

BOQ_Terrace Area Waterproofing and Ceiling Slab Repairing Work
HOR Men- Wing A to F at DAU, Gandhinagar

Sr. No.	Description of Work	Unit	Qty.	Rate (₹)	Amount (₹)
A	DEMOLITION AND STRUCTURAL REPAIR WORK				
1	Chipping off existing ceiling slab and beam plaster: Carefully dismantling and removing existing loose, hollow, debonded and damaged cement plaster from RCC ceiling slabs and beams, including hacking/chipping using suitable hand tools or light mechanical tools without damaging the RCC substrate or reinforcement. The exposed RCC surface shall be thoroughly scraped and cleaned to remove loose particles, laitance, dust and other contaminants.	SQM	5,500	-	-
2	Chipping off wall plaster: Carefully dismantling and removing existing loose, hollow, debonded and damaged cement plaster from walls, including hacking/chipping using suitable hand tools or light mechanical tools without damaging the walls. The masonry surface shall be thoroughly scraped and cleaned to remove loose particles, laitance, dust and other contaminants.	SQM	QRO	-	-
3	Removal of loose/unsound concrete from RCC members: Carefully removing all loose, honeycombed, cracked, delaminated and unsound concrete from slabs, beams and other RCC members until sound and firmly bonded concrete is exposed. Edges of the repair area shall be cut/chiselled to a firm profile and feather edges shall be avoided. Exposed reinforcement shall be carefully uncovered wherever corrosion is present. The surface shall be mechanically wire-brushed/cleaned and blown or washed free of dust and loose particles. Any structural concrete replacement, micro-concrete, RCC jacketing or strengthening shall be measured separately.	SQM	QRO	-	-
4	Treatment of corroded reinforcement steel: Wherever reinforcement is exposed due to corrosion, concrete shall be carefully removed around the affected reinforcement to provide adequate access for cleaning. Reinforcement shall be thoroughly cleaned using wire brush, emery paper or suitable mechanical cleaning equipment to remove rust, scale, loose concrete and corrosion products such as: SIKA RUSTOFF-100 OR MC RUST REMOVER OR CONTECH RUST CLEEN until a clean, sound steel surface is obtained. The reinforcement shall then be cleaned and prepared for application of corrosion-protection coating. Where reinforcement has suffered substantial section loss, replacement/additional reinforcement shall be measured separately.	SQM	QRO	-	-
5	Application of rust-preventive / anti-corrosion coating to reinforcement: After complete removal of rust and preparation of reinforcement, applying an approved cementitious/polymer-modified corrosion protection coating using: SIKA ARMATEC-108 OR MC RUSTGUARD OR CONTECH RUSTCURE for RCC reinforcement, in minimum two coats or as recommended by the manufacturer's technical data sheet. The coating shall be applied uniformly around the exposed reinforcement with adequate coverage, allowing the required interval between coats. Rate shall include material, surface preparation, mixing, application, tools, labour and all incidental works complete.	SQM	QRO	-	-

6	Application of polymer-modified bonding agent: Providing and applying FOSROC NITOBOND OR CONBOND on prepared RCC surfaces before application of repair mortar/plaster. The substrate shall be thoroughly cleaned and made free from dust, oil, laitance and loose material and shall be pre-wetted to SSD condition wherever required. Bonding slurry shall be prepared generally using cement,SBR/acrylic polymer with dilution/water as recommended by the manufacturer's technical data sheet, and applied uniformly by brush. Subsequent repair/plaster mortar shall be applied while the bonding coat is in the recommended tacky condition. Rate shall include material, preparation, mixing, application, labour and tools complete.	SQM	5,500	-	-
7	Epoxy chemical injection grouting for RCC cracks: Identification and marking of cracks in RCC slabs, beams, columns and other structural members, including cleaning of crack surface and preparation for injection. Fixing suitable mechanical injection nipples/packers of approximately 6–10 mm diameter at 150–200 mm c/c, or closer spacing depending on crack width and depth. Cracks between nipples shall be sealed using approved epoxy sealing paste so that injection pressure is maintained. After the surface seal has adequately cured, injection shall be carried out using a low-viscosity, two-component structural epoxy injection grout, mixed strictly in the manufacturer's specified ratio, through the nipples using suitable pressure injection equipment. Injection shall continue until the material flows to the adjacent nipple or refusal is achieved, ensuring complete filling of the crack voids. After curing, nipples shall be removed/cut flush and the surface shall be finished with approved polymer-modified repair mortar. Rate shall include crack preparation, drilling, packers/nipples, epoxy sealant, structural epoxy injection grout, injection pump/equipment, labour, finishing, wastage and all incidental works complete.	RMT	QRO		-
8	PU chemical injection grouting for active/leaking cracks: Identification and marking of water-bearing, damp or active cracks in RCC slabs, beams and other structural members. Drilling of 6–10 mm diameter injection holes at approximately 150–200 mm c/c, staggered along the crack where required, and fixing suitable injection nipples/packers. Cracks shall be sealed with compatible surface sealant. Injection shall be carried out using an approved hydrophilic/hydrophobic polyurethane (PU) injection resin, mixed and injected using suitable high-pressure injection equipment strictly as per manufacturer's recommendations. The PU resin shall react with moisture/water as applicable and expand to seal the crack and arrest water ingress. After completion, nipples shall be removed/cut flush and holes shall be sealed with suitable polymer-modified repair mortar. Rate shall include drilling, nipples/packers, surface sealing, PU injection chemical, injection equipment, labour, finishing and all incidental works complete.	RMT	QRO		-

9	Micro-concrete repair to RCC structural members: Providing and placing approved non-shrink, flowable micro-concrete for repair/reinstatement of RCC slabs, beams, columns and other structural members after removal of loose/unsound concrete and completion of reinforcement treatment. Existing concrete shall be thoroughly cleaned and saturated to the required condition. Exposed reinforcement shall be cleaned and treated with approved corrosion-protection coating. Suitable formwork shall be provided to contain the micro-concrete. Micro-concrete shall be mixed strictly according to the manufacturer's specified water requirement and shall be placed/pumped into the repair zone without segregation or honeycombing. The material shall be properly compacted/vibrated where permitted by the product specification and finished to the required profile. Minimum repair thickness shall be as recommended by the approved product manufacturer. The repair shall be adequately cured/protected as specified. Rate shall include surface preparation, formwork, micro-concrete material, mixing, pumping/placing, labour, access/scaffolding, finishing, curing, wastage and all incidental works complete.	CMT	QRO		-
TOTAL OF SECTION 'A':					-
B	PLASTER AND PAINT WORK				
10	Ceiling plaster: Providing and applying cement-sand plaster to RCC ceiling after completion of surface preparation. Plaster shall be carried out in CM 1:4 (1 cement : 4 sand), with an average thickness of 12–15 mm, or as required to achieve a true and uniform surface. The mortar shall be properly mixed, applied in suitable layers where required, compacted and finished to an even surface. Rate shall include polymer bonding coat, scaffolding/access, corner treatment, surface levelling, finishing, curing, labour, materials, tools and all incidental works complete.	SQM	5,500	-	-
11	Internal plaster: Providing and applying internal cement-sand plaster in using CM 1:4 (1 cement : 4 sand), average thickness 12–15 mm, including preparation of masonry/RCC substrate, wetting, levelling, finishing and curing. At RCC/masonry junctions, suitable polymer bonding treatment and GI mesh shall be provided wherever required to minimize cracking. Rate shall include all materials, labour, scaffolding/access, curing, tools, wastage and incidental works complete.	SQM	QRO	-	-
12	Internal Paint: Apply two OR more coats of interior Royal Paint after single coat of primer paint with finish cement putti. POP filling in dip holes, crack seal in crack more than 2mm on wall/ceiling at any height & level. Rate shall include all materials, labour, scaffolding/access, curing, tools, wastage and incidental works complete.	SQM	15,000	-	-
TOTAL OF SECTION 'B':					-

C	TERRACE WATERPROOFING WORK				
13	Terrace slab surface cleaning: Thoroughly cleaning the entire terrace slab surface by scraping, wire brushing, mechanical cleaning and/or high-pressure water cleaning as appropriate. All dust, dirt, loose concrete, laitance, algae, moss, old loose coating, grease, oil and other contaminants shall be completely removed. Existing loose mortar and weak surface material shall be removed until a sound substrate is obtained. The surface shall be allowed to achieve the condition required by the waterproofing system before subsequent treatment. Rate shall include labour, tools, equipment, water, cleaning, collection of debris and all incidental works complete.	SQM	5,500	-	-
14	Crack treatment on terrace slab including identification and preparation of cracks, opening/grooving of cracks wherever required, cleaning, filling/sealing with suitable polymer-modified repair material/sealant and finishing flush with surrounding surface.	SQM	4,800	-	-
15	Chemical waterproofing treatment to terrace slab: Providing and applying an approved polymer-modified cementitious / acrylic chemical waterproofing system over prepared terrace slab and continuing vertically up the parapet/adjacent wall to a height of 600 mm (2 ft). Surface shall be properly cleaned and prepared, cracks and defects shall be treated beforehand, and corners/junctions shall be provided with suitable reinforcing mesh/fabric where recommended. Waterproofing shall generally consist of minimum two coats, applied perpendicular to each other, with total dry/wet film thickness as specified by the approved manufacturer's system. Mixing shall be strictly as per manufacturer's recommended ratio, typically using polymer : cement in the manufacturer's specified proportion, and shall not be diluted beyond the approved system requirements. All pipe penetrations, outlets, corners, wall-floor junctions and other vulnerable locations shall receive additional detailing. Rate shall include surface preparation, primer/bonding treatment where required, waterproofing chemical, cement component, reinforcement mesh where specified, application, labour, tools, curing/protection and all incidental works complete.	SQM	5,500	-	-
16	Providing and laying China mosaic, using approved broken white/glazed ceramic tile pieces, laid over cement mortar bedding in CM 1:4 (1 cement : 4 clean coarse sand by volume), including preparation and wetting of base, laying to required slope towards rainwater outlets, embedding and pressing tile pieces firmly into mortar, maintaining uniform joints, finishing, cleaning and curing complete. Entire work shall be completed true to line, level and slope as directed at site.	SQM	4,800	-	-
TOTAL OF SECTION 'C':					-
TOTAL OF 'A'+ 'B'+ 'C'					-

Note : The rate must be inclusive of loading, unloading, lead, lift, shifting, transportation, safety measures, scaffolding, shuttering etc.

The construction methodology should be as per structural assessment report and EIC.

Contractor should inform EIC before & after every stage of individual works execution.

For any kind of additional/ extra works; contractor must get prior approval from the EIC for execution & rate approval.

Contractor should submit photocopy of delivery challans of each items to EIC.

Contractor should provide 3 years warranty on total execution.

Contractor should shift the debris from outside the campus premises on daily basis OR as per EIC.

Contractor should shift the raw material with site cleaning after completion of works.

EIC could be rejected any kind of defective/damaged material/work done.

No extra payment for any kind of re-work/rectification work.

Contractor should mention applicable GST extra at actual.

Construction power & water supply will be provided by DAU

No permission for labour colony inside the campus premises.

Contractor should remove the electrical fixtures & refitting the same after completion of work.