

**Construction of Spillway Structure, Extraction well and Site development works at IISER Campus, Vithura - Balance works**

**Schedule of Quantities**

Item No.	DESCRIPTION OF ITEMS	QTY	UNIT	RATE (In figures&words)	AMOUNT Rs. Ps.
	PART - A- EXTRACTION WELL				
A.1	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas ( exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, for all leads with in the site and lift up to 1.5m disposed earth to be levelled and neatly dressed.(In or under water and/or liquid mud, including pumping out water as required)				
	All kinds of soils	477.00	Cum		
A.2	Extra for every additional lift of 1.5 m or part thereof in excavation /banking excavated or stacked materials.(In or under water and/or liquid mud, including pumping out water as required)				
a)	All kinds of soil	318.00	Cum		
A.3	Providing and fixing non woven needle punched type (200 GSM) Geotextile below the stone pitching / filter media on slopes as per drawing and direction of the Engineer in charge	377.00	Sqm		
A.4	Construction of filter media around the Extraction well by providing aggregates in different grades, spreading in uniform layer, compacting etc. all complete as required consisting of the following:-				

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Item No.	DESCRIPTION OF ITEMS	QTY	UNIT	RATE (In figures&words)	AMOUNT Rs. Ps.
a)	Stone aggregate 5 -20 mm	185.00	Cum		
b)	Stone aggregate 5 -10 mm	162.00	Cum		
c)	Coarse sand	216.00	Cum		
d)	Boulders	275.00	Cum		
A.5	Dry rubble masonry with hard granite stone in foundation and plinth:	29.00	Cum		

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Item No.	DESCRIPTION OF ITEMS	QTY	UNIT	RATE (In figures&words)	AMOUNT Rs. Ps.
A.6	Providing and laying in position ready mix, machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete including pumping of concrete to site of laying but excluding the cost of centering,shuttering,finishing and reinforcement including admixtures in recommended proportions as per IS 9103 to accelerate, retard setting of concrete, improve workability without impariring strength and durability as per direction of Engineer-in-charge. M-25 grade reinforced cement concrete by using 410 kg. of cement per cum of concrete. All works up to floor V level.	25.00	Cum		
A.7	Centering and shuttering including strutting, propping etc,and removal of form for:				
(a)	Columns, Pillars, Piers, abutments, posts and struts.	25.00	Sqm		
(b)	Suspended floors, roofs, landings, balconies & access platform except folded slab.	41.00	Sqm		
(c)	Lintels, beams, plinth beams, girders, bressumers & cantilevers.	84.00	Sqm		
A.8	Extra for additional height in centering, shuttering where ever required with adequate bracing, propping etc. including cost of de-shuttering and decentring at all levels, over a height of 4.2 m, for every additional height of 1 metre or part thereof ( Plan area to be measured ).				

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Item No.	DESCRIPTION OF ITEMS	QTY	UNIT	RATE (In figures&words)	AMOUNT Rs. Ps.
	Suspended floors, roofs, landing, beams and balconies (Plan area to be measured ).	64.00	Sqm		
A.9	Reinforcement for RCC work including straightening, cutting, bending, placing in position and binding all complete.				
(i)	Thermo-mechanically Treated bars(Fe 500D)	2000.00	Kg		
A.10	Steel work welded in built up sections/framed work including cutting hoisting, fixing in position and applying a priming coat of approved zinc chromate primer using structural steel etc.as required.				
(a)	In grating, frames, guard bar, ladders, railings, brackets, gates & similar works.	2986.00	Kg		
A.11	Carben Steel galvanised dash fastner (min 5 micron) of 10 mm dia double threaded 6.8 grade counter sunk head screw comprising of 10 mm dia polyamide PA 6 grade sleeve. Size 10 mm x140 mm.	360.00	Each		
A.12	Painting with synthetic enamel paint of approved brand & manufacture to give an even shade: Two or more coats on new work:	43.00	Sqm		

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Item No.	DESCRIPTION OF ITEMS	QTY	UNIT	RATE (In figures&words)	AMOUNT Rs. Ps.
A.13	12 mm cement plaster of internal mix :				
i)	1:4(1 cement: 6 fine sand)	227.00	Sqm		
A.14	6 mm cement plaster on soffit of stair and ceiling with mix: 1:3 (1 cement : 3 fine sand)	80.00	Sqm		
A.15	Laying of chequerred precast cement concrete tiles 22 mm thick in footpath & courtyard, jointed with neat cement slurry mixed with pigment to match the shades of tiles, including rubbing and cleaning etc. Complete, on 20 mm thick bed of cement mortar 1:4 (1 Cement: 4 coarse sand) Dark shade pigment using ordinary cement	75.00	Sqm		

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Item No.	DESCRIPTION OF ITEMS	QTY	UNIT	RATE (In figures&words)	AMOUNT Rs. Ps.
<b>PART - B- STEPPED SPILWAY STRUCTURE</b>					
B.1	Providing and laying in position ready mix, machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete including pumping of concrete to site of laying but excluding the cost of centering,shuttering,finishing and reinforcement including admixtures in recommended proportions as per IS 9103 to accelerate, retard setting of concrete, improve workability without impariring strength and durability as per direction of Engineer-in-charge. M-25 grade reinforced cement concrete by using 410 kg. of cement per cum of concrete. All works up to floor V level.	544.00	Cum		
B.2	Providing and laying in position ready mix, machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete including pumping of concrete to site of laying but excluding the cost of centering,shuttering,finishing and reinforcement including admixtures in recommended proportions as per IS 9103 to accelerate, retard setting of concrete, improve workability without impariring strength and durability as per direction of Engineer-in-charge. M-20 grade reinforced cement concrete by using 400 kg. of cement per cum of concrete. All works up to floor V level.	313.00	Cum		
B.3	Reinforcement for RCC work including straightening, cutting, bending, placing in position and binding all complete.				
(i)	Thermo-mechanically Treated bars(Fe 500D)	77000.00	Kg		
B.4	Providing & laying in position cement concrete of specified grade excluding the cost of centering and shuttering -All works upto plinth level:				
(a)	1:4:8 (1 cement: 4 coarse sand: 8 graded stone aggregate 40 mm nominal size)	67.00	Cum		

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Item No.	DESCRIPTION OF ITEMS	QTY	UNIT	RATE (In figures&words)	AMOUNT Rs. Ps.
B.5	Extra for laying concrete in or under water and/or liquid mud including cost of pumping or bailing out water and removing slush etc. complete.	408.00	Cum/ meter Depth		
B.6	Centering and shuttering including strutting, propping etc,and removal of form for:				
(a)	Foundations, footings, bases of columns, etc. for mass concrete.	127.00	Sqm		
(b)	Walls (any thickness) including attached pilasters, buttresses, plinth & string courses etc.	1974.00	Sqm		
B.7	Providing and fixing in position of ISB 150, 600mm in long with 300mm long J bolts for jointing the PVC water stops near the crest of Spillway as per approved drawing and direction of the Engineer in charge.	1.00	Job		
B.8	Filling available excavated earth (excluding rocks) in trenches, plinth, sides of foundation etc. in layers not exceeding 20cm.in depth, consolidating each deposited layer by ramming & watering, all lead with in the site.	921.00	Cum		
B.9	Earthwork work in surface excavation not exceeding 30cm in depth but exceeding 1.5m in width as well as 10sqm on plan including disposal of excavated earth upto 50m and lift up to 1.5m, disposed soil to be levelled and neatly dressed				

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Item No.	DESCRIPTION OF ITEMS	QTY	UNIT	RATE (In figures&words)	AMOUNT Rs. Ps.
	All kinds of soils	875.00	Sqm		
B.10	Random rubble masonry with hard granite stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement: 6 coarse sand : 12 graded stone aggregate 20mm nominal size) at plinth level with:				
(i)	Cement mortar 1:3 (1 cement : 3 coarse sand)	537.00	Cum		
B.11	Extra for laying stone work in or under water and/or liquid mud including cum/ mtr cost of pumping or bailing out water and removing slush etc. complete.	537.00	Cum/ meter Depth		
B.12	Random rubble masonry with hard stone in superstructure above plinth level and upto floor five level, including leveling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20 mmnominal size) at window sills, ceiling level and the like.				
(i)	Cement mortar 1:3 (1 cement : 3 coarse sand)	696.00	Cum		

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Item No.	DESCRIPTION OF ITEMS	QTY	UNIT	RATE (In figures&words)	AMOUNT Rs. Ps.
B.13	20 mm cement plaster of mix :				
(a)	1:4 (1 cement : 4 coarse sand)	41.00	Sqm		
B.14	Placing and fixing in position of partially fixed PVC water stops in the contraction joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc complete:( PVC water stops will be supplied by the department)	20.00	m		
B.15	Providing and laying approved proprietary water proofing treatment on Retaining walls by applying cement slurry mixed with water proofing cement compound consisting of applying: a) after surface preparation, first layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm. b) laying second layer of Fibre glass cloth of 300gsm when the first layer is still green. Overlaps of joints of fibre cloth should not be less than 10 cm. c) third layer of 1.5 mm thickness consisting of slurry of cement @ 1.289 kg/sqm mixed with water proofing cement compound @ 0.670 kg/sqm in 2 coats one perpendicular to other and coarse sand @ 1.289 kg/sqm. This will be allowed to air cure for 4 hours followed by water curing for 48 hours. d) fourth layer of plaster using cement mortar which will be paid for separately. Payment will be for the entire treated surface.	721.00	Sqm		
B.16	Pressure grouting should be done in all cold joints with cement slurry incorporating nonshrink agent of Cebex 100 of Fosroc or equivalent at a dosage of 225gm/50kg cement. Using hand pump of a pressure of 50cm centre to centre 2.5kg/cm <sup>3</sup> after fixing PVC or GI nozzle half the width as the depth of nozzle. Chip off all cold joints and construction joints. Patch that area and all honey combed area using Nitobond SBR 3 liter/bag of cement modified cement mortar 1:3	172.00	Each		

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Item No.	DESCRIPTION OF ITEMS	QTY	UNIT	RATE (In figures&words)	AMOUNT Rs. Ps.
B.17	Providing and laying Double Flanged (Screwed / Welded) Centrifugally (Spun) Ductile Iron Pipes of Class K - 9 conforming to IS : 8329 :				
a)	300 mm dia	12.00	m		
B.18	Providing and fixing C.I. sluice valves (with cap) complete with bolts,nuts, rubber insertions etc. (the tail pieces if required will be paid separately) :				
a)	300mm dia - class II	2.00	Nos		
B.19	Coal tarring two coats on new work using 0.16 Litre and 0.12 litre coal tar per sqm in the first coat and second coat respectively.	16.00	Sqm		
B.20	Providing and fixing 300 mm dia MS slotted pipe of 1 meter long connected to the sluice pipe through suitable arrangement etc. all complete as per the drawing and as directed by the Engineer in charge.	2.00	Each		

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Item No.	DESCRIPTION OF ITEMS	QTY	UNIT	RATE (In figures&words)	AMOUNT Rs. Ps.
<b>PART - C- SITE DEVELOPMENT WORK</b>					
C.1	Clearing light jungle including uprooting of rank vegetation, grass, brush wood,trees and saplings of girth upto 30cm measured at a height of 1m above the ground level and removal of rubbish upto a distance of 50m outside the pheriphery of the area cleared as directed by the Engineer-in-charge.	18000.00	Sqm		
C.2	Felling trees of the girth (measured at a height of 1m above ground level) including cutting of trunks and branches removing the roots and stacking of serviceable material and disposal of unserviceable material				
(i)	Beyond 30 cm girth upto and including 60 cm girth	25.00	Each		
(ii)	Beyond 60 cm girth upto and including 120 cm girth	40.00	Each		
(iii)	Beyond 120 cm girth upto and including 240 cm girth	32.00	Each		
(iv)	Above 240 cm	3.00	Each		

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Item No.	DESCRIPTION OF ITEMS	QTY	UNIT	RATE (In figures&words)	AMOUNT Rs. Ps.
C.3	Banking excavated earth in layers not exceeding 20 cm. in depth, breaking clods, watering, rolling each layer with ½ tonne roller, or wooden or steel rammers, and rolling every 3rd and top-most layer with power roller of minimum 8 tonnes and dressing up, in embankments for roads, flood banks, marginal banks, and guide banks etc., lead with in the site and lift upto 1.5 m.				
(a)	All Kinds of Soil.	3700.00	Cum		
C.4	Ditto as item above but without using power roller for rolling	240.00	Cum		
C.5	Extra for every additional lift of 1.5 m or part thereof in excavation /banking excavated or stacked materials.				
a)	All kinds of soil				
i	Lift from 1.5m to 3.0m	2240.00	Cum		
ii	Lift from 3.0m to 4.50m	1637.00	Cum		

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Item No.	DESCRIPTION OF ITEMS	QTY	UNIT	RATE (In figures&words)	AMOUNT Rs. Ps.
iii	Lift from 4.5m to 6.0m	285.00	Cum		
C.6	Earthwork work in surface excavation not exceeding 30cm in depth but exceeding 1.5m in width as well as 10sqm on plan including disposal of excavated earth upto 50m and lift up to 1.5m, disposed soil to be levelled and neatly dressed				
(i)	All kinds of soils	375.00	Sqm		
C.7	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas ( exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, for all leads with in the site and lift up to 1.5m disposed earth to be levelled and neatly dressed.				
(i)	All kinds of soil	8948.00	Cum		
(ii)	Ordinary rock	810.00	Cum		

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Item No.	DESCRIPTION OF ITEMS	QTY	UNIT	RATE (In figures&words)	AMOUNT Rs. Ps.
C.8	Providing & laying in position cement concrete of specified grade excluding the cost of centering and shuttering -All works upto plinth level:				
(a)	1:4:8 (1 cement: 4 coarse sand: 8 graded stone aggregate 40 mm nominal size)	14.00	Cum		
C.9	Random rubble masonry with hard granite stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement: 6 coarse sand : 12 graded stone aggregate 20mm nominal size) at plinth level with:				
(i)	Cement mortar 1:6 (1 cement : 6 coarse sand)	227.00	Cum		
C.10	Providing and laying in position ready mix, machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete including pumping of concrete to site of laying but excluding the cost of centering,shuttering,finishing and reinforcement including admixtures in recommended proportions as per IS 9103 to accelerate, retard setting of concrete, improve workability without impariring strength and durability as per direction of Engineer-in-charge. M-20 grade reinforced cement concrete by using 400 kg. of cement per cum of concrete. All works up to floor V level.	466.00	Cum		
C.11	Centering and shuttering including strutting, propping etc,and removal of form for:				
a)	Foundations, footings, bases of columns, etc. for mass concrete.	28.00	Sqm		

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Item No.	DESCRIPTION OF ITEMS	QTY	UNIT	RATE (In figures&words)	AMOUNT Rs. Ps.
C.12	Reinforcement for RCC work including straightening, cutting, bending, placing in position and binding all complete.				
(i)	Thermo-mechanically Treated bars(Fe 500D)	28000.00	Kg		
C.13	Providing and fixing non woven needle punched type (200 GSM) Geotextile below the stone pitching / filter media on slopes as per drawing and direction of the Engineer in charge	425.00	Sqm		
C.14	Providing and laying stone pitching in slopes complete as per drawings and specification .	500.00	Cum		
C.15	Pointing on stone work with cement 3 fine sand) :mortar 1:3 (1 cement : (Flush/ Ruled pointing)	250.00	Sqm		
C.16	Providing and laying Filter material underneath pitching in slopes complete as per drawing and Technical specification	150.00	Cum		

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Item No.	DESCRIPTION OF ITEMS	QTY	UNIT	RATE (In figures&words)	AMOUNT Rs. Ps.
	QUOTE RATE ONLY				
1	Add/Deduct for using Excess/less cement than the quantity as provided in the item of batch mix concrete/RMC as arrived as per mix design				
	TOTAL				
	Rebate if any				
	Net amount				

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