

JABBA DAM, DISTRICT KHYBER			
BILL OF QUANTITIES			
GENERAL ABSTRACT OF COST (AS PER MRS 2022 2ND BI ANNUAL)			
S.No	Description	Total Amount (Rs)	Total Amount (Rs) in Million
WORKS ITEMS			
1	MAIN DAM & COFFER DAM	2,854,739,010	2854.74
2	SPILLWAY & ACCESS BRIDGE	2,048,916,388	2048.92
3	DIVERSION TUNNEL	793,830,620	793.83
4	INTAKE TOWER & ACCESS BRIDGE	77,976,443	77.98
5	DELIVERY PIPE (FROM DAM TO TUNNEL OUTLET)	172,632,148	172.63
6	ACCESS ROAD	184,390,480	184.39
7	IRRIGATION COLONY, CHOWKIDAR HUT & OTHER BUILDINGS	102,486,938	102.49
	TOTAL	6,234,972,027	6234.972

JABBA DAM, DISTRICT KHYBER						
BILL OF QUANTITIES(AS PER MRS 2022 BI ANNUAL)						
1	MAIN DAM & COFFER DAM					
Bill # 1	MAIN DAM & COFFER DAM					
Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
1-1	NS	Care, handling, controlling water, maintaining all work areas free of water regardless of source, including bailing out of surface, sub-surface and standing water by all means.	LS	-	32,500,000	32,500,000
1-2	06-05-i	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:4:8)	m ³	12,300.00	9,237.44	113,620,512
1-3	06-05-f	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:2:4)	m ³	2,700.00	12,745.86	34,413,822
1-4	03-73	Provide, place and compact impervious clay core in dam embankment of specified grading, permeability i/c leveling dressing and haugage obtaining 95% modified AASHTO dry density i/c 1.5 KM lead (For cavities filling)	m ³	75,243.00	531.68	40,005,198
1-4.1	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	75,243.00	35.17	2,646,296
1-4.1.1	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	75,243.00	35.17	2,646,296
1-4.1.2	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	75,243.00	35.17	2,646,296
1-4.1.3	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	75,243.00	35.17	2,646,296
1-4.1.4	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	75,243.00	35.17	2,646,296
1-4.1.5	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	75,243.00	35.17	2,646,296
1-4.1.6	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	75,243.00	35.17	2,646,296
1-4.1.7	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	75,243.00	35.17	2,646,296
1-4.1.8	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	75,243.00	35.17	2,646,296
1-4.1.9	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	75,243.00	35.17	2,646,296
1-4.1.10	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	75,243.00	35.17	2,646,296
1-4.1.11	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	75,243.00	35.17	2,646,296
1-4.1.12	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	75,243.00	35.17	2,646,296
1-4.2	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	m ³	75,243.00	24.62	1,852,483
1-4.2.1	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	m ³	75,243.00	24.62	1,852,483
1-4.2.2	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	m ³	75,243.00	24.62	1,852,483
1-4.2.3	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	m ³	75,243.00	24.62	1,852,483
1-4.2.4	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	m ³	75,243.00	24.62	1,852,483
1-4.2.5	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	m ³	75,243.00	24.62	1,852,483
1-4.2.6	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	m ³	75,243.00	24.62	1,852,483
1-5	25-42	Providing and fixing barbed wire (12 Guage) fencing consisting of 1.5"x1.5"x3/16" angle iron post 3.25 ft long, 5 to 6 ft centre to centre embedded in cement concrete 1:2:4 base of size 9"x9"x12", and 3 rows of barbed wire, painting posts, etc. complete in all respects.	m	6,000.00	1,014.00	6,084,000
1-6	03-66-a	Roadway Excavation in Surplus / Unsuitable Common Material	m ³	15,000.00	444.75	6,671,250
1-7	03-66-b	Roadway Excavation in Surplus / Unsuitable Rock (Hard) Material requiring blasting.	m ³	25,000.00	818.70	20,467,500

Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
1-8	03-66-c	Roadway Excavation in Surplus / Unsuitable Rock (Medium) Material requiring blasting	m ³	23,000.00	712.86	16,395,780
1-9	03-67-c	Structural backfill using Common Material available at site.	m ³	15,000.00	413.21	6,198,150
1-10	03-29-a	Compaction of earth with power road roller 95% to 100% max. mod. AASHTO dry density	m ³	15,000.00	297.89	4,468,350
1-11	03-28-a	Mixing & moistening of earthwork to OMC in layers for compaction etc complete	m ³	15,000.00	32.92	493,800
1-12	03-67-c	Structural backfill using Common Material available at site.(Retaining wall outer face)	m ³	7,500.00	413.21	3,099,075
1-13	06-05-i	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:4:8)	m ³	2,800.00	9,237.44	25,864,832
1-14	06-44-a	PCC 1:3:6 in mass concrete less formwork using 50% boulders	m ³	6,750.00	7,083.39	47,812,883
1-15	06-46-b	Erection and removal of Form work with Wood Surface Finshing for RCC or Plain cement Concrete in any shape - Position / Vertical	m ²	840.00	710.56	596,870
1-16	06-07-a-03	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:2:4)	m ³	1,200.00	14,653.95	17,584,740
1-17	06-08-c	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 40)	Tonne	40.00	291,590.41	11,663,616
1-18	16-29-a-iii	Reinforced Concrete Pipe Culvert (AASHTO M-170) Dia: 460mm	m	80.00	3,336.34	266,907
1-19	16-29-b-i	Reinforced Concrete Pipe Culvert (AASHTO M-170) Dia: 610mm	m	65.00	4,558.83	296,324
1-20	16-29-c-i	Reinforced Concrete Pipe Culvert (AASHTO M-170) Dia: 760mm	m	58.00	6,614.80	383,658
1-21	16-29-d-i	Reinforced Concrete Pipe Culvert (AASHTO M-170) Dia: 910mm	m	60.00	11,023.19	661,391
1-22	16-29-e-i	Reinforced Concrete Pipe Culvert (AASHTO M-170) Dia: 1070mm	m	40.00	11,324.01	452,960
1-23	16-31	Concrete Class B in Bedding and Encasement of Concrete Pipe Culvert	m ³	350.00	14,477.78	5,067,223
Core Trench						
1-24	03-78-d	Excavation for core trench of Dam Embankment/Spillway/Intake & Outlet Structure and Irrigation System upto design depth in Hard Rock requiring 75% blasting i/c removing of material from outside of the structure area lead upto 1.5 KM	m ³	36,151.87	1,176.71	42,540,262
1-24.1	03-62	Clearing and Grubbing by mechanical means	m ²	43,150.69	19.05	822,021
1-25	03-78-a	Excavation for core trench of Dam Embankment/Spillway/Intake & Outlet Structure and Irrigation System upto a minimum depth of 35 ft in shingle gravel including removing of excavated material by machinery in 1.5 KM radius	m ³	42,129.81	301.99	12,722,780
Zone-1: Clay Core						
1-26	03-73	Provide, place and compact impervious clay core in dam embankment of specified grading, permeability i/c leveling dressing and haulage obtaining 95% modified AASHTO dry density i/c 1.5 KM lead	m ³	425,804.93	531.68	226,391,967
1-26.1	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	385,804.93	35.17	13,568,760
1-26.1.1	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	385,804.93	35.17	13,568,760
1-26.1.2	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	385,804.93	35.17	13,568,760
1-26.1.3	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	385,804.93	35.17	13,568,760
1-26.1.4	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	385,804.93	35.17	13,568,760
1-26.1.5	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	385,804.93	35.17	13,568,760
1-26.1.6	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	385,804.93	35.17	13,568,760

Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
1-26.1.7	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	385,804.93	35.17	13,568,760
1-26.1.8	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	385,804.93	35.17	13,568,760
1-26.1.9	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	385,804.93	35.17	13,568,760
1-26.1.10	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	385,804.93	35.17	13,568,760
1-26.1.11	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	385,804.93	35.17	13,568,760
1-26.1.12	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	385,804.93	35.17	13,568,760
1-26.2	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	m ³	385,804.93	24.62	9,498,517
1-26.2.1	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	m ³	385,804.93	24.62	9,498,517
1-26.2.2	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	m ³	385,804.93	24.62	9,498,517
1-26.2.3	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	m ³	385,804.93	24.62	9,498,517
1-26.2.4	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	m ³	385,804.93	24.62	9,498,517
1-26.2.5	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	m ³	385,804.93	24.62	9,498,517
1-26.2.6	03-20-d	Transportation of earth all types for every 1 km extra lead or part thereof beyond 8 km.	m ³	385,804.93	24.62	9,498,517
Zone-2A: Fine Filter						
1-27	03-75	Provide , Place & compact Fine Filter in chimney drain vertical / horizantol on downstream of clay core (both upstream and downstream)	m ³	43,683.87	1,947.81	85,087,872
Zone-2B: Coarse Filter						
1-28	03-76	Provide , Place & compact Coarse Filter (well graded gravel) in chimney drain vertical / horizantol on downstream of fine filter i/c leveling, moistening etc (upstream, downstream and in horizontal layer)	m ³	104,193.05	1,301.60	135,617,675
(Zone-3A): Overburden / Excavated Fines						
1-29	03-74	Provide , Place & compact shoulder material (sandy / silty gravel) in Dam Embankment, of specified grading, leveling/ dressing i/c haulage for obtaining of 95% modified AASHTO dry density. Zone 3A(Coffer dam core zone).	m ³	34,528.10	452.39	15,620,166
1-29.1	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	34,528.10	35.17	1,214,353
1-29.2	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	34,528.10	35.17	1,214,353
1-29.3	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	34,528.10	35.17	1,214,353
1-29.4	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	34,528.10	35.17	1,214,353
1-29.5	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	34,528.10	35.17	1,214,353
1-29.6	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	34,528.10	35.17	1,214,353
1-29.7	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	34,528.10	35.17	1,214,353
1-30	03-28-a	Mixing & moistening of earthwork to OMC in layers for compaction etc complete	m ³	79,200.00	32.92	2,607,264
1-31	03-29-a	Compaction of earth with power road roller 95% to 100% max. mod. AASHTO dry density	m ³	79,200.00	297.89	23,592,888

Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
Zone-3B: Rockfill						
1-32	03-74	Provide , Place & compact shoulder material (sandy / silty gravel) in Dam Embankment, of specified grading, leveling/ dressing i/c haulage for obtaining of 95% modified AASHTO dry density.	m ³	138,322.60	452.39	62,575,762
1-32.1	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	138,322.60	35.17	4,864,806
1-32.2	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	138,322.60	35.17	4,864,806
1-32.3	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	138,322.60	35.17	4,864,806
1-32.4	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	138,322.60	35.17	4,864,806
1-32.5	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	138,322.60	35.17	4,864,806
1-32.6	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	138,322.60	35.17	4,864,806
1-32.7	03-20-c	Transportation of earth all types for every 500m extra lead beyond 1.5 km. upto 8 km.	m ³	138,322.60	35.17	4,864,806
1-33	03-28-a	Mixing & moistening of earthwork to OMC in layers for compaction etc complete	m ³	1,244,903.42	32.92	40,982,220
1-34	03-29-a	Compaction of earth with power road roller 95% to 100% max. mod. AASHTO dry density	m ³	1,244,903.42	297.89	370,844,279
1-35	03-20-a	Transportation of earth all types beyond 250 m and upto 500 m.	m ³	825,000.00	249.73	206,027,250
Geomembrane/Geotextile						
1-36	NS	Provide & place 2 mm thick Geomembrane beneath upstream shoulder of the dam and upstream face of the Cofferdam	m ²	50.00	920.00	46,000
1-37	NS	Provide & place 2 mm thick Geotextile beneath upstream shoulder of the dam and upstream face of the Cofferdam	m ²	70.00	977.50	68,425
Rip Rap material						
1-38	19-28-a	Providing and Laying stone pitching for top layer only : On slope (Rip Rap on u/s)	m ³	8,668.17	4,751.94	41,190,644
1-39	NS	Providing and Laying stone pitching for top layer only : On slope (Rip Rap on u/s)(Labour only)	m ³	17,336.35	2,980.94	51,678,684
1-40	19-29-a	Providing and Laying stone or spawl filling : On slope	m ³	4,335.76	2,434.23	10,554,232
1-41	NS	Providing and Laying stone pitching for top layer only : On slope (Rip Rap on d/s)(Labour only)	m ³	17,129.40	2,980.94	51,061,791
Toe Drain						
1-42	19-31-a	Grouting stone pitching or apron etc, in : Cement, sand mortar (1:3)	m ²	701.93	1,296.15	909,807
1-43	19-28-a	Providing and Laying stone pitching for top layer only : On slope	m ³	532.63	4,751.94	2,531,031
1-44	19-28-b	Providing and Laying stone pitching for top layer only : On level	m ³	2,617.19	4,048.47	10,595,599
Upstream Wave wall						
1-45	06-07-d-03	Reinforced cement concrete work as in dams, spillways, weirs, barrages, cross drainage works and other hydraulic structures using crushed stone aggregate(screening & washing) and coarse sand i/c costof all labour and material and all kinds of form works, moulds, shuttering lifting/pumping, curing, rendering and finishing the exposed surface, cast in situ/precast excluding the cost of steel reinforcement and labour for bending binding also excludig cost of additives which have to be paid separately. (1:2:4)	m ³	360.21	14,280.23	5,143,924
1-46	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	28.27	303,740.41	8,588,078

Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
1-47	24-16-c-08	Providing, laying, cutting, jointing, testing and disinfecting GI pipeline in trenches, with socket joint, using GI pipes of EN 10255 - 2004 (Approved Light quality) including specials etc.Complete as per specifications 3" Nominal Pipe Size (NPS)	m	334.66	3,213.29	1,075,366
1-48	14-144-c	Supplying and Fixing UPVC soil waste and vent pipe class B : 3" dia	m	300.00	1,669.48	500,844
1-49	NS	Supply & mixing additives in concrete as per direction of Engineer	Litres	561.93	130.00	73,051
Downstream Railing						
1-50	16-16	Providing and fixing GI pipe railing (3 feet high)	m /3row	241.74	7,326.23	1,771,043
1-51	06-07-d-03	Reinforced cement concrete work as in dams, spillways, weirs, barrages, cross drainage works and other hydraulic structures using crushed stone aggregate(screening & washing) and coarse sand i/c costof all labour and material and all kinds of form works, moulds, shuttering lifting/pumping, curing, rendering and finishing the exposed surface, cast in situ/precast excluding the cost of steel reinforcement and labour for bending binding also excludig cost of additives which have to be paid separately. (1:2:4)	m ³	44.88	14,280.23	640,897
1-52	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	3.59	303,740.41	1,091,504
1-53	14-144-c	Supplying and Fixing UPVC soil waste and vent pipe class B : 3" dia	m	300.00	1,669.48	500,844
1-54	NS	Supply & mixing additives in concrete as per direction of Engineer	Litres	70.01	130.00	9,102
Light Poles						
1-55	15-40-b-03	Providing street light poles of 40 ft height without arms including fixing complete.	Each	20.00	54,324.23	1,086,485
1-56	15-34	Supply and Fixing dust & weather proof street light fitting with reflector, 400W mercury vapour lamp etc comp.	Each	20.00	2,541.60	50,832
1-57	NS	Electrical accessories	PS	-		1,000,000
Dam Instrumentation						
1-58	NS	Providing and Installation of 3 No. Stand Pipe Casagrande Piezometers	No	3.00	81,000.00	243,000
1-59	NS	Providing and Installation of 15 No. Vibrating Wire Piezometers in all respects as Directed by Engineer In charge (instrumentation)	No	15.00	162,000.00	2,430,000
1-60	NS	Cables for Vibrating Wire Piezometers	m	3,000.00	810.00	2,430,000
1-61	NS	Data Readout Device for Piezometers	No	2.00	67,500.00	135,000
1-62	NS	Miscellaneous Items including Provisions for Automated Data Acquisition System (SCADA)	PS			1,890,000
1-63	NS	Inclinometer with spider magnets at intervals	No.	3.00	135,000	405,000
1-64	NS	Surface Markers for observation of Settlement (instrumentation)	No	9.00	20,250.00	182,250
Road on Dam crest						
1-65	16-14-b	Asphaltic Wearing Course (Asphalt Batch Plant Hot Mixed)	m ³	196.236	27,649.44	5,425,816
1-66	16-05-b	Water Bound Macadam Base Course	m ³	234.63	3,257.94	764,410
1-67	16-04-a	Granular Sub Base Course using Pit Run Gravel	m ³	317.58	1,704.76	541,398
Instrumentation House						
FOUNDATION						
1-68	03-25-b	Excavation in foundation of building, bridges etc complete : in ordinary soil	m ³	14.12	312.82	4,417
1-69	03-24	Dressing of earthwork (done by machinery or otherwise & left undressed) to designed Section	m ²	18.54	14.47	268
1-70	06-05-i	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:4:8)	m ³	2.16	9,237.44	19,937

Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
1-71	06-07-d-03	Reinforced cement concrete work as in dams, spillways, weirs, barrages, cross drainage works and other hydraulic structures using crushed stone aggregate(screening & washing) and coarse sand i/c costof all labour and material and all kinds of form works, moulds, shuttering lifting/pumping, curing, rendering and finishing the exposed surface, cast in situ/precast excluding the cost of steel reinforcement and labour for bending binding also excludig cost of additives which have to be paid separately. (1:2:4)	m ³	5.76	14,280.23	82,188
1-72	06-08-c	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 40)	Tonne	0.15	291,590.41	43,755
1-73	06-46-b	Erecting & removing formwork to concrete in any shape / position (Vertical)	m ²	5.62	710.56	3,996
1-74	07-04-a-05	1st class brick work in foundation and plinth in Cement, sand mortar 1:6	m ³	3.33	12,982.95	43,214
1-75	03-18-a	Filling, watering and ramming earth under floor with surplus earth from foundation, etc	m ³	5.59	105.24	588
1-76	NS	Supply & mixing Additives in concrete as per direction of Engineer Incharge	Litres	8.98	100.00	898
DAMP PROOF COURSE						
1-77	06-26-a-01	Damp proof course of cem. conc. 1:2:4 including bitumen coat, 1 layer polythene & 1 coat bitumen (1.5" thick)	sq m	6.90	1,065.33	7,352
RCC IN SUPER STRUCTURE						
1-78	06-07-a-03	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:2:4)	m ³	8.19	14,653.95	120,072
1-79	06-08-c	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 40)	Tonne	0.67	291,590.41	194,418
BRICK WORK IN SUPER STRUCTURE						
1-80	07-04-a-05	1st class brick work in foundation and plinth in Cement, sand mortar 1:6	m ³	22.04	12,982.95	286,162
FLOORING						
1-81	07-30	Supplying and filling sand under floor or plugging in wells	m ³	1.70	1,571.12	2,669
1-82	06-05-i	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:4:8)	m ³	2.27	9,237.44	20,923
1-83	06-05-f	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:2:4)	m ³	1.13	12,745.86	14,435
1-84	10-26-b-ii	Provide & lay marble fine dressed stone flooring on surface in white cement complete: 0.5" thick 12 x 12 Sunny White Marble	m ²	22.31	1,876.67	41,865
SURFACE RENDERING						
1-85	11-11-b	Cement plaster 1:5, upto 20' height 1/2" thick	sq m	51.49	397.72	20,480
DOOR / WINDOWS						
1-86	12-48-a	Fixing Door including chowkats	Each	5.00	423.80	2,119
1-87	12-65-d-03	Supply and Fixing aluminium door/window, Sliding Door Deluxe model (1.60 mm gauge) 3" section	m ²	11.90	11,829.40	140,742
ROOFING						
1-88	09-06	Single layer of tiles 12"x6"x2" laid over 4" earth and 1" mud plaster on top of RC roof slab	m ²	40.00	1,624.09	64,960
1-89	09-13	2 coats of bitumen laid hot using 34 lbs. for %sft over roof & blinded with sand at 1 cft per % sft	m ²	40.00	395.02	15,800
					Sub Total (1)	2,159,054,403
CUT OFF TRENCH						
1-90	NS	Excavation for cut off walls of 1.0 m width by mechanical equipment in riverbed (overburden and bed rock) of all kinds, including construction of guide wall from EGL to specified depth, trench stabilization by circulation of bentonite slurry, including pouring of Plastic Concrete or, Cement-Bentonite (CB) slurry, complete in all respect with all leads and lifts in accordance with the drawings and specification or as directed by the Engineer.	m ² (Length x Depth)	2,980.00	45,883.07	136,731,542

Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
GROUTING						
1-91	NS	Core drilling in soil and rock for primary, secondary and tertiary holes for grouting by NX size bits with double tube core barrel using rotary machine, dia 76mm	m	44,525.00	7,200.00	320,580,000
1-92	NS	Cement slurry for grouting	Bag	67,394.40	1,050.00	70,764,120
1-93	NS	Cement bentonite slurry for grouting	Bag	44,929.60	960.00	43,132,416
1-94	NS	Injection & Mixing of Cement slurry, cement bentonite slurry, Cement Sand slurry for Grouting using pumping	Bag	112,324.00	420.00	47,176,080
1-95	03-48	Supplying clean and screened river or pit sand within 150m including removal of loose earth or overburden. (cement sand grouting)	m ³	592.00	151.74	89,830
1-96	NS	Water Pressure Tests in each borehole at a depth interval of 3 to 5 m	Nos	1,312.00	7,200.00	9,446,400
GEOTECHNICAL INVESTIGATION						
1-97	28-27-a	Drilling approximately 75 mm dia. holes by calyx or any other rotary process (except diamond drilling) through over burden providing black steel or suitable casing pipe, using casing shoe bit, vertical or inclined upto 10 degrees to vertical as directed including cost of all materials, machinery, labour, water charges, reaming, collection of wash samples/disturbed samples at suitable intervals, logging and labelling, supplying wooden core box, fixing casing pipes etc. complete. from depth (0 to 50 m), excluding cost of mobilization & demobilization.	m	100.00	11,785.68	1,178,568
1-98	28-27-e	Drilling by diamond drilling, holes of minimum 75 mm dia. vertical or at specified inclination using diamond core drilling bit, double barrel tube in masonry, concrete or rock including cost of all materials, machinery, labour, water, collection of core samples, logging & labelling samples, supplying wooden core box and re-drilling in case of collapse of sides etc. complete. excluding cost of mobilization & demobilization. (For depth beyond 50 m and inclined at 0? to 10? vertically downward)	m	1,400.00	17,746.68	24,845,352
1-99	NS	Standard Penetration Tests (SPT) in borehole along with collection of samples at every 1.0-1.5 m depth interval, labeling, packing, storage and transportation to the laboratory. In gravelly soil, cone head (CPT) shall be used	No	100.00	2,000.00	200,000
1-100	NS	Water pressure tests in boreholes in rock at interval of 3-5m depth	No	50.00	7,200.00	360,000
1-101	NS	Permeability tests in overburden/ river bed materials by constant/ variable head method.	No	50.00	7,200.00	360,000
Sub Total (2)						654,864,308
Total Amount(1+2)						2,813,918,711
Add 2% Area factor on MRS rates i.e Rs.2041014952.8						40,820,299
Total after applying factor.						2,854,739,010
Note:-	Any other items cropped up during execution will be paid on MRS 2022 including contractor premium					

JABBA DAM, DISTRICT KHYBER						
BILL OF QUANTITIES(AS PER MRS 2022 BI ANNUAL)						
2	SPILLWAY & ACCESS BRIDGE					
Bill #2 A	SPILLWAY					
Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
2-1	03-78-b	Excavation for core trench of Dam Embankment/Spillway/Intake & Outlet Structure and Irrigation System upto design depth in Soft Rock/Shale requiring 20% blasting i/c removing of material from outside of the structure area lead upto 1.5 KM	m ³	230,844.21	553.11	127,682,243
2-2	03-78-c	Excavation for core trench of Dam Embankment/Spillway/Intake & Outlet Structure and Irrigation System upto design depth in Medium Hard Rock requiring 50% blasting i/c removing of material from outside of the structure area lead upto 1.5 KM	m ³	1,022,769.50	818.50	837,136,836
2-3	03-78-a	Excavation for core trench of Dam Embankment/Spillway/Intake & Outlet Structure and Irrigation System upto a minimum depth of 35 ft in shingle gravel including removing of excavated material by machinery in 1.5 KM radius	m ³	112,958.40	301.99	34,112,307
2-4	06-05-c	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:1.5:3)	m ³	235.62	14,819.01	3,491,655
2-5	06-45-a	PCC 1:4:8 in mass concrete less formwork using 50% boulders	m ³	2,120.00	6,111.85	12,957,122
2-6	06-46-a	Erection and removal of Form work with Wood Surface Finshing for RCC or Plain cement Concrete in any shape - Position / Horizontal	m ²	2,000.00	684.42	1,368,840
2-7	06-22	Providing and fixing 6" wide GI sheet 18 SWG. stopper to expansion joint.	m	1,064.89	308.57	328,592
2-8	NS	Joint sealant (Ultra Bitumastic Sealant)	m	362.44	430.00	155,851
2-9	24-09-b-02	Providing and installing PVC Strainer BSS Class "C" of approved make \ quality in tubewell bore hole, including socket, special sockets, studs etc. complete as per specification:-8" Nominal Pipe Size (NPS) (250 mm)	m	831.64	3,354.52	2,789,760
2-10	03-76	Provide, Place & compact Coarse Filter (well graded gravel) in chimney drain vertical / horizantol on downstream of fine filter i/c leveling, moistening etc	m ³	61.66	1,301.60	80,252
2-11	24-12-b-01	Providing and installing PVC blind pipe BSS Class "C" in Tube Well Bore Hole including Sockets and Solvents and jointing with strainer etc. complete : 6" Nominal Pipe Size (NPS) (150 mm)	m	216.00	2,857.92	617,311
2-12	03-67-c	Structural backfill using Common Material available at site.	m ³	3,849.13	413.21	1,590,497
2-13	03-34-a	Filling and Compacting Soil, Earth and Boulders behind retaining walls (Available material)	m ³	8,695.85	316.56	2,752,760
2-14	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	1,400.00	303,740.41	425,236,574

Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
2-15	06-07-d-01	Reinforced cement concrete work as in dams, spillways, weirs, barrages, cross drainage works and other hydraulic structures using crushed stone aggregate(screening & washing) and coarse sand i/c costof all labour and material and all kinds of form works, moulds, shuttering lifting/pumping, curing, rendering and finishing the exposed surface, cast in situ/precast excluding the cost of steel reinforcement and labour for bending binding also excludig cost of additives which have to be paid separately. (1:1:2) (Spillway Bed)	m ³	11,185.03	19,981.40	223,492,500
2-16	06-07-d-02	Reinforced cement concrete work as in dams, spillways, weirs, barrages, cross drainage works and other hydraulic structures using crushed stone aggregate(screening & washing) and coarse sand i/c costof all labour and material and all kinds of form works, moulds, shuttering lifting/pumping, curing, rendering and finishing the exposed surface, cast in situ/precast excluding the cost of steel reinforcement and labour for bending binding also excludig cost of additives which have to be paid separately. (1:1.5:3) (spillway side wall)	m ³	3,451.23	16,353.38	56,439,328
2-17	NS	Fully cement grouted Grade-60 rock bolt 150 KN - 200 KN including cleaning, scaling, drilling, grouting, all accessories and testing etc. dia 25mm, 6m long (Surface)	No.	6,000.00	5,626.25	33,757,500
2-18	NS	Supply and install welded steel mesh of 4.5 mm diameter and 200 mm x 200 mm opening size (1.54 kg /sqm, as per specs., for shotcrete reinforcement)	Tonne	51.80	312,500.00	16,187,500
2-19	06-06	Shotcrete (100 mm) thickness, grade B-25 as per specifications. (as per direcion of the Engineer)	m ³	3,500.00	16,499.18	57,747,130
2-20	24-86	Installation of Anchor Bars in spill way & Dam Embankment by using No. 11 bar (11' length) including 3" dia bore-hole along with cement slurry bentonite.	m	7,038.00	4,156.80	29,255,558
2-21	NS	Drilling of drain holes of 50 mm dia and 5 m long as directed by Engineer	No.	5,000.00	5,175.00	25,875,000
2-22	08-17	Provide and laying Dry Stone Pitching complete in all respect	m ²	537.00	911.45	489,449
2-23	19-31-a	Grouting stone pitching or apron etc, in Cement, sand mortar (1:3)	m ²	3,637.61	1,296.15	4,714,888
2-24	24-40	Supplying and Fixing PVC Water Stopper 8" wide 3/8" thick. Providing and fixing PVC water stopper 8" wide 3/8" thick in verticle (Wall/Column) or horizontal (Floor/Slab) expansion joint including cutting and jointing complete in all respects.	m	200.00	564.31	112,862
2-25	NS	Supply & mixing additives in concrete as per direction of Engineer	Litres	9,345.00	130.00	1,214,850
2-26	06-44-a	PCC 1:3:6 in mass concrete less formwork using 50% boulders	m ³	12,420.30	7,083.39	87,977,858
2-27	06-05-f	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:2:4)	m ³	119.63	12,745.86	1,524,768
2-28	06-05-i	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:4:8)	m ³	21.10	9,237.44	194,871
2-29	06-46-a	Erection and removal of Form work with Wood Surface Finshing for RCC or Plain cement Concrete in any shape - Position / Horizontal	m ²	2,000.00	684.42	1,368,840
2-30	NS	Erecting & removing formwork to concrete in any shape / position (Horizontal) (Labour only)	m ²	4,120.00	218.76	901,291
					Sub Total	1,991,554,793
					Add 2% Area factor on MRS rates i.e Rs.1913462801.37	38,269,256
					Sub total (1)	2,029,824,050

Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
Bill #2 B Access Bridge						
2-31	06-07-d-01	Reinforced cement concrete work as in dams, spillways, weirs, barrages, cross drainage works and other hydraulic structures using crushed stone aggregate(screening & washing) and coarse sand i/c costof all labour and material and all kinds of form works, moulds, shuttering lifting/pumping, curing, rendering and finishing the exposed surface, cast in situ/precast excluding the cost of steel reinforcement and labour for bending binding also excludig cost of additives which have to be paid separately. (1:1:2)	m ³	187.63	19,981.40	3,749,040
2-32	06-07-a-03	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:2:4)	m ³	36.54	14,653.95	535,403
2-33	06-48-g	Class D2 concrete for concrete in pre-stressed & post tensioned with minimum cylinder compressive strength 6045 psi on 28 days and consistency range in slump 50-100 mm with water cement ratio 0.40	m ³	115.11	21,189.29	2,439,148
2-34	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	26.40	303,740.41	8,017,283
2-35	16-38-a	Supply and Fixing Neoprene Bearing Pad as per specs & design	cm ³	153,000.00	4.09	625,770
2-36	16-85-a	Supply of High Tensile Pre-stressed concrete steel wire strand Grade 270K 0.5" dia. Packed in standard reeless/weldless coils of two 2000 kgs approximately binded and wrapped in Hessian Cloth.	Tonne	0.62	460,467.41	286,411
2-37	16-83-f	Jack Anchorage For 5 to 7 Wires 0.5" Strand (Comprising Trumpet, Stressing Block & Wedges Complete)	Each	60.00	5,519.31	331,159
2-38	16-86-f	Galvanized Sheath for 5 to 7 Wires 0.5" Strand Cable	m	802.26	516.34	414,239
2-39	16-84-j	Stressing and Grouting for Cable below 13/0.5" (Single End Stressing).	Each	30.00	2,707.24	81,217
2-40	16-40	Supply and Fixing stressing anchorages for high tensile steel wire cables in precast girders	Set	60.00	967.16	58,030
2-41	16-41	Launching girders in place, including lifting & handling if any	m	164.10	3,053.46	501,073
2-42	16-53	Cut off projecting wire ends of cables & make good anchorage recess with 1:2:4 cem. conc.	Each	60.00	938.02	56,281
2-43	16-54	Supply and place in position MS expansion joint assemblies as specified & as per drawing	kg	1,229.31	269.16	330,881
2-44	16-55	Supply and place in position galvanised steel 3" dia drain scuppers in deck slab as per specs/drwg	Each	37.00	560.72	20,747
2-45	16-14-b	Asphaltic Wearing Course (Asphalt Batch Plant Hot Mixed)	m ³	31.80	27,649.44	879,252
2-46	16-57	Supply and Fixing polystrene fill in expansion joints & under diaphragms at transoms.	m ³	1.04	3,950.72	4,125
2-47	16-65	Providing and Laying PVC pipe (b) 8" dia in foot path of bridge for utilities.	m	109.40	2,380.90	260,470
2-48	NS	Supply & mixing Additives in concrete as per direction of Engineer Incharge	Litres	1,000.00	130.00	130,000
Sub Total						18,720,528
Add 2% Area factor on MRS rates i.e Rs.18590528.36						371,811
Sub Total (2)						19,092,339
Total Amount (1+2)						2,048,916,388
Note:-	Any other items cropped up during execution will be paid on MRS 2022 including contractor premium					

JABBA DAM, DISTRICT KHYBER						
BILL OF QUANTITIES(AS PER MRS 2022 BI ANNUAL)						
3	DIVERSION TUNNEL					
Bill # 3	DIVERSION TUNNEL					
Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
3-1	NS	Care and Handling of water during construction	LS	-	660,000	660,000
3-2	03-78-b	Excavation for core trench of Dam Embankment/Spillway/Intake & Outlet Structure and Irrigation System upto design depth in Soft Rock/Shale requiring 20% blasting i/c removing of material from outside of the structure area lead upto 1.5 KM	m ³	7,322.95	553.11	4,050,398
3-3	03-78-c	Excavation for core trench of Dam Embankment/Spillway/Intake & Outlet Structure and Irrigation System upto design depth in Medium Hard Rock requiring 50% blasting i/c removing of material from outside of the structure area lead upto 1.5 KM	m ³	17,086.89	818.50	13,985,618
3-4	03-78-a	Excavation for core trench of Dam Embankment/Spillway/Intake & Outlet Structure and Irrigation System upto a minimum depth of 35 ft in shingle gravel including removing of excavated material by machinery in 1.5 KM radius	m ³	2,600.00	301.99	785,174
3-5	NS	Underground excavation in Rock Type A & B including scalping & disposal of muck, any lead/lift to designated area outside the tunnel including proper ventilation after each blast inside the tunnel as directed by the Engineer	m ³	1,452.21	5,836.71	8,476,129
3-6	NS	Underground excavation in Rock Type C including scalping disposal of muck, any lead/lift to designated area out side tunnel including proper ventilation after each blast inside tunnel as directed by the Engineer	m ³	3,388.49	6,419.88	21,753,682
3-7	NS	Underground excavation in Rock Type D including scalping disposal of muck, any lead/lift to designated area out side tunnel including proper ventilation after each blast inside tunnel as directed by the Engineer	m ³	16,700.00	6,578.00	109,852,600
3-8	NS	Underground excavation in Rock Type E including scalping disposal of muck, any lead/lift to designated area out side tunnel including proper ventilation after each blast inside tunnel as directed by the Engineer	m ³	19,300.00	7,061.23	136,281,739
3-9	16-52-b	Rock SN-Bolts (Grouted Bolts) 25mm dia - 3 m in length including fixing and strengthening etc.	No.	530.00	2,795.07	1,481,387
3-10	16-52-c	Rock SN-Bolts (Grouted Bolts) 25mm dia - 4 m in length including fixing and strengthening etc.	No.	4,270.00	3,655.66	15,609,668
3-11	16-52-d	Rock SN-Bolts (Grouted Bolts) 25mm dia -5 m in length including fixing and strengthening etc.	No.	5,308.00	4,516.27	23,972,361
3-12	NS	Supply and install 25 mm rock bolts (6 m length) complete with pieces of pipe, plate, washers all accessories and grouting, all directions, including of holes, untensioned. Rock bolt with Resin cartridge Grade-60.	No.	3,028.00	5,626.53	17,037,118
3-13	NS	Supply and fix Lattice Girder for rock support, incl. blocking, lagging on all sides, and M.S. bracings, as per specs.	Tonne	180.00	300,000.00	54,000,000
3-14	NS	Supply and install welded steel mesh of 4.5 mm diameter and 200 mm x 200 mm opening size (1.54 kg /sqm, as per specs., for shotcrete reinforcement)	Tonne	32.00	312,500.00	10,000,000
3-15	06-06	Shotcrete (100 mm) thickness, grade B-25 as per specifications	m ³	4,690.00	16,499.18	77,381,154
3-16	NS	Drilling of drain holes of 50 mm dia and 5 m long in roof of tunnel and portal slopes	No.	603.20	5,175.00	3,121,560
3-17	NS	Tunnel outlet portal steel Gate installation	LS	1.00	520,000.00	520,000
3-18	06-45-a	PCC 1:4:8 in mass concrete less formwork using 50% boulders	m ³	130.00	6,111.85	794,541

Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
3-19	06-05-c	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:1.5:3) (Tunnel Lining/plugging)	m ³	5,280.04	14,819.01	78,244,936
3-20	06-46-b	Erection and removal of Form work with Wood Surface Finishing for RCC or Plain cement Concrete in any shape - Position / Vertical	m ²	3,410.60	710.56	2,423,436
3-21	NS	Erection and removal of Form work with Wood Surface Finishing for RCC or Plain cement Concrete in any shape - Position / Vertical (Labour only)	m ²	6,821.20	446.09	3,042,855
3-22	06-07-d-03	Reinforced cement concrete work as in dams, spillways, weirs, barrages, cross drainage works and other hydraulic structures using crushed stone aggregate(screening & washing) and coarse sand i/c cost of all labour and material and all kinds of form works, moulds, shuttering lifting/pumping, curing, rendering and finishing the exposed surface, cast in situ/precast excluding the cost of steel reinforcement and labour for bending binding also excluding cost of additives which have to be paid separately. (1:2:4)	m ³	200.00	14,280.23	2,856,046
3-23	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	19.63	303,740.41	5,960,906
3-24	NS	Supply & mixing Additives in concrete as per direction of Engineer Incharge	Litres	2,300.00	130.00	299,000
3-25	NS	Drilling of Consolidation/Contact Grout holes (length 10 m) using rotary machine having 76 mm diameter as per site condition.	m	19,000.00	6,250.00	118,750,000
3-26	NS	Cement grouting if required as per site condition.	Bag	53,020.00	1,050.00	55,671,000
3-27	NS	Injection & Mixing of Cement & water for Grouting using pumping if required as per site condition.	Bag	53,020.00	420.00	22,268,400
Sub Total						789,279,707
Add 2% Area factor on MRS rates i.e Rs.227545624.37						4,550,912
Total Amount						793,830,620
Note:-	Any other items cropped up during execution will be paid on MRS 2022 including contractor premium					

JABBA DAM, DISTRICT KHYBER						
BILL OF QUANTITIES(AS PER MRS 2022 BI ANNUAL)						
4	INTAKE TOWER					
Bill # 4A	INTAKE TOWER					
Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
4-1	03-78-c	Excavation for core trench of Dam Embankment/Spillway/Intake & Outlet Structure and Irrigation System upto design depth in Medium Hard Rock requiring 50% blasting i/c removing of material from outside of the structure area lead upto 1.5 KM	m ³	2,884.00	818.50	2,360,554
4-2	03-78-b	Excavation for core trench of Dam Embankment/Spillway/Intake & Outlet Structure and Irrigation System upto design depth in Soft Rock/Shale requiring 20% blasting i/c removing of material from outside of the structure area lead upto 1.5 KM	m ³	4,326.00	553.11	2,392,754
4-3	06-05-h	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:3:6)	m ³	11.35	10,465.39	118,782
4-4	06-07-d-02	Reinforced cement concrete work as in dams, spillways, weirs, barrages, cross drainage works and other hydraulic structures using crushed stone aggregate(screening & washing) and coarse sand i/c costof all labour and material and all kinds of form works, moulds, shuttering lifting/pumping, curing, rendering and finishing the exposed surface, cast in situ/precast excluding the cost of steel reinforcement and labour for bending binding also excludig cost of additives which have to be paid separately. (1:1.5:3)	m ³	665.75	16,353.38	10,887,263
4-5	NS	Supply & mixing Additives in concrete as per direction of Engineer Incharge	Litres	1,038.57	100.00	103,857
4-6	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	78.39	303,740.41	23,810,837
4-7	NS	Anchors providing in the foundation of Intake tower including drilling and grouting	No	49.00	6,500.00	318,500
4-8	16-16	Providing and fixing GI pipe railing (3 feet high)	m /3row	21.00	7,326.23	153,851
4-9	06-06	Shotcrete (100 mm) thickness, grade B-25 as per specifications	m ³	75.00	16,499.18	1,237,439
4-10	06-08-a	Supply & fabricate M.S. reinforcement for cement concrete (Plain bars)	Tonne	0.50	218,690.41	109,345
Mechanical Works - Gate Equipment's						
4-11	NS	Design, manufacture, sand blasting, painting, transportation to site, installation, testing and commissioning of vertical lift slide gate of size (1300mm x 1300mm), complete with bronze seals and all accessories.	No.	1.00	282,107.19	282,107
4-12	NS	Embedded Metal Parts along with all Fixture (1st stage and 2nd Stage, sill beams, gate guides and breast wall angles etc) according to Drawings/specifications.	Set	1.00	1,353,300.00	1,353,300
4-13	NS	Design (including shop drawings), manufacture, painting, transportation to site, installation, testing and commissioning of manually operated (with provision of electrical operation) stem rod type hoisting system, complete in all respect. Manual lifting speed shall not be less than three inch per minute.	Set	1.00	747,500.00	747,500

Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
4-14	NS	Design & drawing, material fabrication, sand blasting, painting, transportation to site, corrosion protection (hot dip galvanizing of steel grating), welding, installation of Galvanized Steel 6mm thick and 32mm deep strip with side angles 8mm thick, Grill Platform / Hoist, Girders, embedded plates, Anchors Deck of size 6.5m x 6.5m including hand railing as per drawings/specifications. Complete in all respect.	Set	1.00	1,144,000.00	1,144,000
4-15	NS	Steel bucket of size 0.6m x 1m designed to carry load up to 200kg along with steel wire slings of adequate capacity adequate.	No.	1.00	84,500.00	84,500
4-16	NS	Design (including shop drawings), manufacturing corrosion protection (hot dip galvanizing), transportation to site, installation, testing and commissioning of carbon steel trashracks for clear opening span of 2 m and height of 39 m along with 1st stage and 2nd stage embedded metal parts complete in all respects and as per drawings/ specifications.	Set	1.00	5,686,889.00	5,686,889
4-17	06-07-a-01	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1:2)	m ³	8.33	20,355.11	169,574
4-18	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	0.78	303,740.41	238,364
4-19	NS	Providing, fixing, corrosion protection, transportation of angle iron 2"x2"x1/4" for stoplogs	Tonne	2.58	266,970.60	687,749
4-20	NS	Lifting beam for handling of stoplogs panels along with steel wire slings of adequate capacity.	Set	1.00	689,000.00	689,000
4-21	NS	Stoplog handling trolley of steel of adequate capacity designed to manually carry one stoplog panel at a time from intake tower to storage area on dam crest.	No.	1.00	448,500.00	448,500
4-22	NS	Design (including shop drawings), manufacture, sand blasting, painting, transportation to site, installation of 1st stage and 2nd stage embedded metal parts for future stoplogs having clear span of 2.0m and height of 41 m.	Set	1.00	1,353,300.00	1,353,300
4-23	NS	Provide and install a carbon steel air vent pipe of diameter 150 mm and 41m long to be installed in 1m dia. delivery pipe at downstream wall of the intake tower after intake slide gate. The Pipe shall be painted and have 180 degree bend at top with wire mesh at outer end.	No.	1.00	546,000.00	546,000
4-24	NS	Electrically operated, under running single girder gantry crane of 5 tonne capacity provided to be fixed on a concrete gantry structure at intake tower deck as per drawing and specifications. The scope of supply shall include all electrical auxiliary equipment and shall be complete in all respects. Lifting height is about 48m.	No.	1.00	1,430,000.00	1,430,000
Sub Total						56,353,965
Add 2% Area factor on MRS rates i.e Rs.41478762.2782418						829,575
Sub total (1)						57,183,540
Bill # 4B ACCESS BRIDGE						
4-25	NS	Provide and install steel work for access bridge (approx; 27m in length) including Parallel Flanged C-Sections, H-Beams, Angles, Base Plates, welding, nuts and bolts and installation and lifting / launching, painting (complete job in all respects as per drawings and specifications and as directed by the Engineer Incharge).	kg	67,500.00	308.04	20,792,903
Sub Total						20,792,903
Add 2% Area factor on MRS rates i.e Rs.						-
Sub total (2)						20,792,903
Total Amount (1+2) after applying area factor.						77,976,443
Note:-	Any other items cropped up during execution will be paid on MRS 2022 including contractor premium					

JABBA DAM, DISTRICT KHYBER						
BILL OF QUANTITIES(AS PER MRS 2022 BI ANNUAL)						
5	DELIVERY PIPE(DAM TO TUNNEL OUTLET)					
Bill #5	DELIVERY PIPE(DAM TO TUNNEL OUTLET)					
Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
5-1	NS	Underground excavation in Rock Type C ,including scalping disposal of muck, any lead/lift to designated area out side tunnel including proper ventilation after each blast inside tunnel as directed by the Engineer	m ³	313.00	6,419.88	2,009,421
5-2	06-05-i	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:4:8)	m ³	77.65	9,237.44	717,287
5-3	NS	Manufacturing, supplying, laying in position, aligning, jointing, testing and commissioning of electric resistance welded / submerged arc welded mild steel (A-36) delivery pipes of 1000mm diameter and specified plate thickness with flanged ends wherever required and provided with 1 coat of 70 micron thick zinc rich epoxy primer paint and 3 coats of coal-tar epoxy paint, with each coat of 150 micron thickness for outer surface and 1 coat of 70 micron thick zinc rich epoxy primer paint for inner surface including cost of all materials, machinery, labour, cutting, bending, welding, finishing, painting, conveying to spot, lowering, aligning, jointing, arranging water for hydraulic testing at fabrication site and after laying and jointing at specified test pressure, Radiographic testing of welded joints , complete as per specifications and approved drawings with any lead and lifts.	Tonne	311.22	485,456.16	151,084,101
5-4	NS	Time of Flight Diffraction (TOFD) Test of total welded joints as per relevant ASTM E2373/E2373M-19 standards and specifications.	m	1,134.31	766.67	869,640
5-5	NS	Provide, Installing, Commissioning and testing of Mechanical accessories of air vent including access pipe, air and vacuum valve, open-close valve etc as specified and indicated on drawings & directions of Engr. Incharge	Nos	3.00	202,500.00	607,500
5-6	NS	Providing and fixing cast iron special of BSS class " 'B', 'C', 'D' " (such as bend, tee, cross collar, reducer, tail piece, flanged spigot, cap, flanged socket, taper, angle branch, plug, etc.) for stainless steel pipe line, complete.(b) stainless steel Flanged special with flanged joints. 3" to 6" i/d.	kg	167.17	485.10	81,096
5-7	NS	Valves and necessary accessories	LS	-	14,009,446.44	14,009,446
5-8	NS	Providing, installation, testing and commissioning of Stainless steel Penstock Valve (for 900 mm dia opening) along with SS operating rod and Stainless steel operating spindle fixed in concrete slabs as per drawings and specifications	Nos	2.00	1,526,262.75	3,052,526
5-9	Mild Steel Pipes Providing, laying, fixing, testing and commissioning of M.S pipe (API 5L Grade B) including specials, disinfection and two coats of yellow enamel paint over two coats of red lead oxide primer as per drawings and specifications. The rate will include cutting, making and fabricating of Mild Steel specials like tees, bends, curves, reducers, increasers, coating with heat shrink sleeve system and cement mortar lining of pipe joints and specials, 100% X-Ray testing of pipe joints, performing of Holiday Detection Testing of coating and lining of pipes and specials.					
5-10	NS	450 mm dia pipe.	m	5.00	8,164.80	40,824
5-11	NS	600 mm dia pipe.	m	10.00	14,596.20	145,962
Total						172,617,803
Add 2% Area factor on MRS rates i.e Rs.717287.22						14,346
Total Amount						172,632,148.38
Note:-	Any other items cropped up during execution will be paid on MRS 2022 including contractor premium					

JABBA DAM, DISTRICT KHYBER						
BILL OF QUANTITIES(AS PER MRS 2022 BI ANNUAL)						
6	ACCESS ROAD					
Bill# 6	ACCESS ROAD					
Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
6-1	03-66-a	Roadway Excavation in Surplus / Unsuitable Common Material	m ³	15417.85	444.75	6,857,090
6-2	03-66-b	Roadway Excavation in Surplus / Unsuitable Rock (Hard) Material requiring blasting.	m ³	9602.47	818.70	7,861,538
6-3	03-66-c	Roadway Excavation in Surplus / Unsuitable Rock (Medium) Material requiring blasting	m ³	13443.45	712.86	9,583,299
6-4	03-67-c	Structural backfill using Common Material available at site. (Retaining wall)	m ³	1000.00	413.21	413,210
6-5	03-71-a	Subgrade Preparation In Earth Cut ; Mod. AASHTO 95%	m ²	17043.70	52.31	891,556
6-6	03-71-b	Subgrade Preparation in Rock Cut ; Mod. AASHTO 95%	m ²	15485.10	126.39	1,957,162
6-7	16-04-a	Granular Sub Base Course using Pit Run Gravel	m ³	8063.33	1704.76	13,746,048
6-8	16-05-b	Water Bound Macadam Base Course	m ³	3510.58	3257.94	11,437,261
6-9	16-09-a	Bitumenous Prime Coat	m ²	22539.20	241.84	5,450,879
6-10	16-14-a	Asphaltic Base Course (Asphalt Batch Plant Hot Mixed) i/c Transportation and Finishing complete	m ³	1766.24	23844.64	42,115,424
6-11	16-09-b	Bitumenous Tack Coat	m ²	21616.88	83.44	1,803,712
6-12	16-14-b	Asphaltic Wearing Course (Asphalt Batch Plant Hot Mixed) i/c Transportation and Finishing complete	m ³	1066.43	27649.44	29,486,261
6-13	16-10-b	Double bitumenous Surface Treatment	m ²	10040.00	624.91	6,274,096
6-14	06-05-f	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:2:4)	m ³	444.79	12745.86	5,669,193
6-15	06-05-i	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:4:8)	m ³	8.91	9237.44	82,303
6-16	06-44-a	PCC 1:3:6 in mass concrete less formwork using 50% boulders	m ³	3441.67	7083.39	24,378,670
6-17	06-46-b	Erection and removal of Form work with Wood Surface Finshing for RCC or Plain cement Concrete in any shape - Position / Vertical	m ²	200.00	710.56	142,112
6-18	06-07-a-03	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:2:4)	m ³	114.89	14653.95	1,683,607
6-19	06-08-c	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 40)	Tonne	9.02	291590.41	2,629,837
6-20	06-23	Fill expansion joints with bitumen, sand & saw dust in Ratio 1:2:2	m	1,503.36	122.97	184,868
6-21	16-29-a-iii	Reinforced Concrete Pipe Culvert (AASHTO M-170) Dia: 460mm	m	250.00	3336.34	834,085
6-22	16-29-b-i	Reinforced Concrete Pipe Culvert (AASHTO M-170) Dia: 610mm	m	70.00	4,558.83	319,118
6-23	16-29-c-i	Reinforced Concrete Pipe Culvert (AASHTO M-170) Dia: 760mm	m	59.00	6,614.80	390,273
6-24	16-29-d-i	Reinforced Concrete Pipe Culvert (AASHTO M-170) Dia: 910mm	m	63.00	11,023.19	694,461
6-25	16-29-e-i	Reinforced Concrete Pipe Culvert (AASHTO M-170) Dia: 1070mm	m	35.00	11,324.01	396,340
6-26	16-31	Concrete Class B in Bedding and Encasement of Concrete Pipe Culvert	m ³	362.00	14,477.78	5,240,956
6-27	16-30	Granular Material in Bed to RCC Pipe Culvert	m ³	127.53	1973.03	251,620
Total Amount						180,774,981
Add 2% Area factor on MRS rates i.e Rs.180774980.73						3,615,500
Total Amount						184,390,480
Note:-	Any other items cropped up during execution will be paid on MRS 2022 including contractor premium					

JABBA DAM, DISTRICT KHYBER			
BILL OF QUANTITIES(AS PER MRS 2022 BI ANNUAL)			
7	IRRIGATION COLONY AND OTHER BUILDINGS		
S No	Description	Covered Area(Sq.ft)	Amount (Rs)
7-1	CONSTRUCTION OF MASJID	2,393	10,691,429
7-2	CONSTRUCTION OF OFFICE BUILDING	3,314	14,806,267
7-3	CONSTRUCTION OF OFFICER'S RESIDENCE (SDO RESIDENCE)	2,873	12,837,087
7-4	CONSTRUCTION OF STAFF RESIDENCES (5 No's)	7,577	33,850,458
7-5	CONSTRUCTION COST OF WATCH TOWERS (6 No's)	-	3,266,184
7-6	CONSTRUCTION OF CHOWKIDAR HUT	-	6,861,379
7-7	CONSTRUCTION OF TUBEWELL AND SECURITY FENCE (RAZOR TYPE) AT PERIMETER WALL	-	20,174,134
		Total Cost	102,486,938

JABBA DAM, DISTRICT KHYBER						
BILL OF QUANTITIES(AS PER MRS 2022 BI ANNUAL)						
7-5	CONSTRUCTION OF BOUNDARY WALL, MAIN GATE, WATCH TOWER ETC.					
7-5	WATCH TOWER					
Bill# 7-5						
Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
EXCAVATION						
7-5.1	03-25-d	Excavation in foundation of building, bridges etc. complete : in shingle/gravel	m ³	4.30	421.14	1,812
7-5.2	03-24	Dressing of earthwork (done by machinery or otherwise & left undressed) to designed Section	m ²	22.86	14.47	331
FOUNDATION						
7-5.3	06-05-i	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:4:8)	m ³	0.41	9,237.44	3,792
7-5.4	06-07-b-03	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-07-a-03 (1:2:4)	m ³	1.18	14,653.95	17,287
7-5.5	06-46-b	Erection and removal of Form work with Wood Surface Finishing for RCC or Plain cement Concrete in any shape - Position / Vertical	m ²	3.04	710.56	2,157
7-5.6	07-04-a-05	1st class brick work in foundation and plinth in Cement, sand mortar 1:6	m ³	0.35	12,982.95	4,549
7-5.7	03-18-a	Filling, watering and ramming earth under floor with surplus earth from foundation, etc	m ³	1.43	105.24	151
DAMP PROOF COURSE						
7-5.8	06-26-a-03	Damp proof course of cem. conc. 1:2:4 including bitumen coat, 1 layer polythene & 1 coat bitumen (3" thick)	m ²	0.77	1,481.33	1,136
RCC IN SUPER STRUCTURE						
7-5.9	06-07-b-03	RCC in raft foundation slab, base slab of column & ret. wall etc, not including in 06-07-a-03 (1:2:4)	m ³	4.96	14,653.95	72,619
7-5.10	06-08-c	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 40)	Tonne	0.60	291,590.41	175,599
BRICK WORK IN SUPER STRUCTURE						
7-5.11	07-04-a-05	1st class brick work in foundation and plinth in Cement, sand mortar 1:6	m ³	7.07	12,982.95	91,734
7-5.12	07-06-a	Add extra on item No.07-05 for brick work in First floor	m ³	6.14	534.12	3,278
FLOORING						
7-5.13	10-15-d	Provide & lay topping of concrete 1:2:4, including surface finishing & dividing in panels : 2" thick	m ²	6.71	1,079.45	7,248
SURFACE RENDERING						
7-5.14	11-11-b	Cement plaster 1:5, upto 20' height 1/2" thick	m ²	66.08	397.72	26,281
7-5.15	11-10-c	Cement plaster 3/8" thick under soffit of RCC roof slabs only upto 20' height : (1:4)	m ²	8.64	390.96	3,377
CEILING						
7-5.16	12-47	Supply and Fixing accoustic mineral fibre tile ceiling fixed with aluminium tee hung by GI wire fixed in roof	m ²	9.29	2,565.49	23,843
DOOR / WINDOWS						
7-5.17	25-56	Providing and fixing steel gate of 16-18 SWG MS Sheet Gate with angle iron frame (2"x2"x3/16") with side window, lock, painting etc M.S. sheet covering including hold fast, with or without rollers and track arrangement including providing wicket shutter of required size with all accessories and locking arrangement complete	m ²	1.63	8,652.80	14,073
7-5.18	12-65-a-03	Supply and Fixing aluminium door/window, Sliding Window Deluxe model (1.60 mm gauge) 3" section	m ²	2.79	11,073.63	30,874
7-5.19	12-61	MS flat 1/2"x1/8" grill in windows of approved design	m ²	2.79	3,278.91	9,142

PAINT & VARNISH						
7-5.20	13-22-a	Preparing surface and painting with emulsion paint : First coat	m ²	27.97	148.96	4,166
7-5.21	13-22-b	Preparing surface and painting with emulsion paint : 2nd & each subsequent coat.	m ²	27.97	93.73	2,621
7-5.22	13-25-a	Preparing surface & painting with snowcem / weathershield paint : First coat	m ²	27.32	243.39	6,650
7-5.23	13-25-b	Preparing surface & painting with snowcem / weathershield paint : 2nd & subsequent coats	m ²	27.32	124.83	3,411
Civil Work (Sch: Item)						506,131
Item	MRS-2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
NON SCHEDULE ITEMS						
7-5.24	NS	Supply and laying of Khapril Tiles on Roof as per Design/Drawings and Instruction of Engineer Inchrage	SFT	121.00	150	18,150
7-5.25	NS	Supply and fix angle iron steel stair from ground upto 8-9' height, 2.5' wide including hand railing of steel pipe and bars including welding, erection on site as per Design/Drawings and Instruction of Engineer Inchrage	Rft	12.00	830	9,960
Civil Work (N. Sch: Item)						28,110
Total Cost (Schedule+NonSchedule) (Rs)						534,241
Add 2% Area factor on MRS rates i.e Rs.506131.37						10,123
Total Amount						544,364
Note:-	Any other items cropped up during execution will be paid on MRS 2022 including contractor premium					

JABBA DAM, DISTRICT KHYBER						
BILL OF QUANTITIES(AS PER MRS 2022 BI ANNUAL)						
7-6	CHOWKIDAR HUT					
Bill#7-6	CHOWKIDAR HUT					
Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
7-6.1	03-25-d	Excavation in foundation of building, bridges etc complete : in shingle/gravel	CFT	5,800.56	11.925	69,173.07
7-6.2	06-03-a	Cement Concrete (brick/stone ballast, 1.5" to 2"/nullah shingle well graded and cleaned) in foundation & plinth (Ratio 1:3:6)	CFT	1,126.36	273.92	308,533.09
7-6.3	07-04-a-03	1st class brick work in foundation and plinth in Cement, sand mortar 1:4	CFT	1,775.69	384.49	682,728.83
7-6.4	06-26-a-02	Damp proof course of cem. conc. 1:2:4 including bitumen coat, 1 layer polythene & 1 coat bitumen (2" thick)	SFT	627.32	110.81	69,515.84
7-6.5	07-05-a-03	1st class brick work in ground floor Cement, sand mortar 1:4	CFT	1,420.36	408.88	580,755.94
7-6.6	06-07-a-03	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:2:4)	CFT	563.00	414.95	233,618.71
7-6.7	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	8.00	303740.41	2,429,923.28
7-6.8	12-08-b	First class deodar wood wrought joinery in doors and windows etc. complete : 1-3/4" thick	SFT	50.00	2441.50	122,075.00
7-6.9	10-15-h	Provide & lay topping of concrete 1:2:4 including surface finishing & dividing in panels :3" thick.	SFT	820.00	151.48	124,211.96
7-6.10	11-12-b	Cement plaster 1:6, upto 20' height 1/2" thick.	SFT	1,628.72	35.29	57,477.04
7-6.11	13-05-a	French polishing complete : on new work.	SFT	355.00	91.16	32,361.62
7-6.12	11-21-a-03	Distember New surface: three coats.	SFT	589.36	15.14	8,923.15
7-6.13	03-18-d	Filling, watering and ramming earth under floor with earth excavated from outside lead upto 30m	CFT	655.56	12.00	7,867.43
7-6.14	03-19-a	Extra for every 15 m extra lead or part thereof for earthwork soft, ordinary, hard & very hard	CFT	280.96	0.17	47.57
7-6.15	11-36	P/C Ceramic Exterial Finish Tiles over 1/2" cement sand mortar 1:1 including curing complete.	SFT	360.00	263.23	94,762.01
7-6.16	25-45-a	Supplying and fixing 18 SWG MS Sheet Door with angle iron frame (1.5"x1.5"x1/8").bolt , hinges,paint etc complete.	SFT	55.00	827.52	45,513.60
7-6.17	09-01	First class tile roofing including earth, mud , plaster, gobri leeping cement plaster etc complete.	SFT	543.32	271.29	147,397.28
7-6.18	12-64-a-06	Supply and Fixing aluminium door/window,Fixed Glazing Premium model (2.00 mm gauge) 4" section	SFT	190.26	1345.97	256,084.25
7-6.19	14-03-a	Providing and fitting glazed earthenware water closet (WC), squatter type (orisa pattern) combined with foot rest. complete in all respects :White	Nos	2.00	3713.81	7,427.62
7-6.20	14-05-a-01	Providing and fixing glazed earthen ware WHB complete size 22"x16" white with pedestal	Nos	4.00	9136.16	36,544.64
7-6.21	14-18-a	Providing and fixing best quality 5mm glass shelf (60 x 13) cm 24"x5" complete: With chromium plated brackets & railing	Nos	4.00	1184.03	4,736.12
7-6.22	14-17-a	Providing and fixing best quality looking glass 5 mm thick neatly fitted on masonry wall etc. as per instruction of Engineer In-charge complete. Mirror 60 x 45 cm (24"x18") size	Nos	4.00	2529.49	10,117.96
7-6.23	14-16-a	Providing and Fixing chromium plated (CP) towel rail complete: 60 cm (24") long and 2 cm (3/4") dia	Nos	4.00	1267.94	5,071.76
7-6.24	14-15	Providing and fixing CP toilet paper holder.	Nos	4.00	802.84	3,211.36
7-6.25	14-13	Providing and fixing CP soap dish.	Nos	4.00	829.33	3,317.32
7-6.26	14-10-a	Providing and Fixing glazed earthen ware low down flushing cistern 3 gallons (13.63 Liters) capacity including bracket set, copper connection, etc. complete in all respects: White	Nos	4.00	4237.11	16,948.44
7-6.27	14-06-a	Providing and Fixing stainless steel sink with drain board size (120 x 60 cm) 48"x24", including set of brackets, waste pipe etc - (Best Quality)	Nos	1.00	6595.50	6,595.50

Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
7-6.28	14-27-a	Providing and fixing chromium plated (CP) mixing valve for wash hand basin (WHB), sink or shower of approved (Best) quality	Nos	4.00	4357.08	17,428.32
7-6.29	14-26-b	Providing and fixing chromium plated (CP) shower rose : Size 3/4"x6" (20mm x 150 mm) (Best Quality)	Nos	2.00	2690.10	5,380.20
7-6.30	14-32-b	Providing and fixing 'P' trap including GI grating & PCC chamber 4" glazed.	Nos	10.00	469.17	4,691.70
7-6.31	14-55-d	Providing and fixing GI pipe & including specials complete 1" dia (light).	RFT	92.00	344.76	31,717.92
7-6.32	14-55-e	Providing and fixing GI pipe & including specials complete 3/4" dia (light).	RFT	180.00	259.41	46,693.80
7-6.33	14-55-f	Providing and fixing GI pipe & including specials complete 1/2" dia (light).	RFT	225.00	190.68	42,903.00
7-6.34	14-61-d	Providing and fixing approved best quality cooking range with 3 burner, oven, hot case & roastery.	Nos	1.00	26201.54	26,201.54
7-6.35	14-69-a-01	Providing and fixing Fibre Glass , corrosion resistant, UV stablized WaterTank : 300 gallons	Nos	1.00	13790.57	13,790.57
7-6.36	23-10	Septic Tank (int . Size: 7'x2'x5') complete.	Nos	1.00	28931.39	28,931.39
7-6.37	23-11	Soakage pit (6' dia x 15' deep) complete.	Nos	1.00	26151.81	26,151.81
7-6.38	23-01-a	Providing and laying R.C.C. pipe, moulded with cement concrete 1:1-1/2:3, with spigot, socket or collar joint, etc. including cost of reinforcement, conforming to B.S. 5911: Part-I, 1981 Class "L" including carriage, lowering in trenches to correct alignment and grade, jointing, cutting pipe where necessary, finishing and testing, etc. complete:- 4" dia:	RFT	1.00	268.52	268.52
7-6.39	14-37-a	Providing and fixing CI main hole cover with frame etc complete 12" dia	Nos	9.00	1705.50	15,349.50
7-6.40	14-28-g	Providing and fixing gun metal peet / gate valve (screwed) 25 mm (1") dia of approved quality.	Nos	10.00	1574.73	15,747.30
7-6.41	14-39-a	Providing and Fixing brass stop/bib cock of approved quality: 1/2" (13 mm) dia	Nos	10.00	595.20	5,952.00
7-6.42	15-02-a-03	Supply and Erection PVC pipe for wiring purpose complete On surface including clamps etc: 1" i/d.	RFT	200.00	37.24	7,448.00
7-6.43	15-50	Wiring of light/fan/call-bell point in 3/0.029" PVC insulated bare cable in PVC pipe recessed	Nos	20.00	1575.83	31,516.60
7-6.44	15-51	Wiring of 2/3-pin 5-Amp. plug point in 3/0.029" PVC insulated bare cable in PVC pipe recessed	Nos	20.00	593.75	11,875.00
7-6.45	15-69-a	Supply and Erection best quality exhaust fan complete with shutter & regulator : 12"sweep	Nos	3.00	3551.40	10,654.20
7-6.46	15-68-c	Supply and Erection best quality AC ceiling fan complete with GI rod, canopy, blades & regulator : 56" sweep	Nos	6.00	6261.75	37,570.50
7-6.47	15-75-b	Supply and Erection cubical type factory fabricated floor/wall mounting steel main board comp. : Recessed	SFT	1.00	2893.40	2,893.40
7-6.48	15-64-b	Supply and Erection garden-light fitting with holder and 160 W mercury blended lamp & choke : 19" dia	Nos	10.00	810.90	8,109.00
7-6.49	15-24-b	Supply and Erection tube light, including rod, choke etc complete Single rod (40 watts) with 1 choke & 1 starter	Nos	20.00	1497.15	29,943.00
7-6.50	15-47-c	Wiring of main & sub-main in 2 single core PVC insulated & sheathed cable : 7/0.044"	RFT	130.00	254.64	33,103.20
7-6.51	14-80-b	Supply and fixing of 2.0 HP Monoblock water pump 1.5"x1.5" 4 stage model DE-S4 single phase for 190 ft head with all accessories	Nos	1.00	35103.63	35,103.63
7-6.52	08-03-d-03	Random rubble masonry in ground floor in cement,sand mortar : Ratio 1:6	CFT	3,220.20	270.94	872,478.09
Total Amount						6,726,843
Add 2% Area factor on MRS rates i.e Rs.6726842.59						134,537
Total Amount						6,861,379
Note:-	Any other items cropped up during execution will be paid on MRS 2022 including contractor premium					

JABBA DAM, DISTRICT KHYBER						
BILL OF QUANTITIES(AS PER MRS 2022 BI ANNUAL)						
7-7	CONSTRUCTION OF TUBEWELL AND SECURITY FENCE (RAZOR TYPE) AT PERIMETER WALL					
7-7A	TUBE WELL					
Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
MOBALIZATION AND BORE HOLE DRILLING TESTING ETC						
7-7A.1	24-01-a	Mobilization of plant, equipment and camping arrangements etc & demobilization after completion	Job	1.00	66,922.20	66,922
7-7A.2	24-41	Conducting Elec: Resistivity survey of the area and furnishing its reports.	No	1.00	32,439.75	32,440
7-7A.3	24-42	Logging of bore hole with electrical equipment and furnishing reports.	Job	1.00	23,643.00	23,643
7-7A.4	24-04	Providing strong box of deodar wood 4' x 2½' x 9" with compartments, lock and locking arrangement, and preserving in it the corings / samples of strata collected from bore hole and supply to the approved soil testing laboratory for testing.	Job	1.00	31,746.20	31,746
7-7A.5	24-02-a-06	Drilling of Bore holes for tube well in all types of soil and soft rock except hard rock from ground level upto 328 ft depth (0m to 100m), including sinking, collection of 100 % corings and withdrawing of pipe, complete as per specifications.: Dia of Bore 10" (250 mm) i/d	m	60.98	9,463.84	577,105
7-7A.6	24-03-b-04	Drilling of Bore holes for tube well in hard rock having unconfirmed compressive strength of 50 MPa and above from a depth of 328 ft to 656 ft (100 m to 200 m) depth, including sinking, collection of 100 % corings and withdrawing of pipe, complete as per specifications.: 12" (300 mm) i/d	m	121.95	24,559.63	2,995,047
7-7A.7	24-42	Logging of bore hole with electrical equipment and furnishing reports.	Per Set	4.00	23,643.00	94,572
7-7A.8	24-13-b	Testing and developing of tubewell with DNT unit 8" i/d and above complete as per specifications	Hour	48.00	2,760.03	132,481
7-7A.9	24-07-d	Providing and installing Brass Strainer of approved make \ quality in tubewell bore hole, including socket, special sockets, studs etc. complete as per specification:- 10" (250 mm) Nominal Pipe Size (NPS) 1/4" (6mm) thick	m	45.73	32,639.11	1,492,587
7-7A.10	24-08-c	Providing and installing M.S. Bail plug of approved make / quality in tubewell bore hole complete as per specification:- 10" (250 mm) i/d 2 ft (450 mm) long.	m	0.61	35,700.07	21,777
7-7A.11	24-11-c	Providing and installing M.S. blind pipe of socketed & welded, M.S. reducer (where necessary) of approved make / quality in tubewell bore hole, including jointing/welding with strainer, etc. complete as per specification: 10" (250 mm) Nominal Pipe Size (NPS) 1/4" (6 mm) thick	m	182.93	10,121.94	1,851,606
7-7A.12	24-25-b-01	Providing and fitting MS Flanges 5/8" thick on pipes, including turning, threading, facing and fitting etc., complete in all respects. 8"	Each	10.00	176.45	1,765
7-7A.13	24-36-a	Supplying and Fixing MS cap of 3/8" thick sheet : 10" i/d	Each	1.00	3,811.64	3,812
7-7A.14	24-38-d	Supplying and Fixing Flanged ExpanSon Joints BSS 2035: 10" i/d	Each	2.00	20,544.38	41,089
7-7A.15	24-39-d	Supplying and Fixing MS SuspeNson Clamp 3/8" thick for housing pipe : 10" i/d	Each	10.00	2,538.90	25,389
7-7A.16	24-14	Shrouding with graded pack gravel 3/8" (10 mm) to 1/8" (3 mm) around tubewell in bore hole complete as per specification:-	m	182.93	289.88	53,028
7-7A.17	24-31-g	S/H/J G.I. Flanged Pipe 4" i/d 5 mm thick	m	243.90	3,880.11	946,359
7-7A.18	24-38-g	Supplying and Fixing Flanged ExpanSon Joints BSS 2035: 4" i/d	Each	5.00	9,476.10	47,381
7-7A.19	14-52-a	Providing and Fixing high pressure flange type valve : 4" dia	Each	2.00	16,655.03	33,310
7-7A.20	24-22-b	Providing and fixing sluice valve of BSS quality (BS 5163) and weight Class 'B' for GI & PVC pipeline (including cost of jointing material): b) 4" (100 mm) dia of Valve	Each	2.00	34,509.27	69,019
7-7A.21	24-49-g	Providing and Fixing Brass peet / gate valve 4" dia	Each	2.00	13,294.17	26,588
7-7A.22	24-24-b	Providing and fixing, air valve (Kitz Japan make or equivalent) 3" dia of B.S.S. quality and weight (BS 1074) complete with jointing material b. Double air valve 3" (75 mm) dia	Each	2.00	5,381.23	10,762

Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
7-7A.23	24-48-f	Supply and installation of three phase automatic voltage stabilizers having output volatage of 400 volts \pm 5%, three phase 99.9% copper equipped with protective devices 60-100 KV A	Each	1.00	673,176.38	673,176
7-7A.24	24-80	Yield test by using air compressor in test bore	Job	1.00	9,258.00	9,258
7-7A.25	NS	Supply and fixing of MS Strips size 25 x 4.5 mm thick for strengthing of Brass Strainer from 4 sides Vertically complete in all respects as per instructions and approval of the Engineer.	m	182.93	287.0875	52,517
7-7A.26	NS	Washing with Air Compressor for development and cleaning of water for drinking purpose complete in all respects as per instructions and approval of the Engineer.	Job	1.00	106250	106,250
7-7A.27	NS	Supply and fixing, testing and commissioning etc. of solar based pumping system (i/c Submersible Pump, rubber gaskets, reflux valve, non-return valve, top bend, top adopter, rising clamp, casing cover plate, G/Kit, Solar panel, Frame, Manual Sun tracker, Cabling, Circuit Bracker, Junction Box, inverter, etc. complete) as per specifications and design given in the attached documents in all required accessories as per instructions and approval of the Engineer.	Watt	42500.00	187.5	7,968,750
Sub Total						17,388,378
Add 2% Area factor on MRS rates i.e Rs.9260861.2163						185,217
Sub total (1)						17,573,595
ELECTRIFICATION OF TUBEWELL						
7-7A.28	NS	Supply and Installation Testing & commission 4 Core 70 mm PVC/PVC Cables from Transformer to M C U Complete in all respects as per Instruction of Engineer Incharge.	m	80.00	3,765.00	301,200
7-7A.29	NS	Providing & Installation Testing Commissioning of 3 Core 35 mm PVC/PVC Flate Cable from M.C.U to Water Pump Down Complete in all respects as per Instruction of Engineer Incharge.	m	100.00	1,448.75	144,875
7-7A.30	NS	S/E Earthing 24"x24"x1/4 copper plate riveting Bear copper Conductor 2 x 70 mm 1.5" G.I Light gage ,Pipe Stall Net Bolt , placing mixture of salt & chare cool complete in all Respects 15 TO 20 Feet's Deeps Pitts Including the cost of E C P Bus bar 12"long 2" wide and half inch thick copper bus bare completed with insulators washers nuts, bolts Complete in all respects as per Instruction of Engineer Incharge.	Each	1.00	88,500.00	88,500
7-7A.31	NS	Supply , installation, testing and commissioning of 200 KVA Transformer with accessories complete in all respect	Each	1.00	800,000.00	800,000
Sub Total						1,334,575
Add 2% Area factor on MRS rates i.e Rs.0						0
Sub total (2)						1,334,575
CONSTRUCTION OF TUBEWELL CHAMBER						
7-7A.32	03-25-d	Excavation in foundation of building, bridges etc complete : in shingle/gravel	m3	9.17	421.14	3,862
7-7A.33	03-18-a	Filling, watering and ramming earth under floor with surplus earth from foundation, etc	m3	4.59	105.24	483
7-7A.34	06-05-i	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:4:8)	m3	1.53	9,237.44	14,133
7-7A.35	07-04-a-04	1st class brick work in foundation and plinth in Cement, sand mortar 1:5	m3	4.59	13,201.04	60,593
7-7A.36	06-26-b-02	Damp proof course of cem. conc. 1:2:4 including bitumen coat, 1 layer polythene & 2 coats bitumen (2 thick)	m2	3.35	1,280.60	4,290
7-7A.37	06-07-a-03	RCC in roof slab, beam, column & other structural members, iNStu or precast. (1:2:4)	m3	3.16	14,653.95	46,306
7-7A.38	06-08-b	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	0.62	303,740.41	188,319
1.2 : WORK AT GROUND FLOOR						
7-7A.39	07-05-a-04	1st class brick work in ground floor Cement, sand mortar 1:5	m3	10.12	14,089.41	142,585

Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
7-7A.40	11-10-b	Cement plaster 3/8" thick under soffit of RCC roof slabs only upto 20' height : (1:3)	m2	19.19	401.57	7,706
7-7A.41	11-09-b	Cement plaster 1:4 upto 20' height 1/2" thick	m2	87.69	406.01	35,603
7-7A.42	09-15	Khassi parnalas in c/s mortar 1:2, 12" outside width finished smooth with a floating coat	m	3.66	736.91	2,697
7-7A.43	07-30	Supplying and filling sand under floor or plugging in wells	m3	4.08	1,571.12	6,410
7-7A.44	06-05-i	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:4:8)	m3	1.02	9,237.44	9,422
7-7A.45	06-05-f	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:2:4)	m3	4.10	12,745.86	52,258
7-7A.46	10-15-h	Provide & lay topping of concrete 1:2:4, including surface finishing & dividing in panels : 3" thick	m2	13.48	1,629.90	21,971
7-7A.47	10-22-a	1.5" thick mosaic flooring, including rubbing & polishing complete : Using grey cement	m2	13.38	2,300.73	30,784
7-7A.48	10-41-a-02	Mosaic dado or skirting complete as per specs Using grey cement : 1/2" thick	m2	8.92	1,502.05	13,398
7-7A.49	25-45-a	Supplying and Fixing 18 SWG MS Sheet Door with angle iron frame (1.5"x1.5"x1/8"), bolt, hinges, paint etc complete	m2	2.28	8,904.08	20,301
7-7A.50	25-39-b-05	Providing and Fixing steel windows 18 gauge with openable glazed panels With 22 SWG wire gauze : Glass pane 5mm	m2	3.72	10,159.46	37,793
7-7A.51	11-20-a	Priming coat of chalk under distemper	m2	98.98	34.89	3,453
7-7A.52	11-21-a-03	Distemping New surface : Three coats	m2	98.98	162.91	16,125
7-7A.53	13-25-a	Preparing surface & painting with snowcem / weathershield paint : First coat	m2	7.90	243.39	1,923
7-7A.54	13-25-b	Preparing surface & painting with snowcem / weathershield paint : 2nd & subsequent coats	m2	7.90	124.83	986
7-7A.55	09-06	Single layer of tiles 10"x5"x1.25" laid over 4" earth and 1" mud plaster on top of RC roof slab	m2	13.38	1,624.09	21,730
7-7A.56	25-52	Providing, making & fixing of Steel manhole cover i/c angle iron (1 1/2" x 1 1/4" x 1/8") frame with M.S. sheet complete .	m2	1.14	765.95	873
7-7A.57	25-10	Fabrication of heavy steel work with angle, tees, sheet iron etc for making trusses, girders etc	Tonne	0.22	274,802.09	60,456
Sub Total						804,463
Add 2% Area factor on MRS rates i.e Rs.804462.7058						16,089
Sub total (3)						820,552
ELECTRIFICATION OF TUBEWELL CHAMBER						
7-7A.57	15-50	Wiring of light/fan/call-bell point in 3/0.029 PVC insulated bare cable in PVC pipe recessed	Each	4.00	1,575.83	6,303
7-7A.58	15-61-a	Supply and Erection fluorescent tube light fitting including 4' rod, choke, starter, flexible wire etc : Single	Each	4.00	1,789.65	7,159
7-7A.59	15-15	Supply and Erection wall/pole type bracket with double cover water tight reflector, flexible wire & brass holder	Each	1.00	278.46	278
7-7A.60	15-67	Making hole in wall with necessary masonry work for exhaust fan any size complete	Each	1.00	224.1	224
7-7A.61	15-69-a	Supply and Erection best quality exhaust fan complete with shutter & regulator : 12"sweep	Each	1.00	3,551.40	3,551
7-7A.62	15-68-c	Supply and Erection best quality AC ceiling fan complete with GI rod, canopy, blades & regulator : 56" sweep	Each	1.00	6,261.75	6,262
7-7A.63	15-71-a	Supply and Erection single phase imported auto circuit breaker 6 Amp.	Each	1.00	658.8	659
7-7A.64	15-71-d	Supply and Erection single phase imported auto circuit breaker 30 Amp.	Each	1.00	950.4	950
7-7A.65	15-71-b	Supply and Erection single phase imported auto circuit breaker 15 Amp.	Each	1.00	658.8	659
7-7A.66	15-02-b-02	Supply and Erection PVC pipe for wiring purpose complete Recessed in walls including chase etc : 3/4" i/d	m	20.00	301.93	6,039
7-7A.67	15-05-c	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.029"	m	20.00	135.21	2,704
7-7A.68	15-05-e	Supply and Erection single core PVC insulated copper conductor 250/440 V grade cable : 7/0.044"	m	10.00	268.1	2,681
7-7A.69	15-75-b	Supply and Erection cubical type factory fabricated floor/wall mounting steel main board comp. : Recessed	Each	1.00	31,132.93	31,133
Sub Total						68,602
Add 2% Area factor on MRS rates i.e Rs.68602.36						1,372
Sub total (4)						69,974

Item	MRS 2022 Ref:	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
7-7B	SECURITY FENCE AT COLONY PERIMETER WALL					
7-7B.1	25-60-d	Supply and fixing razor wire (1'-6" dia) consisting of 1-1/2"X1-1/2"X3/16" angle iron Y post 2'-6" long 6' to 8' center to center fixed with bolt anchorage, at top of boundary wall including painting posts etc. Complete in all respects.	m	385.00	956.04	368,075
Sub Total						368,075
Add 2% Area factor on MRS rates i.e Rs.368075.4						7,362
Sub total (5)						375,437
Total (1+2+3+4+5)						20,174,134
Note:-	Any other items cropped up during execution will be paid on MRS 2022 including contractor premium					