

RECCOMENDATIONS FOR
GARDEN WATERPROOFING &
BASEMENT REPAIRS AT

NAV SANSADVIHAR CGHS LTD,SECTOR – 22 DWARKA, NEW
DELHI - 110078

DATE : 14-09-2023

CONSULTANTS

RANSON CIVIL TECHNOLOGIES PVT LIMITED

344 Ground Floor , PKT- 4 , SUNVIEW , Sector – 11 ,Dwarka , New Delhi – 110 075 [BHARAT]
T- 011- 4503 4222 , 989916 4222 , E-info@ranson.biz



PART-1 WATERPROOFING WORKS

S.No	Description of works	UNIT	Quantity	RATE	Amount
1	Removal of of existing grass,soil,drainage etc to expose the base slab including cleaning of the same as per the directions of E-N-C,Consultant	SQM	3300	188	620400
2	Treating of linear visible cracks on the surface of the slab after inspection of the surface and marking of same, by cutting V-Groove chase approx. minimum width of 20 mm and depth of 25 mm with acrylic cementitious waterproof putty . The chemical/admixtures doses shall be as per the manufacturer's recommendations. The same shall be got approved by MC or its representative/or Engineer-in-charge /Consultant/ Client	RM	300	490	147000
3	Providing and laying integral cement based waterproofing treatment including preparation of surface per the direction of E-n-C/consultant/client consisting of following operations				
	A] Applying a slurry coat of neat cement using minimum of 2.75 kg/Sq.M of cement admixed with waterproofing compound conforming to IS 2645 and approved by E-n-C/consultant/client over the RCC slab including the adjoining walls upto the minimum height of 400 mm, including cleaning, repairing, plastering the vertical surface.				
	B] Laying brick bats with mortar using broken bricks/brick bats 25mm to 115 mm size with 50 % of cement mortar 1:4 [1 Cement : 4 Coarse sand] admixed with waterproofing compound conforming to IS : 2645 and PP secondary fiber reinforcement				



	over a layer of minimum 20 mm thick cement mortar of 1:4 [1 Cement : 4 Coarse sand admixed with waterproofing compound conforming to IS : 2645 and PP secondary fiber reinforcement as per manufacturers/E-N-C/client/Consultant approval to the required slope and treating similarly the adjoining walls upto the 400 mm height including rounding off junctions of walls and slabs.				
	C] After two days of proper curing with potable water, applying second coat of cement slurry using 2.75 Kg/Sq.M of cement admixed with WPC conforming to IS: 2645 and approved by E-N-C/Consultant/client				
	D] Finishing the surface with minimum 20 mm thick joint-less cement mortar of 1:3 [1 part cement : 3 part coarse sand] admixed with waterproofing compound conforming to IS ; 2645 and PP secondary fiber reinforcement including laying glass fiber cloth of approved quality in the top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300 X 300 mm Square.				
	E] The whole area shall be flooded with water for minimum period of two weeks.				
	All the above operations shall be as per the directions of E-n-C/consultant/client.				
	With average thickness of 120mm and minimum thickness as 65 mm	SQM	3200	1588	5081600
5	Providing and re-laying existing removed filtration system over the water-proofing by putting 20 to 40mm size round aggregate (river stone) to a thickness of 75mm and finally laying geo-textile filtration media fabric- minimum 160 GSM with at least 100mm side and end laps. Geo-textile fabric shall be taken to the vertical surface up to the termination of water-proofing system complete as per the direction of the MC or its representative/ Engineer in-charge/Consultant/Client.	SQM	3200	119	



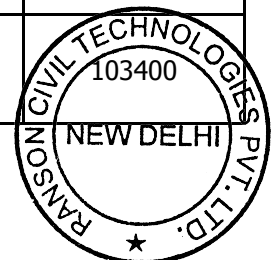
6	Providing and laying drainage spouts as to drain excess water towards planned outlets by placing 100mm UPVC pipe 4kg/sqcm pressure connected with main drain/sump after machine cutting through the slab and sealing it complete as per the direction of the MC or its representative/ Engineer-in-charge/ Consultant/ Client.	NOS	90	2270	204300
				AMOUNT IN INR	7298100.00

PART - 2 EXPANSION JOINT TREATMENT

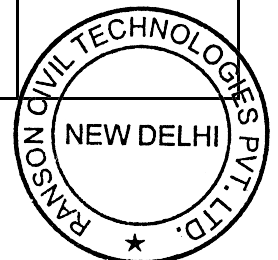
S.NO	Description of works	UNIT	Quantity	RATE	Amount
1	Providing and laying expansion joint treatment on the horizontal surface, including removal of previous treatment if any, repairing of edges, backup material, sealant all complete as per the directions of E-in-C/Consultant	RM	50	8800	440000
				AMOUNT IN INR	440000

PART - 3 REPAIRS & REHABILITATION WORKS

S.No.	Description of works	UNIT	Quantity	RATE	Amount
1	Providing & erecting self supported steel scaffolding double row type using steel pipes for vertical,	CU.FT	550	188	



	horizontal, diagonal bracing and ties etc, where ever required so as to make it rigid frame. Working platform shall be provided by using steel challies over MS pipes and as per requirement complete in all respects including removing of scaffolding etc, as per directions of engineer-in-charge				
2	Removing/chipping the weak/affected/carbonated concrete upto carbonated depth (50mm average thick) by mechanical methods from R.C.C. Structures including making square shoulders complete including removal of debris from all heights & levels.	Sqm	180	289	52020
3	Cleaning reinforcement of total rust using alkaline chemical rust remover with paint brush and removing loose particles after 24 hours of it's application with wire brush & thoroughly washing with water and allowing it to dry.	Sqm	180	228	41040
4	Providing, mixing & applying bonding coat of R-CRETE acrylic adhesive on chipped portion of RCC, for polymer modified repair mortar as per manufacturers specifications & direction of engineer-in-charge complete in all respect at all heights.	Sqm	200	357	71400
5	Providing, mixing & applying bonding coat of epoxy adhesive on chipped portion of RCC, for micro concrete as per manufacturers specifications & direction of engineer-in-charge complete in all respect at all heights.	Sqm	150	433	64950
6	Providing ,mixing & applying over reinforcement bars, anti rust agent as per specifications & direction of engineer-in-charge.	Sqm	180	345	62100
7	Providing /laying G100*100 mm welded reinforcement on the ceiling after coating the same with zinc rich corrosion protection coating .	Sqm	50	788	39400
8	Providing, mixing & applying upto 50mm average thick acrylic based polymer modified mortar in columns & beams including trowelling etc. Complete in the required proportion of polymer, cement & sand as per specifications and direction of engineer-in-charge. R-CRETE Polymer	Sqm	50	2960	148000



	used shall have a minimum solid polymer content of 10% by weight of cement strength on 28 days (20Nmm ²)				
9	Providing & placing in position Micro-Concrete in columns & beams, which shall be cement based preplaced single component, chloride free, non-shrink, free flow, self-compacting, ready to use after mixing water in specified proportion obtained from approved manufacturers as per specification and directions of engineer-in-charge	Cum	16	64600	1033600
10	Providing & fixing reinforcement for RCC work including straightening, cutting, bending, binding, welding & placing in position including the cost of 18 gauge annealed steel binding wire complete cold twisted bars.	Kg	2500	145	362500
11	Introducing new reinforcement bars for structural connections in RCC columns including power drilling holes of appropriate diameters in reinforced or plain cement concrete to a minimum depth of 150 mm upto 200 mm, fixing the reinforcement in position using epoxy (Hilty HY-HT-150 or Equivalent) at all height and level. (Rate shall include cost of labour, T & P for power drilling in concrete, epoxy cartridges, plastic nozzle etc. complete including cleaning the drilled holes & loose dust by blowing air). The cost of reinforcement shall be paid separately.	Nos	300	487	146100
12	Providing & inserting 12 mm dia grouting aluminum nipples to 75 mm depth into honey combed concrete including drilling holes, inserting nipples & sealing the gap around nipples with sealing compound putty etc. complete as per direction of engineer-in-charge.	Nos	350	190	66500
13	Supplying & injecting cement slurry with non-shrink compound in honey combed/segregated area by suitable gun/pump at required pressure including cutting of nipples after curing etc. complete as per	Kg	500	97	48500



	specifications.				
14	Supplying & injecting epoxy in honey combed/segregated area by suitable gun/pump at required pressure including cutting of nipples after curing etc. complete as per specifications.	Kg	30	2797	83910
15	Propping & supporting the structural members and it's adjoining areas with steel props (adjustable or as required) bracing, steel/timer runners etc. release the structural member of the required load coming over it as per the pattern given by the contractor & approved by engineer-in-charge complete.	Nos	50	900	45000
16	Centering & shuttering including strutting, propping etc. And removal of formwork for casting etc. Using ply/steel plates/steel mold	Sqm	200	790	158000
17	Excavation of soil manual or thorough mechanical means	CU.FT	1	76	76
18	Backfilling of excavated earth/soil through manual or mechanical means and compaction of same.	CU.FT	1	25	25
19	P/I M20 concrete below foundation levels dully added with R-CRETE polymer @ 5 % by weight of cement	CU.FT	1	450	450
20	P/I 1:3 polymerized cement,sand plaster duly added with R-CRETE polymer @ 5 % by weight of cement	SQ.FT	1	64	64
21	Providing and fixing of L shape shear connectors including drilling of holes,cleaing of same and fixing of shear connectors with fisher/hilti adhesive all complete as per directions of E-in-C/Consultant	Nos	500	380	190000
22	Providing and laying brick work with 1:4 cement sand mortar as per the directions of E-n-C/consultant upto the height of ground floor	CUM	5	9800	49000
23	Removal of mulba from site to dumping area outside the society premises	Nos	Each Tractor Trolley	2200	
TOTAL AMOUNT INR					2766035



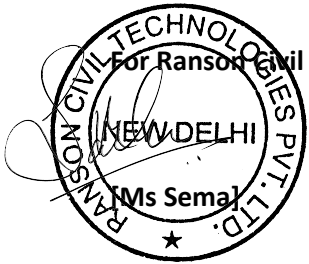
GST EXTRA @ 18 %

NOTE

The above item quantities are appx only and may vary at the time of execution

Some extra items may be required in addition the the BOQ above at the time of execution of work depending upon site requirements

Thanking You



For Ranson Civil Technologies Pvt Ltd

RCS - Ranson Consultancy Services