

## GUJARAT MINERAL DEVELOPMENT CORPORATION LIMITED

NAME OF WORK: Work of Repair, Retrofitting of Overhead Water Tank at GMDC lignite Project Rajparadi, Tal: Jhagadia , Dist- Bharuch.

NOTE: All items mentioned under the criteria of "DEMOLITION" /"REMOVAL "shall include- Providing, Erecting and Dismantling all necessary scaffolds, tools, tackles, construction cranes and other equipment etc. working at any floor , breaking with Mechanical Breakers using appropriate attachments, scrapping the surfaces with wire-brush or broom to remove the remnant lumps, cleaning the surface with air-jet or water-jet, transporting via external independent temporary passage/lift/ramp to avoid disturbance , all debris down to ground level, with the help of covered sacs or chutes or through adjustable, flexible garbage ducts for preventing spread of dust and avoiding free hurling or throwing from upper floors, hauling immediately to the demarcated dump-yards on site, for temporary stacking, segregating the salvable/resalable scrap and finally carting away remaining debris from the site etc. complete.

| Sr. No | Description of items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Total Qty | Unit  | Rate | Amount |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------|------|--------|
| 1      | Removal of loose and damaged plaster or cover concrete upto good parent concrete or upto reinforcement level, traces/tracing of shoots, grease, oil etc. using impact high frequency hammer/chisel without damaging the existing concrete (if required) and by wire brush (metallic brushes only) including cleaning of existing concrete surface carefully by suitable means. The item includes all necessary machinery, scaffolding, providing and erecting the safety net of opening 75 mm x 75 mm x 12 mm size in addition to sturdy GI corrugated arrester tray to prevent the debris falling on ground during progress of work and keeping the same during the entire period of work, providing a well supported tubular steel prop arrangement to support the shell and the terrace slab complete from top to bottom, compressor, coarse sand, cleaning the surface by air jet, disposal of unserviceable materials at a identified location as per specification and instruction of Engineer in charge at all height. (As per actual removal on Surface area of the member shall be measured separately for each spot for payment purpose). | 510.00    | Smt   |      |        |
| 2      | Providing and applying two coats of rust converting alkaline primer FEOVERT or equivalent for protection of reinforcement from active corrosion after cleaning of reinforcement surface to de rust, oil free the steel using wire brush/sandblasting to remove the corrosion products, dust, dirt etc complete w.r.t material, equipment, tools, tackles, sand blast/shot blasting equipments and labour etc. (As per actual surface area of cleaning of reinforcement where cleaning carried out considered for measurement)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 510.00    | Smt   |      |        |
| 3      | Providing and applying old and new concrete bonding agent an epoxy bond coat EPIBOND - 21 - LP after removing of loose and damaged plaster or cover concrete upto good parent concrete or upto reinforcement level, traces/tracing of shoots, grease, oil etc. including cleaning the surface by water jet, as per specification and instruction of Engineer in charge at all height. (As per actual coating on Surface area of the structures shall be measured separately for each spot for payment purpose).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 510.00    | Smt   |      |        |
| 4      | Providing and applying two coats of anticorrosive coating IPNET - RB or equivalent after application of rust converting alkaline primer for protection of reinforcement from active corrosion to old reinforcement complete w.r.t material, equipment, tools, tackles, sand blast/shot blasting equipments and labour etc. (As per actual surface area of cleaning of reinforcement where cleaning carried out considered for measurement)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 510.00    | Smt   |      |        |
| 5      | Supplying and providing 8/10/12/16 mm dia. reinforcement TMT bars (Fe 500) conforming to IS:1786 including initial straightening coiled/uncoiled bars, removal of loose rust, cutting, bending to correct size & shape, binding with 18 gauge G.I wire, welding new reinforcement with existing reinforcement, re-baring by drilling the hole and anchoring using epoxy grouts in standard practice as per site condition and drawing. manpower, tools, tackles, machineries, scaffolding etc complete. the joint records to be prepared for measurements & payment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1.50      | M.Ton |      |        |
| 6      | Providing & Fixing 10 G GI weld mesh of 35x35 mm size opening as skin reinforcement. The rate shall be inclusive of cutting, fixing, carting and wastage etc complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 800.00    | Kg    |      |        |
| 7      | Providing and placing single component dual shrinkage compensated, ready mixed high strength fiber reinforced thixotropic repair mortar REPPATCH 45 T / MOLITH -PMM / Asian Smartcare or equivalent in average thickness of 50 mm for covering the damaged structural member and reinforcement including scaffolding, curing inclusive of all labour, materials, equipment etc complete as per specification and instruction of Engineer in charge at all levels. Mixing should be done using mechanical, heavy duty, slow speed drill with spiral mixing blade or forced action pan mixer. Curing must be done by use of hessian maintained in a damp condition for minimum 7 days.                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 330.00    | Smt   |      |        |

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| 8            | Repair and Strengthening by "Shutter and Pour" method: Jacketing concrete sections as per the detailed drawings in required thickness using single component, non-shrink, ready made pourable concrete MOLITH MC / POLYGROUT or equivalent . scaffolding, centering, fixing, watertight formwork shuttering, de shuttering. curing inclusive of all labour, materials, equipment etc. complete as per specification and instruction of Engineer in charge. Curing must be done by use of hessian maintained in a damp condition minimum for 7 days. Concrete to be used shall meet the following key performance properties: Fresh wet density: 2200-2250 kg/m <sup>3</sup> -Compressive strength as per ASTM C 109 (3 days, 28days): 25 MPa and 40 MPa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 15.00   | Cmt |  |  |
| 9            | Providing and fixing standard PVC injection packers at all levels of minimum 10 -12 mm dia. including after drilling holes of required diameter at a spacing of maximum 300 to 500 mm c/c, sealing the packers using epoxy putty, removal of packers after grouting including of manpower, equipment, scaffolding etc. Also includes chipping, cutting and sealing at 10.0M and above height.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 50.00   | No  |  |  |
| 10           | Providing and injecting the fixed packers with a low viscosity, high molecular weight thermoset epoxy injection grout MONOPOL under pressure of 5-10 PSI including cutting/removal of nozzles/nipples as necessary after completion of grouting as per technical specification inclusive of all labour, scaffolding, materials, equipment etc at all levels. complete as per instruction of Engineer in charge. (Actual consumption of grout may be paid)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 100.00  | Kg  |  |  |
| 11           | Providing and fixing shear connectors using welded mesh of size 50/50/3 mm with proper anchorage. inclusive of all material, manpower and equipment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1000.00 | No  |  |  |
| 12           | Providing and applying a single component, high build elastomeric, crack-bridging, anti carbonation, UV resistant, breathable insoluble Interpenetrating Polymer Network Coating System IPNET / MOMOPAL 456 or equivalent in two Epoxy Phenolic coats using brush and one Aliphatic Polyurethane coat using spray to achieve a final DFT of 225 - 300 microns in colour shed specified by Engineer in charge inclusive of material, manpower, tools, tackles and equipment etc for all levels. -5 years guarantee will be considered for this item for which 10% of this work amount will be kept as retention money and will be refunded after satisfactory completion of 5 years                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 510.00  | Smt |  |  |
| 13           | APPLY, COAT, FIBER GLASS<br>"GF wrapping: Providing and wrapping 900 GSM unidirectional glass fibre (GF) wrap composite on to the RCC Cylinder/ fan stack after the repairs are completed and curing is done. For Cylinder the uni-directional 900 GSM glass fibre fabric shall be around the cylinder with an overlap of about 125 mm. For cylinder it shall be covering the both sides of crack depending on the surface available including the cost of material manpower and scaffolding all as per EIC. The following methodology shall be adopted for GF wrap strengthening.<br>After the completion of repairs and required curing is done, the necessary surface preparation i.e. grinding the surface, making edges round to at least 25 mm dia curvature, cleaning the surface, applying compatible epoxy putty to remove any irregularities on the concrete surface, applying compatible epoxy primer, etc shall be done before the application of GF wrap. applying one coat of saturant, fix of GF fabric and press manually by using rollers / spiked rollers gently to remove entrapped air completely, followed by application of second coat of saturant so that the entire fabric gets saturated completely. Fine sand shall be sprinkled over the fiber wrap when the second coat of saturant is still tacky for better bounding of protective coating." | 180.00  | Smt |  |  |
| <b>Total</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |         |     |  |  |