

Office of the Executive Engineer
Saidabad Water Treatment Plant (Maintenance)
Dhaka WASA

Name of the work : Repair works of boundary wall at SWTP Phase-3 (West Side).

Sl No.	Basis of rate (PWD-2022)	Description of Items	Qty	Unit	Rate (Tk)	Amount (Tk)
(1)	(2)	(3)	(4)	(5)	(6)	(7=4x6)
CIVIL WORKS						
1	1.7	Mobilization and cleaning site before commencing actual physical work and during contract period and demobilization after completion of the works under contract to be accepted by the Engineer-in-charge. This work shall also cover clayey cleaning and clearing, cutting or filling, dressing the project area on and in the ground to an extent that all the events of works of the project can be executed smoothly in a working environment with a particular attention on safety and security in all respects, and to stockpile the end outcome to a place for disposal agreed by the Engineer-in-charge, where, payments are to be based on ground area determined by the Engineer-in-charge and be proportionate to the percentage progress of work under contract as a whole in all respects and approved by the Engineer-in-charge.	45.00	Sqm	218.001	9,810.045
2	2.1.1	Layout and marking for earthwork in excavation in foundation accepted by the Engineer-in-charge. [Plinth area of the structure shall be considered for	8.93	Sqm	19.001	169.687
3	32.6.1.1	Dismantling of R.C.C. beam, linel, column, drop wall,-sun shade from any height and removal old debdris to a safe distance.	4.66	Cum	3,928.001	18,309.984
4	32.6.1.1	Dismantling of unserviceable/damaged brick works (with cement or lime mortar) of thickness 250 mm in foundation and superstructure and removal of debris to a safe distance.	2.57	Cum	538.001	1,379.973
5	DWASA-6.6	Bailing out all source of water from trenches cchannel & any other means with all leads & lift by pump or any other means etc. All completed as per direction of the Engineer in charge.	6.000	day	2141.001	12,846.006
6	PWD-2.1.2	Earthwork in excavalion in foundation trenches up to 1.5 m depth and maximum 10 m head	11.310	cum	168.001	1,900.091





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(1)	(2)	(3)	(4)	(5)	(6)	(7=4x6)
7	PWD-3.1.1	One layer brick flat soling in foundation or in floor with first class/picked jhama bricks (BDS 208) including preparation of bed and filling the interstices with local sand, leveling etc. complete and accepted by the Engineer-in-charge	8.93	sqm	518.001	4,625.956
8	PWD-2.11	50 mm down graded picked jhama khoa consolidation in foundation trenches by mixing the same with best quality local sand (F.M. 1.2) in 2:1 (khoa: sand) proportion to achieve minimum dry density of 95% with optimum moisture content (Modified proctor test) including breaking and screening chips, laying and spreading in 150 mm layers uniformly and compacting etc. all complete and accepted by the Engineer-in-charge.	1.34	cum	5,060.001	6,780.401
9	4.16	125 mm brick works with first class bricks with cement sand (F.M. 1.2) mortar (1:4) and making bond with connected walls including necessary scaffolding, raking out joints, cleaning and soaking the bricks for at least 24 hours before use and washing of sand, curing at least for 7 days in all floors including cost of water, electricity and other charges etc. all complete and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) In ground floor	32.940	Sqm	1,408.001	46,379.553
10	PWD-15.1.2	Minimum 12 mm thick cement sand (F.M. 1.2) plaster (1:4) with fresh cement to outer surface of wall, finishing the corner and edges including washing of sand, cleaning the surface, curing at	102.45	Sqm.	316.001	32,374.302





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(1)	(2)	(3)	(4)	(5)	(6)	(7=4x6)
11	PWD-16.1.2	Exterior premium acrylic emulsion paint of approved best quality and color with high performance against dirt picking tendency and efflorescence resistance properties along with water resisting properties and resistance properties against fungi, fading and flaking from authorized local agent of the manufacturer in a sealed container; applying to exterior surface with surface preparation including cleaning drying, making free from dirt, grease, wax, removing all chalked and scaled materials, fungus, mending good the surface defects using sand paper and necessary scaffolding; applying necessary exterior sealer of specified brand on prepared surface; then applying necessary exterior putty of specified brand for levelling, spot filling, crack filling and cutting by sand paper/zero water paper; finally applying 2 coats of exterior emulsion paint spreading by brush/roller/spray & necessary scaffolding etc. upto desired finishing, elapsing specified time for drying or recoating; all complete in all floors and accepted by the Engineer-in-charge.	102.45	Sqm.	298.001	30,530.202
12	PWD- 3.5	Mass concrete in floor (1:2:4) in foundation or in floor, with cement, sand (F.M. 1.2) and picked jhama brick chips including breaking of chips screening, mixing, laying, compacting to required level and curing for at least 7 days including the supply of water, electricity costs of tools & plants and other charges etc. all complete and accepted by Engineer-in-charge. (Cement: CEM/J/B-M)				
	PWD- 3.5.2	Mass concrete in floor (1:2:4) with brick chips and local sand of F.M.1.2.	1.340	cum	8,840.001	11,841.712
13	PWD-2.10.2	Sand filling in foundation trenches and plinth with sand having minimum F.M. 0.8 in 150 mm layers including leveling, watering and compaction to achieve minimum dry density of 95% with optimum moisture content (Modified proctor test) by ramming each layer up to finished level as per design supplied by the design office only, all complete and accepted by the Engineer-in-charge.	17.820	cum	1167.001	20,795.958
14	PWD-3.7	Supplying and laying of single layer polythene sheet weighing one kilogram per 6.5 square meter in floor or any where below cement concrete complete in all respect and accepted by Engineer-in-charge.	57.60	sqm	47.001	2,707.258

Sl No.	Basis of rate (PWD-2022)	Description of Items	Qty	Unit	Rate (Tk)	Amount (Tk)
(1)	(2)	(3)	(4)	(5)	(6)	(7=4x6)
15	PWD- 7.3.4	Reinforced cement concrete works with minimum cement content relates to mix ratio 1:1.5:3 having maximum water cement ratio = 0.40 and minimum $f_{cr} = 33.5$ MPa, satisfying a specified compressive strength $f_c = 25$ MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM, Cement conforming to BDS EN-197-1-CEM-I, 52.5N (52.5 MPa) / ASTM-C 150 Type – I, best quality Sylhet sand or coarse sand of equivalent F.M. 2.2 and 20 mm down well graded stone chips conforming to ASTM C-33 (Aggregate grading as per table shown in technical specification), conducting necessary tests, making and placing shutter in position and maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; mixing with standard mixer machine with hopper, fed by standard measuring boxes, casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, other charges etc. all complete, approved and accepted by the Engineer-in-charge.	5.600	cum	15323.001	85,808.806
	PWD- 7.12	Centering and shuttering, including strutting, propping etc. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 16 BWG, angles of minimum size 40 mm x 40 mm x 5 mm, flat bars etc.) and removal of form for:				
16	PWD-7.12.4	Pedestal, column, column capital, lift wall and wall up to ground floor.	63.872	Sqm.	522.001	33,341.457





Sl No.	Basis of rate (PWD-2022)	Description of Items	Qty	Unit	Rate (Tk)	Amount (Tk)
(1)	(2)	(3)	(4)	(5)	(6)	(7=4x6)
	PWD- 8.1	Supplying, fabrication and fixing to detail as per design : ribbed or deformed bar reinforcement (excluding laboratory test fees) for Reinforced concrete, produced and marked in accordance with BDS ISO 6935-2:2016 (or standard subsequently released from BSTI) including straightening and cleaning rust, if any, bending and binding in position with supply of G.I. wires,conducting necessary laboratory tests etc. (excluding splices or laps) complete in all respect and accepted by the Engineer-in-charge (Measurement shall be recorded only on standard mass per unit length of bars, while di				
17	PWD-8.1.2	Grade 400 (B400DWR / B420DWR: complying BDS ISO 6935-2:2016 / ASTM A615) ribbed or deformed bar produced and marked according to Bangladesh standard, with minimum yield strength, fy (ReH)= 400 MPa but fy not exceeding 480 MPa and whatever is the actual yield strength within allowable limit as per BNBC/ ACI 318, the ratio of ultimate tensile strength fu to yield strength fy, shall be at least 1.25 and minimum elongation after fracture and minimum total elongation at maximum force is 17% and 8% respectively : up to ground floor.	845.199	kg	121.001	102,269.924





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(1)	(2)	(3)	(4)	(5)	(6)	(7=4x6)
18	PWD-16.7.1	Epoxy enamel paint of approved quality and colour delivered from authorized local agent of the manufacturer in a sealed container; surface preparation including cleaning, drying, making free from dirt, grease, wax, removing all chalked and scaled materials, fungus (if required must be treated with fungicidal solution) flaking paints, washing the surface with soap water/caustic soda, mending good the surface defects, smoothening the surface by putty, sand papering the surface; applying to Interior concrete surfaces and walls in three coats by brush/roller/spray etc. upto desired finishing;elapsing specified time for drying and recoating; with necessary scaffolding all complete in all floors and accepted by the Engineer-in-charge.	56.52	sqm	461.001	26,055.777
19	21.9	Supplying, fitting and fixing 12 BWG barbed wire fencing in a circular shape of 600 mm dia and 100 mm pitch fitted with MS rod casing (made by 8 nos. 10 mm dia plain bar in a circular pattern and placed at equal interval), 38 mm x 38 mm x 6 mm M.S. angle post (300 mm embedded in RCC or in brick work with a cement concrete base of 75 mm x 75 mm x 300 mm) and 600 mm vertical and 450 mm inclined placed @ 3.0 m c/c including straightening, binding the joints with 18 BWG wire, making holes in the angle etc. including supply of all necessary materials complete in all respect and accepted by the Engineer-in-charge. (Rate is excluding the cost of Painting).	15.000	M	2,553.001	38,295.015
20	LS	Making Dhaka WASA Monogram on plaster surface of boundary wall	5.000	Nos	1,500.001	7,500.005
21	LS	safety measure item (gum boot = 4 pairs, visible vest = 4 nos , helmet = 4 nos, hand gloves = 4 pairs etc) . all complete and accepted by the Engineer-in-charge.	1.00	Item	3,300.001	3,300.001

467,352.424

In word : Four Lac Sixty Seven Thousand Three Hundred Fifty Two Point Four Two Four Taka Only.

Signature
12.06.2024

স্বাক্ষরিত
উপ-সহকারী প্রকৌশলী
সিঃ পাঃ শোঃ (রক্ষণাবেক্ষণ)
ঢাকা ওয়াসা।

Signature
22/06/24

মোঃ মাহউর রহমান ভূঞা
সহকারী প্রকৌশলী
সিঃ পাঃ শোঃ (রক্ষণাবেক্ষণ)

Signature
22/06/24
সৈয়দ মোস্তাকিম হোসেন
নির্বাহী প্রকৌশলী
সিঃ পাঃ শোঃ (রক্ষণাবেক্ষণ)
ওয়াসা।

Calculation

Name of the work : Repair works of boundary wall at SWTP Phase-3 (West Side).

Sl. No	Description of item	Qty.
	3	4
1		
1	Mobilization	
	1 x 15.00 m x 3.00 m =	45.00 sqm
		45.00 sqm
2	Layout and marking	
	6 nos x 1.22 m x 1.22 m =	8.93 sqm
	Footing	8.93 sqm
3	Dismantling RCC	
	6 nos x 1.22 m x 1.22 m x 0.38 m =	3.349 Cum
	footing	0.375 Cum
	6 nos x 0.25 nos x 0.25 m x 1.00 m =	0.938 Cum
	column	0.938 Cum
	1 nos x 15.00 m x 0.25 m x 0.25 m =	4.66 Cum
	grade beam	
4	Dismantling Brick wall	
	1 nos x 13.50 m x 0.13 m x 1.52 m =	2.565 Cum
	wall	2.57 Cum
5	Bailing out all source of water	
	6 day	6.000 day
6	Earth work	
	6 x 1.52 m x 1.52 m x 1.52 m =	21.070 Cum
	Footing	21.07 Cum
7	One layer brick flat soling	
	6 x 1.22 m x 1.22 m =	8.93 sqm
	Footing	8.93 sqm
8	50 mm down graded picked jhama khoa consolidation	
	6 x 1.22 m x 1.22 m x 0.15 m =	1.34 Cum
	Footing	1.34 Cum
9	125 mm brick works with first class bricks	
	1 x 13.50 m x 2.44 m =	32.94 Sqm
		32.94 Sqm
10	Minimum 12 mm thick cement sand (F.M. 1:2) plaster (1:4)	
	2 x 13.50 m x 2.44 m =	65.88 Sqm
	wall	17.82 Sqm
	6 x 0.75 m x 3.96 m =	9.38 Sqm
	Column	9.38 Sqm
	1 x 15.00 m x 0.63 m =	9.38 Sqm
	Lintel	102.45 Sqm
	1 x 15.00 m x 0.63 m =	102.45 Sqm
	G.beam	
11	Exterior premium acrylic emulsion paint	
	(Plastering item)	102.45 Sqm
12	Mass concrete in foundation (1:3:6) with cement, brick chips and sand of F.M. 1:2	
	6 x 1.22 m x 1.22 m x 0.15 m =	1.34 Cum
	Footing	1.34 Cum
13	Sand filling	
	Total earth cutting {From item no.1}	21.07 Cum
	Deduction vol. of structure	
	6 x 1.22 m x 1.22 m x 0.30 m =	2.680 Cum
	Base	0.57 Cum
	6 x 0.25 m x 0.25 m x 1.52 m =	3.25 Cum
	B/Column	(-)
		17.82 Cum
14	Supplying and laying of single layer polythene sheet	
	same as Form work	57.60 Sqm
		57.60 Sqm

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Sl. No	Description of item						Qty.
15	Reinforced cement concrete works						2.680 Cum
	Base	6	x	1.22 m	x	0.30 m	= 0.940 Cum
	Grade beam	1	x	15.00 m	x	0.25 m	= 1.490 Cum
	column	6	x	3.96 m	x	0.25 m	= 0.49 Cum
	Lintel	1	x	15.00 m	x	0.13 m	= 5.60 Cum
16	Form work						13.86 Sqm
	Base	6	x	1.52 m	x	1.52 m	= 15.00 Sqm
	Grade beam in OGL	1	x	15.00 m	x	1.00 m	= 23.76 Sqm
	Column	6	x	1.00 m	x	3.96 m	= 11.25 Sqm
	Lintel	1	x	15.00 m	x	0.75 m	= 63.87 Sqm
17	Grade 400 (RB 400 /RB 400W: complving BDS ISO 6935-2:2006) ribbed or deformed bar floor.						
	Column Base						
	B/Column						
	Base: 16mm dia @ 150mm c/c	6	x	18 Nrs	x	1.22 m	= 208.18 Kg
	Column main rod						
	16mm dia in	6	x	4 Nrs	x	3.96 m	= 150.16 Kg
	10mm dia Tie	6	x	27 Nrs	x	1.25 m	= 125.55 Kg
	Grade beam in OGL						
	16mm dia main bar	1	x	5 Nrs	x	15.00 m	= 118.50 Kg
	"Do" lapping	1	x	5 Nrs	x	0.50 m	= 3.95 Kg
	10mm dia stirrup	1	x	101 NRS	x	1.25 m	= 78.28 Kg
	Lintel						
	16mm dia main bar	1	x	4 Nrs	x	15.00 m	= 94.80 Kg
	"Do" lapping	1	x	4 Nrs	x	0.50 m	= 3.16 Kg
	10mm dia stirrup	1	x	101 Nrs	x	1.00 m	= 62.62 Kg
18	Eproxv enamel	2	x	15.00 m	x	1.88 m	= 56.52 Sqm
19	barbed wire	1	x	15.00 m			= 15.00 M
20	Making Dhaka WASA Monogram						5 nos
21	safety measure item						1.00 item

Said
12.06.2024

ফজিলা খাতুন
উপ-সহকারী প্রকৌশলী
সাঃ পাঃ শোঃ (রক্ষণাবেক্ষণ)
ঢাকা ওয়াসা।

Said
12.06.24

মোঃ মাহউর রহমান ভূঞা
সহকারী প্রকৌশলী
সাঃ পাঃ শোঃ (রক্ষণাবেক্ষণ)
ঢাকা ওয়াসা।

Said
12.06.2024

ইসমদ মোস্তাকিম হোসেন
নির্বাহী প্রকৌশলী
মাসুদাবাদ পানি পোদনাগার (রক্ষণাবেক্ষণ)
ঢাকা ওয়াসা।