

GOVERNMENT OF INDIA
BHABHA ATOMIC RESEARCH CENTRE
Atomic Fuels Division
TENDER ENQUIRY

Ref: AFD/ESAS/22/I/23529

Date: 31/05/2022
116122

Sub: Water proofing and filling of Fillcrete cement concrete inside 2 nos. Of underground Pits at AFD as per attached drawings and specifications.

Sir/Madam,

Sealed quotations are invited for & on behalf of President of India for Works Contract for following jobs at AFD, BARC as per scope of work, terms & conditions given as below:

A. Scope of Work and Specifications

Scope of Work:

1. Dismantling plain cement concrete as per attached drawing manually / by mechanical means carefully without damaging adjacent structures including disposal of debris within 200 m lead – 1 m³
2. Dismantling old plaster / skirting carefully , raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 100 m lead - 20 m²
3. **Injection Of Cracks:** Providing & injecting grout with water compatible epoxy GY 257/Aradur 21/Aradur 2958 (100:16:4) pbw or GY 257/Aradur 450/Aradur 21 (100:30:10) pbw in cracks and construction joints etc. including drilling holes approximately 10 mm diameter and up to 25mm deep @ 300 mm c/c into the existing concrete, providing, fixing and sealing the nipples, removing the nipples after completion of grouting, with pressure 2 to 4 Kg / cm² , plugging the holes with epoxy putty and / or treating these locations as directed by E-I-C. The quoted rate shall include epoxy, plant, equipment, machinery and testing of materials, labour etc. complete.
 - 3.1 Providing & fixing PVC / Aluminum Nipples - 70 nos.
 - 3.2 Providing & injecting Epoxy - 20 kg
4. Grouting of Lean Cement grout mixed with Non Shrink Compound/polymer in pre fixed nipples with High Pressure Hand Pump(Kellick Nixon Pump), removing the nipples after grouting the area and finishing the area with. Mc Fix ST(Manufactured by Mc.Bauchemi) or approved equivalent material .
 - 4.1 Drilling Holes of 12/13mm diameter and fixing Aluminium/ PVC nipples using Mc Fix ST₂ ready Mix High Strength Mortar. or approved equivalent . - 100 nos
 - 4.2 Grouting –Cement will be used for Grouting -150 kg
5. Providing patented cement based water proofing treatment from outside to Basement, lift pits, trenches, and other underground structures during construction, consisting of a water proof layer over cement concrete 1:3:6 bedding finished with Rough Shahbad stone of about 20 mm thick, well pointed in the joints with cement and approved make waterproofing compound as per

manufacturer's specification and continuing the treatment after completion of floor slab & side walls on the outer face of walls up to 300 mm above the adjacent ground level complete. The total treatment of waterproofing treatment shall be around 75 mm for floors and 35 to 40 mm thick for walls.

5.1 From 0.00 to 6.0 m depth using river sand / crushed sand - 16 m²

Note: Cost of PCC 1:3:6 is in the scope of Vender.

- A working space of about 600 mm shall have to be provided in the excavation separately for the treatment for exterior faces of walls.
 - The water proofing treatment is to be Guaranteed for borne dry condition for long period i.e. 10 years.
6. Providing, centering, shuttering form work using PVC film faced ply wood to get a neat form finish surface for all type of structure including necessary strutting, propping, staging, support etc and deshuttering the same after the specified time all as per drawing, specifications.

6.1 For Sub Structure- 14 m²

7. **Provision for retaining wall:** Providing and laying in position Reinforced Cement Concrete (RCC) of grade M-30 using 20mm maximum size aggregates and crushed sand of approved quality including admixtures of approved brand and quality (plasticiser or super plasticiser) if required, including weigh batching, mechanical mixing, transporting, placing, vibrating, consolidation, finishing, curing etc. complete but excluding the cost of centering, shuttering and reinforcement complete as per specifications.

Note:

'i) For the above item in view of limit on water-cement ratio for durability requirements, concrete admixtures (Naphthalene / Melamine based superplasticizers) can be used after taking prior approval of Engineer-in-Charge and the rates quoted for these items shall be inclusive of the cost of admixtures, trial mixes, testing (at site & at approved labs), etc. complete.

'ii) All projections, fins etc. in the concrete surface formed at the joints in the formwork should be ground & flush and finished at no extra cost.

'iii) Minimum cement content .

7.1 Upto Plinth Level – 3.3 m³

8. Providing Reinforcement for reinforced cement concrete at all levels including supplying, preparation of bar bending schedules, cutting, bending, transporting, fixing, tying in position with 1.6 mm dia soft drawn annealed binding wire all labour charges, cost of cover blocks in specified grade of concrete etc. complete including cost of binding wire as per specifications and drawings. Supply of Steel in the scope of Contractor.

Note: Cover blocks shall be of same grade of concrete.

8.1 Using TMT bars of specified grades all dia bars. TMT bars to be supplied by the contractor manufactured by approved brands of BARC only Confirming to IS:1786 – 0.20 MT

9. **Fillcrete work:** Providing and laying in position Fill-Crete cement concrete (Flowable Fill) of

proportion 1:12 (1 cement, 12 crushed sand) brought from approved RMC plant including pumping, compaction, finishing etc. complete as per specifications and drawings but excluding the cost of Form work shuttering, centering complete at all levels . - 86 m³

10. Providing and laying (IPS Flooring) cement concrete flooring 1:2:4, using crushed sand 50 mm thick finished smooth to the required level, finishing with a floating coat of neat cement including cement slurry, curing, cleaning the surface neatly at the time of handing over the area complete as per specifications and drawings as directed by the Engineer in charge.- 8 m²

B. Technical Terms and Conditions:

1. Work completion period is 3 months from the date of issue of the work order.
2. The quantity mentioned against all the items are tentative. Actual quantities are to be estimated/arrived at by the venders during their site visit.
3. Supplier shall carry out actual measurements as per site condition.
4. Supplier shall prepare its own process layout as per actual site conditions and should get it approved from concerned authority before commencement of work.
5. All process work shall be carried out as per approved drawings only.
6. All material supply is in the scope supplier. Supplier shall use all relevant IS standard material for this work. Material testing certificates/reports from manufacturer should be submitted for approval.
7. In case of any technical doubts, supplier shall contact concerned authority for clarifications.
8. Supplier shall have to arrange for all Machines, equipments required for this work.
9. Supplier shall maintain best quality workmanship.
10. QAP (Quality Assurance Plan)
QAP should include:-
 - (i) Raw material Testing,
 - (ii) In-process Inspection Stages
11. Inspection and final acceptance
 - i. Physical verification of all items as per technical specifications.
12. Supplier shall clear off all left out material at the end of the work and ensure clean work area before handing over.
13. **Supplier should have the previous experience of Repair and maintenance of civil work on**

similar nature site work along with quality assurance plan and should provide documentary evidence for the same.

14. Suppliers having knowledge and experiences of preparing above mentioned documentations, BARC procedures, standard welding procedures, safety procedures, material testing and inspection facilities, calibrated equipments etc. shall be preferred for the work contract.
15. Supplier shall give the quotation on lump sum basis having basic cost & taxes separately.
16. All the works shall be carried out at AFD, BARC, Trombay, Mumbai. The work will be subjected to inspection by the departmental personnel.
13. Prescribed Personnel Radiation Monitoring devices will be issued to the personnel carrying out work at the plant. The vendor shall ensure that his personnel use these devices as prescribed.
14. All personnel will be required to report to Health Physicist, AFD, before commencement of work and after completion of work every day.
15. During the execution of work, all safety instructions are to be followed. This work includes working in an area with possible radioactive contamination, hence the vendor should strictly ensure that the personnel carrying out work shall wear all necessary personnel protective equipment as prescribed. The Supervisor shall be present at site during the work. The supervisor shall be experienced enough for safety (fire & personal) to oversee the site activities. BARC will not be responsible for any injury or accident taking place on site. Any loss or damage to property, machine, equipment, tools will be recovered from the vendor.
16. Proportionate amount shall be deducted from vendor's bill for non-completed portion of work due to the non-availability of vendor's personnel at AFD during contract period.
17. Personal protective gears such as boiler suits, hand gloves and respirator (if required for occupational hazard) will be provided by us.
18. Personal protective gears such as safety shoes suitable for Mechanical workshop, socks, undergarments, Face cover/mask and soap shall be provided by the vendor. No personnel will be allowed to work without safety gear.
19. Personnel working at site should carry out cleaning of site and its surrounding at regular intervals, maintain safe and hygienic work environment.
20. Vendor should have previous experience of similar type of work and shall have to produce documentary evidences of the same for site visit clearance. The vendor shall have to submit the documents of relevant experience along with site visit request through email latest by **10/06/2022**. The site visit will only be cleared after verifying the credentials of the vendor.
21. **Quotations submitted without documentary evidences of experience and site visit will not be considered.**

C. General Terms & Condition: -

1. Quotations are to be printed on letter head.
2. Lump sum amount shall be quoted for completion of work mentioned in the enquiry. **Quotations received on per person basis or individual work basis will not be considered.**
3. In case of award of work order, the vendor shall give his acceptance through email or letter within 15 days from the date of issue of work order.
4. The Vendor shall deploy the required manpower at AFD, BARC within 3 weeks after issue of work order. Work order will be communicated to the vendor through email also.
5. Work order will be cancelled, if the vendor fails to start the work within 1 month from the date of issue of work order or within 15 days of start of contract period, whichever is later. Further the vendor will not be permitted to bid against future tender enquiries raised by AFD, BARC.
6. Vendor working inside BARC is subjected to security clearance by BARC security, before or during the period of contract.
7. Income tax @2% and GST TDS@2% will be deducted from the bill of vendor.
8. The vendor shall clearly indicate following in the quotation.
 - Lump sum Price
 - Taxes & duties applicable, if any
 - PAN No., GST Registration No.
9. Payment will be arranged only after satisfactory completion of work at AFD and on submission of following documents,
 - a) Bills/Invoice in triplicate
 - b) Advanced stamped receipt in favor of Accounts officer BARC.
 - c) GST Undertaking
 - d) ECS form dully filled.Advance or Part Payment will not be made.
10. Any delay in completion of work, which is attributable to the vendor, is liable for penalty @0.5 % per week (max 5 %) to be imposed on the vendor.
11. **Prior to submitting the quotation, visit of the vendor or his representative to AFD, BARC to understand the work and site condition, is compulsory. The vendor or his representative may visit AFD, BARC, for inspecting the site with prior intimation of at least 2 clear working days to Shri B.M. Sharma. SO/F, TSS, AFD, BARC, Mumbai-400085, Ph-022-25594909, email: bmsharma@barc.gov.in. or to Shri Surendra Kumar, Head, ES&S, AFD, BARC, Mumbai-400085, Ph: 022-25594614, email: surendrak@barc.gov.in. The visit will be approved only after verification of credentials of the visitor. The visit may be carried out**

on 14/06/2022 between 10.30 am to 4.30 pm. The visitor must have original identity proof and report before 12:00pm on the day of visit.

12. Quotation received from any vendor, without visit to AFD/BARC, will not be considered and will be treated as rejected.
13. In case of any clarification required, vendor shall contact above mentioned contact details during office hours.
14. Any casualty during this work period of contractor work men will not be handled by organization. is not liable for any type of compensation for any casualties.
15. This Work Order tentatively will start on 08/03/2022. The vendor shall arrange for the police verification certificate of their personnel. No person will be allowed to enter inside BARC without Verification.

D. Confidentiality Clause :

- No party shall disclose any information to any third party concerning the matters under this contract generally. In particular, any conformation identified as "Proprietary" in nature by the disclosing party shall be kept strictly confidentiality by the receiving party and shall not be disclosed to any third party without the prior written consent of the original disclosing party. This clause shall apply to the sub-contractors, consultants, advisers or the employees engaged by a party with equal force.
- "Restricted information" categories under Section 18 of the Atomic Energy Act 1962 and "Official Secrets" under Section 5 of the Official Secrets Act 1923. :-
- Any contravention of the above-mentioned provisions by any contractor, sub-contractor, consultant, adviser or the employees of a contractor will invite penal consequences under the aforesaid legislation
- Prohibition against use of BARC's name without permission for publicity purposes.
- The contractor or sub-contractor, consultant, adviser or the employees engaged by the contractor shall not use BARC's name for any publicity purpose through any public media like Press, TV, or Internet without the prior written approval of BARC.


E. Declaration to be submitted along with the offer

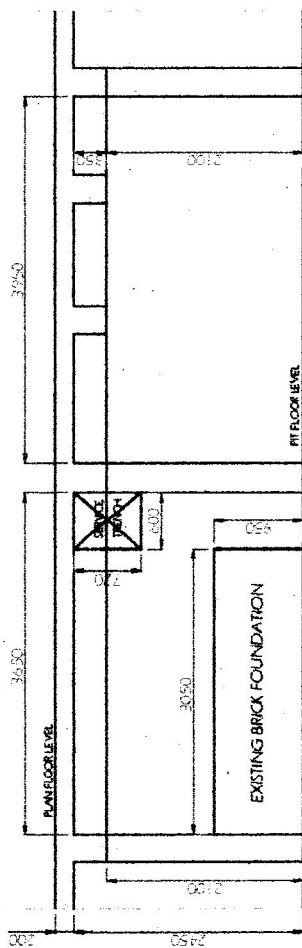
- (i) The vendor shall declare as to whether he has any relative working in BARC, or himself is an ex-employee of BARC, or has an ex-employee of DAE on his pay rolls.

The quotation, typed on a printed letter head in a sealed cover super scribing enquiry no. and date shall reach to the undersigned at the address given below on or before 24/06/2022 by Registered / Speed Post only.

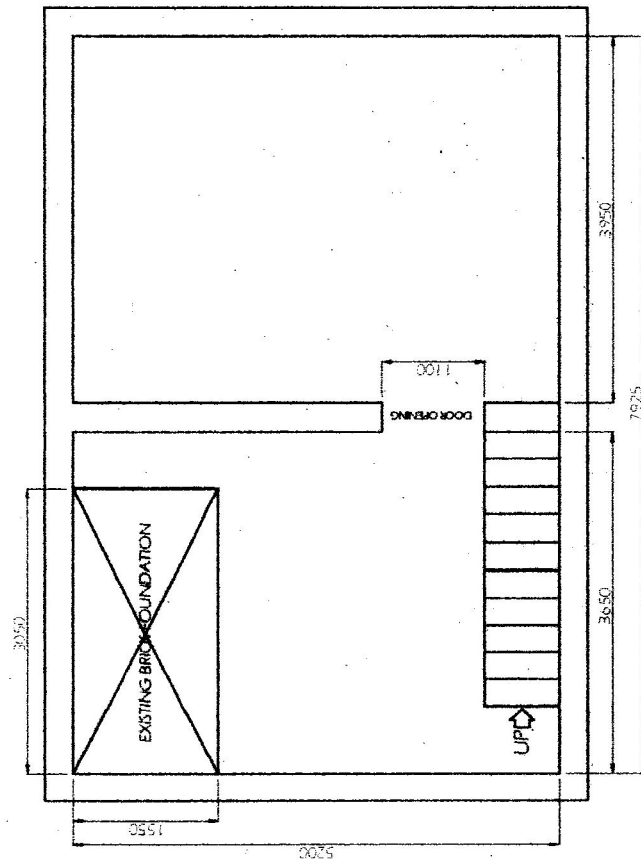
B.M. Sharma, SO/F, ESAS,
Atomic Fuels Division,
Bhabha Atomic Research Centre,
Trombay, Mumbai - 400085

Thanking you,

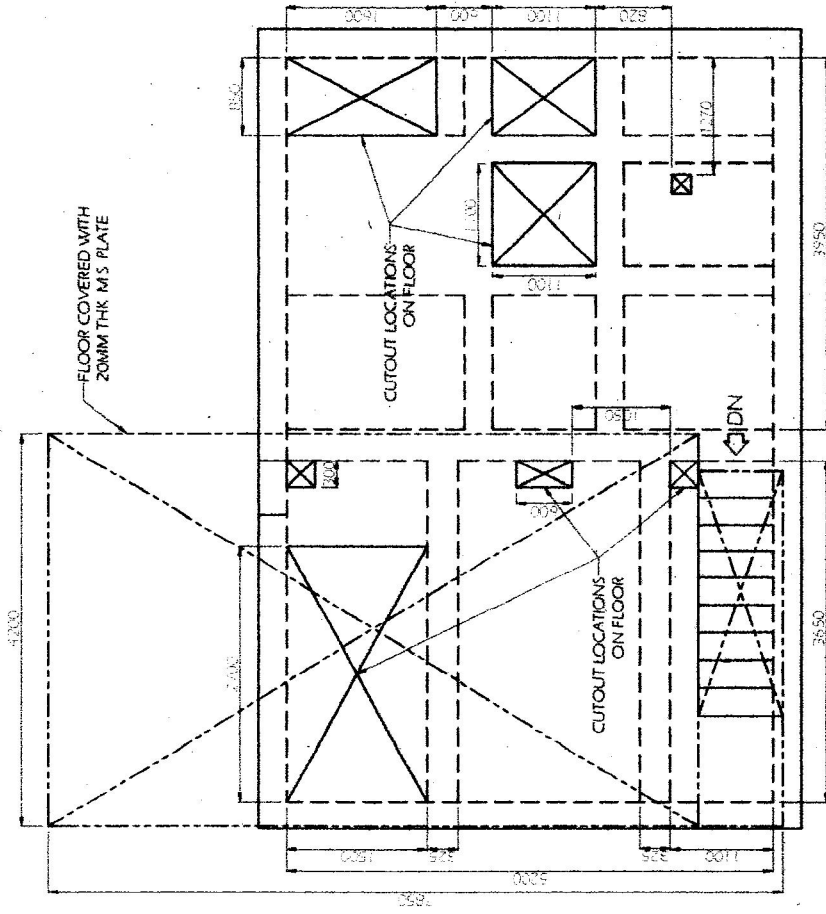

01/06/2022
(B. M. Sharma)
SO/F, ESAS, AFD



SECTIONAL ELEVATION

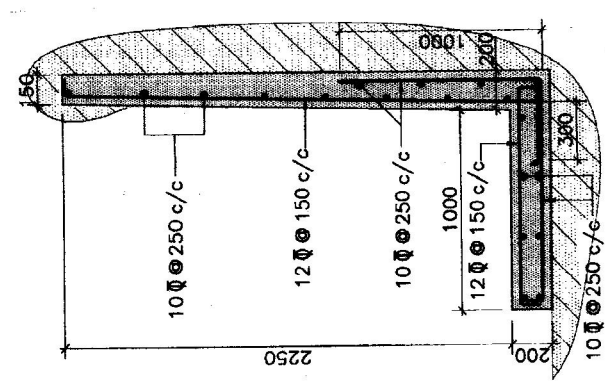


PLAN AT PIT LEVEL



PLAN AT FLOOR LEVEL

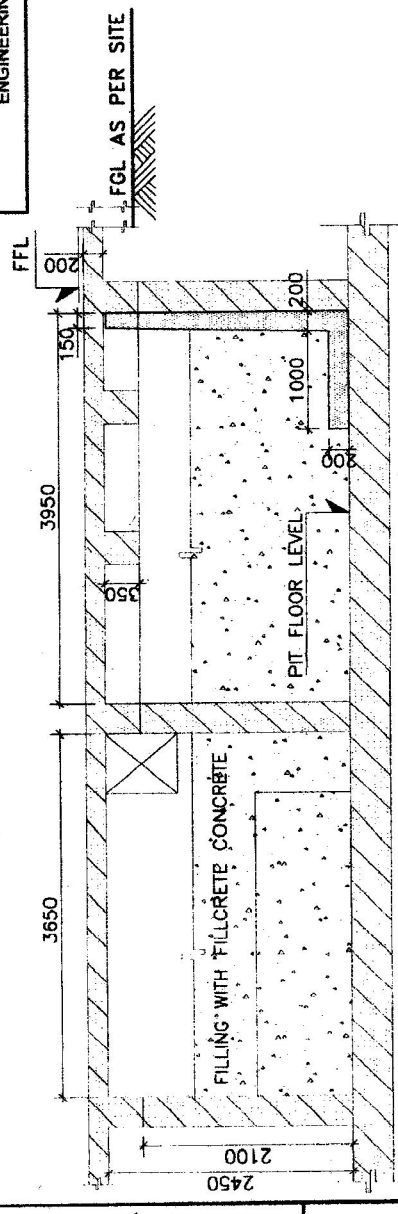
LEGEND:-
 EXISTING STRUCTURE



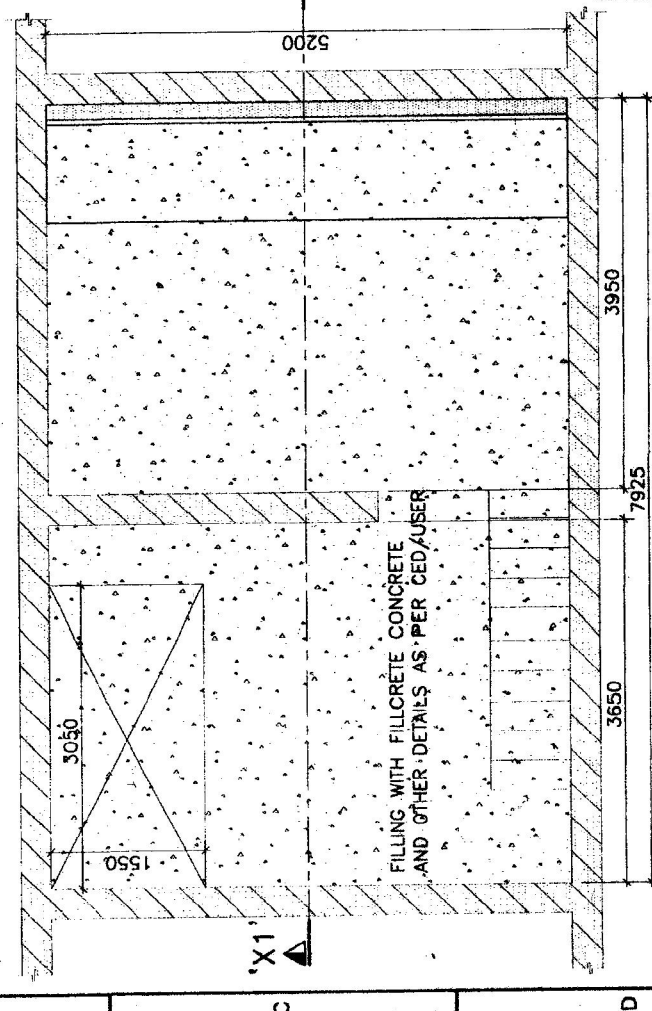
TYPICAL DETAILS OF WALL
(SCALE:- 1:25)

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES. NO DIMENSION IS TO BE SCALED OFF THIS DRAWING.
2. THE CONCRETE MIX USED FOR R.C.C. WORK SHALL BE OF GRADE M-30 WITH MINIMUM CEMENT CONTENT OF 320 kg/m³ AND MAXIMUM WATER CEMENT RATIO OF 0.45.
3. THE STEEL USED SHALL BE THERMO MECHANICALLY TREATED (TMT) BARS SATISFYING THE REQUIREMENTS OF F65000 GRADE CONFORMING TO IS:1786-2008 WITH 0.2% PROOF STRESS NOT LESS THAN 500 N/mm².
4. R.C.C CONSTRUCTION SHALL CONFORM TO IS: 456-2000.
5. CLEAR COVER TO MAIN REINFORCEMENT SHALL BE 45 mm ON ALL SIDES AND ENDS.
6. THE REINFORCEMENT DETAILING SHALL CONFORM TO IS: 13290.
7. DEVELOPMENT LENGTH OF BAR SHALL NOT BE LESS THEN 46 TIMES DIAMETER OF THE BAR.



SECTION X1-X1
(SCALE:-1:50)



PLAN AT PIT LEVEL
(SCALE:-1:50)

DESIGN	PROJECT	TITLE	
KRISHIT S	SALTBATH PIT AREA OF AFD MAIN BUILDING	SCALE	1:25
DRAWN		DATE OF APPROVAL	17/04/2022
FORMAL H.S		RECOMM.	
CHECKED		APPROVED	
KRISHIT S		DRAWING No.	A&SED/ST/1001/24/ISD/A3-001/R-0

