

Name of work: CIVIL WORKS FOR THE REPAIR OF TERRACE WATERPROOFING WORKS IN THE BANK'S RESIDENCE AND VOTF, SECTOR 21, CHANDIGARH						
ABSTRACT OF COST						
Sl. No.		Description of items	Unit	Qty	Rate	Amount
		<b>Preamble</b>				
		<b>Rate shall be inclusive of following :</b>				
	i	The serviceable and unserviceable materials shall be stacked separately and properly in the designated place and to be Stacked/Stored at designated till the disposal / reuse of the same. The debris, excess materials is to be carted outside the premises and disposed off at the Municipal Corporation designated place up to any lead, lift and level by the Contractor at his own cost.				
	ii	All the civil work has to be carried with 53 grade OPC cement to be use for concreting and in plastering & waterproofing works PPC cement can use. cement and VSI, grade crush sand, of required fineness, which must be free from silt and other impurities				
	iii	All the civil work , whether new or repair, must be cured for at least 7 days preferable by ponding, using gunny bags etc.				
	iv	For all work, water to be use must be fresh, potable and pure without any salinity and turbidity.				
	v	The rates quoted for all the items of the BOQ shall include the following specifications: -				
	a	All the works are to be carried out at all heights and locations i.e. from foundation level, Ground Floor of the building up to the Over Head Water Tank roof slab or Mumty roof slab, as applicable.				
	b	Providing and fixing double scaffolding system (cup lock type) on the exterior side, up to any height (entire height) of the building structure made out of 40 mm dia. M.S. tubes, 1.5 m centre to centre, horizontal & vertical tubes joining with cup & lock system with M.S. tubes, M.S. tube challies, M.S. clamps and M.S. staircase system in the scaffolding including the working platform etc. and maintaining it in a serviceable condition for the entire required duration as approved and directed by the Client/EIC & removing it thereafter.				
	c	The scaffolding system shall be stiffened with bracings, runners, connection with the building fascia etc. wherever required & including providing vertical supports which shall be sound and strong, tied together with horizontal steel / metal support pieces over which scaffolding planks shall be fixed properly & secured at required locations including the essential safety features for the workmen etc. complete as per directions and approval of Client/EIC. Note: - The scaffolding shall not be removed without prior approval of Client/EIC.				
	d	Providing & fixing temporary support arrangements such as Steel Props (Up to any number whenever and wherever as directed by the SBI/APMC) to support the structure provisionally during the project duration for all trades of work, etc. and maintaining the props in position till required & as directed by the consultant including other safety elements such as bracings, steel angles, working platforms, plates etc., which shall be provided & considered in the quoted rates for the areas in the vicinity in adequate numbers as directed. All trades of works indicated herein under shall include all leads & lifts & working up to any heights, depths & levels.				
	e	Providing & fixing safety net around the work so that loose plaster/ concrete does not cause damage to the property or any human being, if necessary and removing the same after completion of work.				
	g	Providing all type of PEE ( Personal protective Equipment) to the workforce such as safety shoes, safety helmets, reflective safety jacket, full body safety harness, goggles, gloves, etc. complete for all types of workforce engaged on site for execution of the work.				
	h	The quoted rate should include cost of necessary scaffolding, staging, centring, shuttering etc. as required for execution of the job at any height and location including removal of same. The scaffolding should be erected and anchored into the concrete members with help of expandable bolts, which are to be cut as the scaffolding is removed, no wall is to be punctured, at no extra cost to the Bank.				

	i	Rates shall be inclusive of all enabling works like tower cranes all safety measures, aerial lift, man & material lift, Temporary lift, scaffolding, Cup lock system, labour camp, storages, godowns, all required permissions from local governing respective authorities to carry out the works, all insurances, all licenses, administration, all S.H.E. (Safety, Health, Environment) related measures, security , watch and ward measures, barricades other than specified, traffic management, tree protection, property damage repairs, water, electricity, DG as per requirement, all tools, machineries, vehicles, etc. Complete.				
	j	Before starting of Excavation NGL levels shall be got verified and approved by Client/EIC and RL levels to be at the top of different layer and based on the difference levels excavation qty shall be calculated. Area for excavation shall be arrived by adding max 0.6m on each from RCC side working space around Foundation/Raft as per direction from Client/EIC.				
	k	All rates should be inclusive all loading, unloading, shifting,all leads, lifts, sorting, transportation, labours, tools, plants, machinery,etc. Complete				
	l	All the above-mentioned points including the requisite elements & items as mentioned shall be considered included within the quoted rates of the line items of the BOQ and nothing extra would be paid on this account.				
	m	Though Locations of execution are mentioned for specific items, Contractor have to execute those all items at all required/necessary locations at no extra cost as per direction from Client/EIC.				
	n	Contractors to be fully equipped with regulations/guidelines available at their site and guidelines/rules are to be followed by contractor till the completion of the project.				
		<b>CONCRETE WORK</b>				
		<b>PREAMBLE:</b>				
		Contractor to ensure the following while quoting their rates for all Concrete/RCC work:				
		Inlcuding all shuttering material used for concreting / RCC Work should be of good quality using waterproof ply/Steel plates etc. to ensure smooth finish.				
		The scope of work under the items includes execution of work at all heights and location including all shapes, curved walls, cambered beam etc. complete.				
		In case there is bulging / minor honey combing is noticed after removal of shuttering, the contractor will have to rectify the work at his own cost. The decision as to what constitute minor honey combing is left to the Engineer in charge.				
		The Contractor will be responsible for arranging "design of concrete mix" through approved Institute at their own cost within the quoted rates only and will submit the report to Bank/Architect for approval. No extra payment shall be eligible on this account.				
		Unless otherwise specified, only River Sand should be used. If the silt content is more then permissible limits, contractor will arrange washing of sand in rotary screw type washing machines within quoted rates and no extra payment shall be eligible for the same.				
		The flooring, raft & slab curing is to be done by ponding method only.				
		Checking of top level of slab should be done at every floor & it should be within IS tolerance limit / client requirement.				
		Testing should be done with material on site by third party agencies as per mentioned frequency.				
		Frequency of testing for all materials like sand, aggregates, cement, steel, concrete should be as per IS standard.				
		The use of admixture, fly ash & crush sand should be as per concrete mix design.				
		Unless otherwise specified the cement to be used shall be Ordinary Portland Cement (OPC-53) of Ultratech, ACC, Lafarge or an equivalent make as approved by bank along with proportions of fly ash.				
1		Providing and laying in position cement concrete of specified grade including the cost of centering and shuttering - All work up to plinth level :				
		1:3:6 (1 Cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources)	Cum	14.40		
		<b>PREAMBLE</b>				
		<b>PLASTERING WORK</b>				
		Contractor to ensure the following while quoting their rates for all plastering works:				

		Including all shuttering and scaffolding material used for the go for the masonry work should be of good quality and no extra cost shall be paid for the same till Vth floor.				
		The scope of work under the items includes execution of work at all heights and location including all shapes, curved walls etc. complete.				
		Unless otherwise specified, only River Sand should be used. If the silt content is more then permissible limits, contractor will arrange washing of sand in rotary screw type washing machines within quoted rates and no extra payment shall be eligible for the same.				
		Frequency of testing for all materials like sand, aggregates, cement, steel, concrete should be as per IS standard.				
		Unless otherwise specified the cement to be used shall be Ordinary Portland Cement (OPC-53) of Ultratech, ACC, Lafarge or an equivalent make as approved by bank along with proportions of fly ash.				
		The cost shall also include the breaking of any loose plaster or damaged plaster from the existing location and removal of the debris of any kind for disposal to a suitable location.				
2		Cleaning of existing surface including removal of dust, loose concrete with wire brush and spray waterjet clenaing & PCC & waste material shifting.				
		Applying a slurry of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound confirming to IS-2645 and approved by Engineer- In- charge over the existing surface including adjoining walls upto 300 mm height including cleaning the surface before treatment . Therafter, Finishing the surface with 40 mm plaster 1:3 (1 cement: 3 coarse sand) admixed with waterproofing compound confirming to IS:2645 and approved by Engineer Incharge to achieve a smooth & even surface with proper slope up to the khurras.and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300mm square 3 mmdeep.	Sqm	297.63		
		<b>PREAMBLE</b>				
		<b>WALL TILES, FLOOR TILES, GRANITE AND, FACADE TILES WORK</b>				
		Contractor to ensure the following while quoting their rates for all plastering works:				
		Inlcuding all shuttering and scaffolding material used for the go for the masonry work should be of good quality and no extra cost shall be paid for the same till Vth floor.				
		The scope of work under the items includes execution of work at all heights and location including all shapes, curved walls etc. complete.				
		Unless otherwise specified, only River Sand should be used. If the silt content is more then permissible limits, contractor will arrange washing of sand in rotary screw type washing machines within quoted rates and no extra payment shall be eligible for the same.				
		Frequency of testing for all materials like sand, aggregates, cement, steel, concrete should be as per IS standard.				
		Unless otherwise specified the cement to be used shall be Ordinary Portland Cement (OPC-53) of Ultratech, ACC, Lafarge or an equivalent make as approved by bank along with proportions of fly ash.				
		The cost shall include the dismantling and removal of the existing flooring, Tile work, granite work. The dismantling item is added in the price bid.				
		No additional cost shall be paid for the leveling of the sub-base, in case the same is damaged during the dismantling. The vendor shall get the same rectified at his cost.				
		For the granite, the cost shall be inclusive of all the designs and making edge mouldings of the exposed granite edges and granite polishing of the same.				
3		<b>WATER PROOFING WORKS</b>				
		<u>Cleaning/ Preparation of surface:</u> Cleaning of existing surface including removal of dust, loose concrete & PCC & waste material shifting				
		Sealing of pipes: Providing and applying epoxy bonding agent (FOSROC Nitobond EP STD/equivalent of SIKA) over the PVC and internal side of of cavities/holes & later Filling the pipe gap with high strength, non-shrink, cementitious precision grout (FOSROC Conbextra GP2 / equivalent of SIKA) from the top all over the periphery, with all shuttering/PoP already in place from bottom side. Finally all pipes and concrete intersection joining areas to be treated with Polyurethane Sealant (Nitoseal PU40N / equivalent of SIKA), as per manufacturer's specifications.				

		<p><u>Waterproofing with Primer</u>: 1.) PRIMER: Well cleaned, levelled, &amp; well dry surface shall be primed with Liquid based elastomeric membrane (Nitoproof WB Primer / equivalent of SIKA), applied at consumption of 8-10Sqm/Ltr (after dilution), Dilution at 12 ltr per 6ltr pack size primer. Coating shall be applied from parapet to parapet and to be terminated at atleast 300mm above FFL or as per site conditions. Termination shall be done by providing a groove cut of 10mm x 10mm and later sealing the same with Repair mortar (Renderoc HSXtra/equivalent of SIKA) after application of epoxy bonding agent (Nitobond EP Standard / equivalent of SIKA) Providing and 2.) applying waterproofing treatment using Acrylic based modified polyurethane elastomeric Solar Reflective cum Waterproof coating (using Fosroc Roofguard Premium / equivalent of SIKA) to be applied <u>using a roller, brush or spray applied, as per manufacturer's specifications.</u></p> <p>Minimum recommended coverage Coverage @1mm wft 20m2 per 20 litre Solids by Volume : 50%</p> <p>Solids by weight : 55 + 2%</p> <p>Density : 1.30 ± 0.05% g/cc</p> <p>Tensile strength ASTM D412 &gt;2 MPa</p> <p>Elongation, ASTM D412 &gt; 250%</p> <p>Shore A Hardness, ASTM D2240 -75</p> <p>Tear strength, ASTM D624 13N/mm</p> <p>Adhesion to substrate with Primer, ASTM D45412 MPA</p> <p>Crack bridging ASTM C836-2mm</p> <p>UV resistance ASTM D4587 -Pass</p>				
		MAKE: FOSROC / SIKA				
		The vendor shall make sure to clean all the surfaces and ensure removal of any loose material before start of any water proofing work.				
		The vendor shall perform all the required tests for checking the water seepage and to test the quality of the work done. No extra cost shall be paid for the same.				
		The vendor shall get the water proofing done from a reputed firms and shall in written give a warranty of 5 years for the water proofing works for any defect.				
			Sqm	311.80		
		<b>total estimated amount</b>				
		Note: GST to be paid extra				