poles : 04 Type : 250 A Qty : 01 No c) Circuit Breaker : MCCB's for starters Thermal release range ( Amp ) : 108 - 160 Breaking Capacity : Icu at 415 V AC, 50 HZ : 36 KA No of poles : 04 Type : 160 A Qty : 02 No d) Starter Star Delta Rating : MUG 30 HP or equivalent Relay Range : 30-50 Amp Power Specs : 415 V + 15 % , 50 Hz + 3 %	01 job	158592.00	158592.00

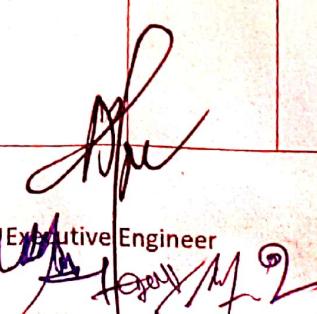
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S No.	Description of work	Qty	Rate	Amount
	<p>Qty : 02 No</p> <p>e) Ampere Meter Size : 96 mm sq Type : Digital 3 Ph LED Ammeter Class 1 Qty : 02 No with phase selecting option</p> <p>f) Volt meter Size : 96 mm sq Type : Digital 3 Ph LED Voltmeter Class 1 Qty : 03No with phase selecting option</p> <p>g) Frequency meter Type : LED Freq meter Class 0.2 Qty : 01 No</p> <p>The meters shall be provided with CT's and PT's.</p> <p>h) Neon Indicators (RYB) Qty : 03No</p> <p>i) Bus Bars : Electrolytic Aluminium for 250 Amp Rating with proper tapping</p>			
12	<p>Fabrication / Providing / Fitting and testing of Modular control panel with MUG 50 starters/equivalent for operation of clear water pump motors in sump of appropriate size fabricated out of 16 SWG steel sheet having required openings / vents and fitted with accessories as under :-</p> <p>a) Change over switch : Front operated / On load / 04 pole Rating : 250 Amp / 415 V + 15 % , 50 Hz + 3 % Quantity : One No</p> <p>b) Circuit Breaker : MCCB for main supply Thermal release range ( Amp ) : 160-200 A Breaking Capacity : Icu at 415 V AC, 50 HZ : 50 KA No of poles : 04 Type : 250 A Qty : 01 No</p> <p>c) Circuit Breaker : MCCB's for starters Thermal release range ( Amp ) : 108-160 A Breaking Capacity : Icu at 415 V AC, 50 HZ : 36 KA No of poles : 04 Type : 160 A Qty : 02 No</p> <p>d) Starter :- Rating : S/D 50 HP Relay Range : 30-50 Amp Power Specs : 415 V + 15 % , 50 Hz + 3 % Qty : 02 No</p> <p>e) M-POWER module for mobile starter IVRS language : English Type : 3 phase 3 wire Qty ; 02 No</p> <p>f) Ampere Meter Size : 96 mm sq Type : Digital 3 Ph LED Ammeter Class 1 Qty : 02 No with phase selecting option</p> <p>g) Volt meter Size : 96 mm sq Type : Digital 3 Ph LED Voltmeter Class 1 Qty : 03 No with phase selecting option</p> <p>h) Frequency meter Type : LED Freq meter Class 0.2 Qty : 01 No</p> <p>The meters shall be provided with CT's and PT's.</p> <p>i) Neon Indicators (RYB) Qty : 03No</p> <p>j) Bus Bars : Electrolytic Aluminum for 250 Amp Rating with proper tapping</p>	01 c. job	188800.00	188800.00
13	<p>P/I/T/Comm. of 50 KVA voltage stabilizer for clear water Sump motor of following specifications:-</p> <p>a) Type:- Manually operated oil cooled b) Capacity:- 50 KVA c) No of phases:- 3 No of phases, 50 HZ frequency d) Operating conditions:- 1) Input 180 volts + 10% to 425 volts+10% on 3 phase AC supply    2) Output :- 425 volts + 10% 3 phase AC supply</p>	01 job	82128.00	82128.00

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S No.	Description of work	Qty	Rate	Amount
	<p>e) Terminals:- Three No incoming and three no outgoing terminals</p> <p>f) Core:- The voltage stabilizer shall be fitted with high permeability core for efficient heat dissipation and the core strips shall be held together firmly and fitted on bracket of suitable size and thickness</p> <p>g) Coils:- Three no copper wound coils shall be fabricated out of copper conductor with cotton tapping.</p> <p>h) Voltage regulator:- The voltage stabilizer shall be fitted with 6/8 steps three phase 200 amp stepping up voltage regulator disc type having copper contact points</p> <p>i) Panel:- The indicating panel shall be fitted on the top side of voltage stabilizer fabricated out of suitable thickness MS sheet and fitted with volt meter and indication lamps.</p> <p>j) Enclosure:- The whole assembly shall be enclosed in MS tank of suitable thickness, floor mounted.</p> <p>K Coolant:- the stabilizer shall be filled with A-grade T-oil up to required level.</p>			
14	<p>P/I/T/Comm. of 30 KVA voltage stabilizer for tube well motor of following specifications:-</p> <p>a) Type:- Manually operated oil cooled</p> <p>b) Capacity:- 30 KVA</p> <p>c) No of phases:- 3 No of phases, 50 HZ frequency</p> <p>d) Operating conditions:- 1) Input 180 volts + 10% to 425 volts + 10% on 3 phase AC supply    2) Output :- 425 volts + 10% 3 phase AC supply</p> <p>e) Terminals:- Three No incoming and three no outgoing terminals</p> <p>f) Core:- The voltage stabilizer shall be fitted with high permeability core for efficient heat dissipation and the core strips shall be held together firmly and fitted on bracket of suitable size and thickness</p> <p>g) Coils:- Three no copper wound coils shall be fabricated out of copper conductor with cotton tapping.</p> <p>h) Voltage regulator:- The voltage stabilizer shall be fitted with 6/8 steps three phase 200 amp stepping up voltage regulator disc type having copper contact points</p> <p>i) Panel:- The indicating panel shall be fitted on the top side of voltage stabilizer fabricated out of suitable thickness MS sheet and fitted with volt meter and indication lamps.</p> <p>j) Enclosure:- The whole assembly shall be enclosed in MS tank of suitable thickness, floor mounted.</p> <p>K Coolant:- the stabilizer shall be filled with A-grade T-oil up to required level.</p>	01 job	58528.00	58528.00
15	<p>Supply and erection of 9 mtr long hot dip galvanized octagonal pole (Single Section) with bottom 155 mm, top 65mm, thickness 3 mm with Zinc coating with inside arrangement for providing of power connection with following items:</p> <p>04 No foundation bolts of required size and length with nuts</p> <p>Cement concreting of required size but not less than (50 x 50 x 100) cm in 1 : 2 : 4 ratio required length 1.5 sq mm multi strand PVC insulated copper conductor, 03 no 8 Amp MCCB on clamp stripe.</p> <p>Mounting arrangement for fixing flood lights</p> <p>Service line from panel to pole in 2.5 sq mm multi strand PVC insulated copper conductor to be laid underground through sleeve – Length as per site requirement</p>	02 c. job	25488.00	50976.00
16	<p>Supply, Installation, Testing and commissioning of pressure die cast aluminium integral LED flood lights IP66 as per specifications below :</p> <p>Rating – 90 W (04 Nos for CGI Shed &amp; 06 Nos for two Lighting Poles)</p>	10 job	6608.00	66080.00
17	<p>Providing, fitting, testing and commissioning of XLPE Armoured Al. Cable as LT input line of 1.1 KV grade conforming to IS: 7098 part 1st with following characteristics:</p> <p>Conductor Nominal area : 50 mm<sup>2</sup> Min. Number of wires : 3 ½</p>	50 mtrs	308.69	15434.40
18	<p>Electrification of Pump House by way of P/F :-</p> <p>Lighting points in 1.5 sq mm multi strand PVC insulated copper conductor to be laid / carried in PVC channel/conduit. The job incl. P/F of 5 Amp. switch, angle / button holder, 5 W LED lamp with necessary fixtures. – 06 jobs</p> <p>Heating points in 2.5 sq mm multi strand PVC insulated copper conductor to be laid / carried in PVC channel/conduit. The job incl. P/F of 16 Amp SS combine - 04 jobs</p> <p>Indicator points in 1.5 sq mm multi strand PVC insulated copper conductor to be laid / carried in PVC channel/conduit – 04 jobs</p> <p>Ceiling Fan make c/w regulator switch, wiring in 1.5 sq mm multi strand PVC insulated copper conductor to be laid / carried in PVC channel/conduit, and necessary fixtures. – 02 jobs</p> <p>Distribution Board as per requirement</p>	01 job	25016.00	25016.00


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S No.	Description of work	Qty	Rate	Amount
19	Supply and installation of 1050 VA inverter for charging battery of DG set installed at water supply scheme. The job also includes supply of 12 V - 150 Ah vehicle type lead acid battery complete with leads, terminals and thimbles. The job includes all the charges on account of carriages, wiring and arrangement of skilled labour for installation of inverter. The job includes demonstration of the use of inverter and testing at site.	01 job	21712.00	21712.00
20	P/F of 10 sq. mm, submersible cable as per IS694:1990 for submersible pumping equipment from panel to motor in well.	200 mtrs	453.12	90624.00
21	P/F of 16 sq. mm, submersible Cable as per IS694:1990 for submersible pumping equipment from panel to motor in clear water sump.	100 mtrs	722.16	72216.00
22	Providing, fitting, testing and commissioning of XLPE un-Armoured Al. Cable as LT input line of 1.1 KV grade conforming to IS: 7098 part 1st with following characteristics: Conductor Nominal area : 35 mm <sup>2</sup> No of cores : 01	90 mtrs	660.80	59472.00
23	P/F of copper/ aluminium thimbles of various sizes as per size requirement including crimping and taping.	60 Job	60.00	3600.00
24	Providing/laying of 3mm thick high density anti skid rubber floor mating on the machine floor level area	150 sft	68.91	10336.80
25	Providing and Fitting of 65 mm dia. flexible canvas sleeve for carrying conductor.	90 mtrs	75.52	6796.80
26	Revamping/Relocation of existing 63 KVA electric substation by way of:- Unloading the 63 KVA HT transformer from the bed and then reloading on the newly constructed frame followed by dismantling of existing tilted poles, worn out link sets, dropout sets followed by dismantling & refitting of ISMC75x40 mm channels, with P/F of new ISMC75x40 mm channels 9feet long (03 no). Supply, installation, erection of new MS tubular poles of 9 mtrs long (SP- 33)as per IS 2713 having reduced dia. of 4"x5" x 6" from top to bottom and shall be anti-corrosive painted. The job includes providing / laying of cement concrete in 1:2:4 cement, sand aggregate block for grouting of each pole. The pole shall be fitted / welded with 40 x 40 squares in size and 10 mm thick MS plate at the bottom and having duly drilled holes at top at appropriate position for accommodating MS fasteners for holding crosses and safety devices. Job includes, earthing and the cost of black painting of poles up to a height to 1.50 mtrs and the top with a silver shade (Two poles for new frame). P/F 11KV -3 phase GO set complete with links and lever operating mechanism (01 Job), P/F of lightening arrestor set station type (01 Job), P/F of V-Cross arms fabricated out of ISMC75 channel to carry insulators duly drilled with suitable size holes for accommodating nuts bolts (02 Jobs), P/F 11KV pin insulators ( polymer) with pins to be fitted on V-crosses and F-Top(06 no). P/F 11KV -3 phase drop out set(01 Job), ). P/F 11KV -3 phase disc Set (01 Job) and P/F of suitable size nuts and bolts also. The job includes painting of all fittings and channels in two coats of red oxide and then two coats of silver paint after cleaning the surface. Providing, Installation of earthing station comprising of company fabricated earthing electrodes as per IS: 3043. The job includes Auguring of bore of required dia. / depth for installation of electrode along with black fill compound mixed with soil and all other items required thereof for achieving the best result. The job includes connecting of electric gadgets, DG set through GI stripe making of surface structure in brick / cement concrete material as per drawing annexure. Safe earthing electrode size 80 mm dia. Length. - 2000mm Blackfill - 30 Kg	01 c. job	94400.00	94400.00
27	Construction of CGI Colour Coat Sheeted angle iron shed 8m x 4m x 4m and cement concrete base for IRP as per load bearing capacity. The CGI shed with all sides closed and as per layout of the plant and site requirement and shall be complete with suitable doors, windows, roofing, complete in all respects A) Foundation and plinth 8.3m x 4.3m size :- Earth work excavation for foundation/trenches in all kinds of soil including leads and lifts. 2 No x 8.3 m x 0.457m x 0.228m = 1.73 Cum 2 No.x 3.39m x 0.457m x0.228m = 0.70 Cum Total 2.43 Cum	2.43 cum	411.58	1000.15
28	Providing and laying of dry stone soling hand packed in trenches. 2 No x 8.3 x 0.457 x 0.228 = 1.73 Cum 2 No.x 3.39 x 0.457 x0.228 = 0.70 Cum Total 2.43Cum	2.43 cum	581.50	1413.05

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Annexure 'B' to this Office Allotment Order No. 126 of 08/2023 for WSS Malikabad Badwani

S No.	Description of work	Qty	Rate	Amount
29	P/L of (1:2:4) grade cement concrete with 20mm size aggregate includes all leads and lifts and carriage. $2 \times 8.3 \times 0.456 \times 0.456 = 3.46 \text{ Cum}$ $2 \text{ No.} \times 3.39 \times 0.456 \times 0.456 = 1.41 \text{ Cum. ( Total = 4.87 Cum)}$	4.87 cum	554.13	2698.60
30	Formwork charges including skilled labour, transport and to & fro charges. $= 2(8.3+4.3)mx0.457m + 2(7.39+3.39)mx0.457m + 2(1/2x1.52x0.457) = 22.05 \text{ sqm}$	22.05 sqm	247.33	5453.58
31	Providing & Filling of Boulders in plinth including loading and unloading. $7.39mx 3.39 \times 0.38m = 9.51 \text{ Cum}$	9.51 cum	354.00	3366.54
32	Providing & Filling stone soiling. $7.39x3.39 \times 0.076 = 1.90 \text{ Cum}$	1.90 cum	581.50	1104.86
33	P/L of (1:2:4) mix cement concrete including loading and unloading. $8.3m \times 4.3mx 0.10 m = 3.57 \text{ cum}$	3.57 cum	5547.89	19805.96
34	Providing/Laying of 12mm thick plaster in (1:3) mix onto the structure /Plinth area. As per JKSOR Code No:- 3.8 $8.3m \times 4.3m = 35.69 \text{ Sq.M}$ $2 \times 8.3m \times 0.456m = 7.56 \text{ Sq.M}$ $2 \times 4.3m \times 0.456m = 3.92 \text{ Sq. M ( Total } 47.17 \times 0.012 \text{ ) } = 0.566 \text{ cum}$	0.566 cum	4469.84	2485.23
35	P/L of Ramp of Size 8' x 5' x 1.75' Earth excavation for foundation/trenches in all kinds of soil including leads and lifts. ( Size 2.43 M x 1.52 M x 0. 15 ) =0.554 cum	0.554 cum	411.58	228.02
36	Providing and laying of dry stone soling hand packed in trenches. ( Size 2.43 M x 1.52 M x 0. 15 )=0.554 cum	0.554 cum	581.50	322.15
37	P/L of (1:2:4) grade cement concrete with 20mm size aggregate includes all leads and lifts and carriage. $2 \times \frac{1}{2} \times 1.52 \times 0.53 \times 0.456 = 0.367 \text{ Cum}$	0.367 cum	5547.89	2036.07
38	Providing & Filling of Boulders in plinth including loading and unloading. $\frac{1}{2} \times 1.52 \times 0.53 \times 1.52 = 0.61 \text{ Cum}$	0.61 cum	354.00	215.94
39	Providing/Laying of 12mm thick plaster in (1:3) mix onto the structure /Plinth area. As per JKSOR Code No:- 3.8 $2 \times \frac{1}{2} \times 1.52 \times 0.53 + 2.43 \times 1.52 = 4.4992 \times 0.012 = 0.054 \text{ cum}$	0.054 cum	4469.84	241.37
40	Angle Iron Structure of 8m x 4mx4m size Shed :- Providing/fitting/fabrication of vertical posts to be fabricated out of ISA(50*50) 5 mm thick of about approx 4.6 meter long with two feet embedded in RCC block & 9 inch long tee piece at bottom for each length. The job includes cutting, welding, hoisting etc as per site requirement. Vertical posts = $12^{\circ} \times 4.6m = 55.2 \text{ mtrs} @ 3.8 \text{ kg/m} = 209.76 \text{ Kgs}$ Horizontal posts = $8^{\circ} \times 8m = 64 \text{ mtrs} @ 3.8 \text{ kg/m} = 243.2 \text{ kgs}$ Horizontal posts = $6^{\circ} \times 4m + 1^{\circ} \times 2m = 26 \text{ mtrs} @ 3.8 \text{ kg/m} = 98.8 \text{ kgs}$ Horizontal posts in 40x40x5mm)= $4^{\circ} \times 8m + 2^{\circ} \times 2m = 36 \text{ mtrs} @ 3.0 \text{ kg/m} = 108 \text{ kgs}$ Inclined Brasses = $22^{\circ} \times 2.34m \text{ in (40x40x5mm)} = 51.48 \text{ mtrs} @ 3.00 \text{ kg/m} = 154.44 \text{ Kgs}$ M.S Flat iron of 25 mm Width,4mm thick for fixing antibird iron net, Semitransparent white corrugated sheets=85 mts@0.8 Kg/mt=68 Kgs. MS sheet of 1 mm thick with green paint in two coats for covering sides/bottom of truss=25 Sq.m@7.85Kg/sm=196.25 Kgs Total = 1078.5 Kg Add wastage @ 5% of total Wt. = 53.92 Kgs Total "A" = 1132 Kgs Providing fitting and fabrication of inclined Truss to be fabricated out of ISA 50*50 5mm thick angle iron as follows. Purlins ( $40^{\circ} \times 40^{\circ} \times 5^{\circ}$ ) = $10^{\circ} \times 8.91m = 89.1 \text{ mtrs} @ 3.00 \text{ kg/m} = 267.3 \text{ Kgs}$ Truss comprised of Rafter , Tie, Strut and Steel to be used details are given below in ISA ( 50 x 50 x 5mm): Rafter = $10 \text{ No.} \times 2.89m = 28.9M @ 3.8 \text{ Kg/m} = 109.82 \text{ Kgs}$ Tie beams = $5 \text{ No.} \times 4.91m \text{ (Double) } = 49.1 M @ 3.8 \text{ Kg/m} = 186.58 \text{ Kgs}$ Struts & Kingpost = $5 \times 2^{\circ} (1.29m + 1.01m + 0.9m + 0.50m) + 5^{\circ} \times 1.52m = 44.6 M @ 3.8 \text{ Kg/m} = 169.48 \text{ Kgs}$ Total Steel = 733.18 Kgs Add 5 % wastage to total quantity = 36.65 Kg Total "B" = 769.83 = 769.83 Kgs. Gusset plates in MS 77 No. 150 x 200 x 6mm=0.01386 cum@ 7856Kg/cum = 108.88 Kg. Total Iron A+B=1132 + 769.83 + 108.88 Kgs= 2010 Kgs	2010 kgs	87.65	176177.30
41	Providing and fitting of CGI Green colour coated sheeting of 26 SWG(0.50mm) gauge along with P/F of j-hooks with nuts and plane sheeting for whole shed including gables & roof etc. As per JKSOR Code No;-12.23	50.72 sqm	591.18	29984.65

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S No.	Description of work	Qty	Rate	Amount
42	=2 <sup>2</sup> x8mx2.44m+2mx2.44+2mx3.40m =50.72 S.m Providing and fitting of semi transparent white Fibre glass corrugated roofing sheets(FRP) 2.0mm thick on sides of shed As per JKSOR Code No:-12.22.1 =2 <sup>2</sup> x8mx0.96m+2mx0.96m= 17.28 S.m	17.28 sqm	1036.32	17907.66
43	Providing and fitting of anti bird iron net with square mesh around CGI shed to top 0.60m height for avoiding birds to enter inside shed. =2 <sup>2</sup> x8mx0.60+2 <sup>2</sup> x4mx0.60m=14.4 S.m	14.40 sqm	283.20	4078.08
44	Providing and fitting of 2m wide, 3.4m in height MS Rolling Shutter having the horizontal slates hinged together and is raised to open and lowered to close it.	01 job	14160.00	14160.00
45	Painting of whole shed with one coat of red oxide and two coats of enamel paint after through surface cleaning by using proper grade of emery paper. The job includes cutting, welding, hoisting etc as per site requirement.	01 job	7080.00	7080.00
46	TOOL KIT For Maintenance:-  The Tool Kit for maintenance shall comprise of the following and all the items as mentioned below:  Providing of tool kit consists of following items Double ended Spanner (Chrome plated) of size in mm 6/7,8/9,10/11,12/13,14/15,16/17,18/19,20/22,21/23,24/26,25/28, 30/32 each – 02 no. double ended Ring spanners chrome plated of size in mm 6/7,8/9,10/11,12/ 13,14/15,16/17,18/19,20/22,21/23,24/26,25/28, 24/27, 30/32 each – 02 no. Allen key set black finish of size in mm 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10 make – 2 NO. Combination Pliers insulated with thick C.A sleeve; size in mm 165, 210, 255 each – 02 No. Long nose plier insulated with thick C.A sleeve; size in mm 165, 205 make – 02 No. Side cutting plier insulated with thick C.A sleeve; size in mm 165, 205 each – 02 No. Insulated screw Drivers			
	Blade length in mm	Blade dia. in mm	Tip dimensions in mm	Quantity
	50	3	1.6 x 0.4	02
	75	3	1.6 x 0.4	02
	100	3	3 x 0.4	02
	125	3.5	3.5 x 0.5	02
	150	3.5	3.5 x 0.5	02
	200	4	4 x 0.6	02
	300	5	5 x 0.8	02
	Hammer with handle weight – 110 mg , 340 gm , 600 gm –each –1No. Heavy duty pipe Wrench length in mm - 200, 300, 600 each –01 No. Electric Multimeter = 1No Digital Multimeter = 1No.(Fluke/Meco/Siemens/Mastech) Digital Clamp tester capable to measure up to 400A - 1 No. Hack saw frame with hack saw blade – 01 no. S-16 MXL, S- 16 H X L Socket Set( 19 sockets + 6 Accessories) –01 No.			
47	Earth work in excavation by manual means in trenches for foundations, drains, pipes, cables etc. (not exceeding 1.5 m in width) and for shafts, wells, cesspits and the like not exceeding 10 sqm on plan, including dressing of sides and ramming of bottoms lift upto 1.5 m, including getting out excavated earth and disposal of surplus excavated earth as directed: All kinds of soil	478.93 cum	94.40	45210.99
48	Earth work in excavation by manual means in trenches for foundations, drains, pipes, cables etc. (not exceeding 1.5 m in width) and for shafts, wells, cesspits and the like not exceeding 10 sqm on plan, including dressing of sides and ramming of bottoms lift upto 1.5 m, including getting out excavated earth and disposal of surplus excavated earth as directed: Ordinary Rock	53.21 cum	791.07	42092.94
49	Earth work in bulk excavation by manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 m <sup>2</sup> on plan) including disposal of excavated earth lead upto 50 meters and lift upto 1.5 m, as directed by Engineer-in-Charge. All kinds of soil.	101.25 cum	509.15	51551.07
50	Ordinary Rock	25.31 cum	807.73	20443.74
51	Extra for every additional lift of 1.5 m or part thereof in excavation/banking excavated or stacked material: All kinds of soil.	54.15 cum	77.08	4173.75
52	Providing and fixing G.I. pipes complete with G.I. fittings excluding trenching and	218.60 m	729.85	159546.00

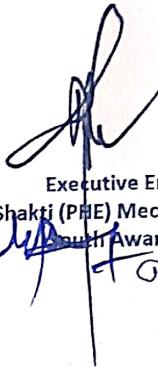
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Executive Engineer  
Date: *[Signature]* / *[Signature]* / *[Signature]*

S No.	Description of work	Qty	Rate	Amount
	refilling etc. (external work 80 mm dia. nominal bore			
53	Providing and fixing G.I. pipes complete with G.I. fittings excluding trenching and refilling etc. (external work 50 mm dia. nominal bore	500 mtr	450.29	225144.00
54	Providing and fixing G.I. pipes complete with G.I. fittings excluding trenching and refilling etc. (external work 40 mm dia. nominal bore	750 mtr	364.43	273323.40
55	Providing and fixing G.I. pipes complete with G.I. fittings excluding trenching and refilling etc. (external work) 25 mm dia. nominal bore	1180 mtr	235.06	277366.08
56	Providing and fixing G.I. pipes complete with G.I. fittings excluding trenching and refilling etc. (external work) 20 mm dia. nominal bore	2200 mtr	172.42	379327.52
57	Providing and fixing G.I. pipes complete with G.I. fittings excluding trenching and refilling etc. (external work 15 mm dia. nominal bore	700 mtr	136.31	95419.52
58	Providing and laying of Dry stone soling hand packed, including the cost of stones.	6.12 cum	581.88	3561.12
59	Providing and laying in position cement concrete of specified grade including curing but excluding the cost of centring and shuttering. All work upto plinth level with 1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size)	5.54 cum	4171.54	23110.31
60	Providing and laying in position specified grade of reinforced cement concrete including curing but excluding the cost of centring, shuttering, finishing and reinforcement. All works upto plinth level 1:1½:3 (1 cement : 1½ coarse sand : 3 graded stone aggregate 20 mm nominal size)	8.10 cum	6693.90	54220.62
61	Reinforced cement concrete work in walls (any thickness) including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts upto floor five level including curing but excluding cost of centring shuttering, finishing and reinforcement. 1:1½:3 (1 cement : 1½ coarse sand : 3 graded stone aggregate 20 mm nominal size)	15.77 cum	8073.89	127325.25
62	Reinforced cement concrete work in beams, suspended floors, roofs having slope upto 15°, landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases upto five level including curing but excluding the cost of centring, shuttering, finishing and reinforcement with 1:1½:3 (1 cement : 1½ coarse sand : 3 graded stone aggregate 20 mm nominal size)	4.52 cum	8452.53	38205.43
63	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.	2413 kg	74.81	180521.36
64	Providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification. (1 kg of water proofing material in 50 kg of cement)	180 kg	54.66	9838.37
65	Centring and shuttering including strutting, propping etc. and removal of form for: Foundations, footings, bases of columns etc. for mass concrete.	9 sqm	247.61	2228.50
66	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	131.49 sqm	507.73	66761.47
67	Lintel, beams, plinth beams, girders, bressumers and cantilevers.	3.4 sqm	474.69	1613.95
68	Columns, pillars, piers, abutments, posts and struts.	7.29 sqm	642.06	4680.63
69	Shelves (cast-in-situ)	29.16 sqm	600.01	17496.19
70	Edges of slabs and breaks in floors and walls 1 Under 20 cm wide	20.80 mtr	228.73	4757.61
71	12mm Cement plaster finished with a floating coat of neat cement of mix: 1 : 4 ( 1 cement : 4 fine sand)	101.79 sqm	307.22	31272.41
72	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) 80 mm nominal bore	1 No.	2271.88	2271.88
73	Provision for making board reflecting the silent features of scheme, including fixing of same in cement concrete blocks.	1 job	10000.00	10000.00
74	Providing and fixing of MS Lid and Ladder	75 kg	87.65	6573.78
75	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead upto 50 m and lift upto 1.5 m	519.42 cum	472.00	245166.24
76	Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixing Tee, including cutting and threading the pipe etc. complete. 25 to 40 mm nominal bore	30 No.	628.94	18868.20
77	50 to 80 mm nominal bore	5 No.	1197.75	5988.74
78	Painting with synthetic enamel paint of approved brand and manufacture to give an	201.60 sqm	115.12	23208.35

Executive Engineer

Annexure 'B' to this Office Allotment Order No. 126 of 08/2023 for WSS Malikabad Badwani

S No.	Description of work	Qty	Rate	Amount
	even shade Two or more coats on new work			
79	Carriage of material from source to dumping site by mechanical transport including loading, unloading and stacking complete. Cement & steel for average 06 KM	15.31 MT	161.40	2470.97
80	Aggregate for average 20 KM	30.46 cum	349.82	10655.52
81	Sand for average 35 KM	16.42 cum	452.18	7424.73
82	Stone soling for average 10 KM	6.12 cum	452.18	2767.32
Total in Figures:		Rs. 70,82,957/-		
Total in Words: Rupees Seventy Lac, Eighty-Two Thousand, Nine Hundred & Fifty Seven Only.				

  
 Executive Engineer  
 Jal Shakti (PHE) Mechanical Division  
 Jhelum-Awantipora

Executive Engineer

