

**Construction of Madar Kalay Weir, District Mohmand**

**Bill of Quantities**

**SUMMARY**

<b>Bill No.</b>	<b>Description</b>	<b>Cost (PKR)</b>
1	Diversion and Protection of Works from Floods	
2	Sub-Surface Water Management	
3	Irrigation Channel	
4	On-farm Water Management Works	
5	General Items	
6	EMP Implementation Cost	
<b>Total Project Cost</b>		
<b>Total Project Cost (In Words):</b>		

**Construction of Madar Kalay Weir, District Mohmand**

**Bill of Quantities**

**Bill No.1 - Diversion Arrangements**

<b>Item</b>	<b>Item Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>Unit Rate (Rs) in Figures</b>	<b>Amount (Rs.) in Figures</b>	<b>Amount (Rs) in Words</b>
1.1	Diversion and Protection of Works from Floods	Provisional Sum	1			
<b>Total Cost for Bill No.1</b>						

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**Bill No.2 - Sub-Surface Water Management**

Item	Item Description	Unit	Quantity	Unit Rate (Rs) in Figures	Amount (Rs.) in Figures	Amount (Rs) in Words
2.1	Excavation for core trench of Dam 'Embankment/Spillway/Intake & Outlet Structure and Irrigation System upto a minimum depth of 35 ft in common soil including removing of excavated material by machinery in 1 KM radius	cu.m	170.63			
2.2	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 KM radius	cu.m	42.66			
2.3	Structural backfill using common Material available at site.	cu.m	241.40			
2.4	Sand Aggregate, To be used as filter around lateral pipes.	cu.m	46.77			
2.5	Crush Aggregate, To be used as filter around lateral pipes.	cu.m	26.55			
2.6	Plain Cement Concrete including placing, compacting, finishing & curing G20	Cu.m	67.50			
2.7	Reinforced cement concrete work as in dams, spillways, weirs, barrages, cross drainage works and other hydrolic 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. Type B G20	Cu.m	6.39			
2.8	Supply & Fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	0.75			

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**Bill No.2 - Sub-Surface Water Management**

<b>Item</b>	<b>Item Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>Unit Rate (Rs) in Figures</b>	<b>Amount (Rs.) in Figures</b>	<b>Amount (Rs) in Words</b>
2.9	Providing and Laying stone pitching/filling, dry hand packed in pitching & aprons	Cu.m	160.50			
2.10	HDPE Pipe: dia=12" (SDR-21, PN-8) (Collector Pipe)	Rm	23.00			
2.11	HDPE Pipe: dia=16" (SDR-21, PN-8) (Collector Pipe)	Rm	41.00			
2.12	Providing and installing PVC strainer, in tubewell borehole comp. BSS Class 'C' working pressure: 12" i/d	Rm	64.00			
<b>Total Cost for Bill No.2</b>						

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**Bill No.3 - Irrigation Channels**

Item	Item Description	Unit	Quantity	Unit Rate (Rs) in Figures	Amount (Rs.) in Figures	Amount (Rs) in Words
3.1	Excavation for core trench of Dam Embankment/Spillway/Intake & Outlet Structure and Irrigation System upto a minimum depth of 35 ft in common soil including removing of excavated material by machinery in 1 KM radius	cu.m	1,278.08			
3.2	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 KM radius	cu.m	319.52			
3.3	Structural backfill using common Material available at site.	cu.m	456.34			
3.4	Plain Cement Concrete including placing, compacting, finishing & curing G20	cu.m	280.25			
3.5	Providing Plain Cement Concrete including placing, compacting, finishing & curing (Grad 10)	cu.m	100.89			
3.6	Plain Cement Concrete including placing, compacting, finishing & curing G20	cu.m	16.10			
3.7	Reinforced cement concrete work as in dams, spillways, weirs, barrages, culverts, cross drainage works and other hydrolic 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 the cost of steel reinforcement and labour for bending binding also excludig cost of additives which have to be paid separately. Type B G20	cu.m	17.04			
3.8	Supply & Fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	2.01			
3.9	HDPE Pipe: dia=12" (SDR-21, PN-8)	Rm	90.00			
<b>Total Cost for Bill No.3</b>						

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**Bill No.4 - On-Farm Water Management Works**

Item	Item Description	Unit	Quantity	Unit Rate (Rs) in Figures	Amount (Rs.) in Figures	Amount (Rs) in Words
<b>LINING OF 1867 R/M WATERCOURSE USING PRECAST PARABOLIC SEGMENTS</b>						
4.1	Earth excavation in irrigation channels/drains & disposal upto 25m & dressing: in Ordinary Soil	cu.m	112.02			
4.2	Earth excavation in irrigation channels/drains & disposal upto 25m & dressing: in Shingle/Gravel	cu.m	112.02			
4.3	Embankment formation in ordinary soil and compaction by mechanical means at optimum content to 90% max. modified AASHTO dry density (borrow area).	cu.m	729.62			
4.4	Supplying clean and screened river or pit sand within 150m including removal of loose earth or overburden	cu.m	31.74			
4.5	Providing and Laying pre-cast segments in PCC lining (parabola type) type E	Rm	1,867.00			
<b>3 FIELD BOX CULVERTS (0.70M x 0.50M) IN THE COMMAND</b>						
4.6	RCC in roof slabs, beam, column and other structural members, in situ or precast. Type B G20	cu.m	2.784			
4.7	Supply and fabricate M.S reinforcement for cement concrete (Hot rolled deformed bars Grade 40)	tonnes	0.194			

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**Bill of Quantities**

**Bill No.4 - On-Farm Water Management Works**

Item	Item Description	Unit	Quantity	Unit Rate (Rs) in Figures	Amount (Rs.) in Figures	Amount (Rs) in Words
4.8	Plain Cement Concrete including placing, compacting, finishing and curing. G20	cu.m	5.140			
4.9	Providing & laying RCC pipe sewer complete As per ASTM C-76-79, Class II: 12" i/d. Wall B	Rm	10.00			
4.10	Providing & laying RCC pipe sewer complete As per ASTM C-76-79, Class II: 24" i/d. Wall B	Rm	20.00			

**2 NUMBER WASHING PADS NEAR HOUSES OF FARMING COMMUNITY IN THE COMMAND**

4.11	Plain Cement Concrete including placing, compacting, finishing and curing G20	cu.m	2.37			
4.12	Supply and fabricate M.S reinforcement for cement concrete (Hot rolled deformed bars Grade 40)	tonnes	0.015			

**INSTALLATION OF 104 NACCA PANELS**

4.13	Standard Nacca Panels (0.31m)	No	104.00			
4.14	4" thick PCC lining using washed screened and graded crushed stone aggregate On slope, G20 (on sides of Naccas)	cu.m	24.96			

**Total Cost for Bill No.4**

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**Bill of Quantities**

**Bill No. 5 - General Items**

Item	Item Description	Unit	Quantity	Unit Rate (Rs) in Figures	Amount (Rs.) in Figures	Amount (Rs) in Words
<b>Engineer's Main Office (RE Office)</b>						
<b>Rental of Vehicles</b>						
5.1	1 No. Rental 4WD Toyota Hilux (model-2012 and above)	Month	9			
<b>Provisional Sum</b>						
5.2	O & M (PoL, Oil & Service) - Vehicles + Generators	Month	9	40,000.00	360,000.00	(Rupees Three Hundred Sixty Thousand Only)
5.3	Monthly rent of the Engineer's Office and laboratory	No	9	35,000.00	315,000.00	(Rupees Three Hundred Fifteen Thousand Only)
5.4	Monthly rent of the Engineer's Accommodation	No	9	30,000.00	270,000.00	(Rupees Two Hundred Seventy Thousand Only)
<b>Sub-Total:</b>						
<b>Utility Services</b>						
5.5	Office & Accommodation Utility Bills (will be paid to the contractor as per actual)	Month	9	30,000.00	270,000.00	(Rupees Two Hundred Seventy Thousand Only)
5.6	Communications Fax, Landline, DSL, 3G/4G Services, Mobile, courier services etc.	Month	9	20,000.00	180,000.00	(Rupees One Hundred Eighty Thousand Only)
<b>Sub-Total</b>						



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**Bill of Quantities**

**Bill No. 5 - General Items**

Item	Item Description	Unit	Quantity	Unit Rate (Rs) in Figures	Amount (Rs.) in Figures	Amount (Rs) in Words
<b>Sub-Project Site Office</b>						
	<b>Provisional Sum</b>					
5.7	Monthly rent of the site office cum accommodation	Month	9	20,000.00	180,000.00	(Rupees One Hundred Eighty Thousand Only)
5.8	Support Staff	Person-Month	27	16,000.00	432,000.00	(Rupees Four Hundred Thirty Two Thousand Only)
5.9	Maintenance and Operations of Office cum Accommodation	LS	1	20,000.00	20,000.00	(Rupees Twenty Thousand Only)
5.10	Equipment/Furniture and Fixtures etc.	LS	1	213,450.00	213,450.00	(Rupees Two Hundred Thirteen Thousand Four Hundred Fifty Only)
5.11	Office / Accommodation Utility Bills will be paid to the contractor as per actual)	Month	9	15,000.00	135,000.00	(Rupees One Hundred Thirty Five Thousand Only)
5.12	Communications Fax, Landline, DSL, 3G/4G Services, Mobile, courier services etc.	Month	9	5,000.00	45,000.00	(Rupees Forty Five Thousand Only)
<b>Sub-Total</b>						
<b>Add 10 % Contractor's Profit on items under provisional sum</b>						
<b>Total Cost for Bill No.5</b>						

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**Bill No.6 - EMP Implementation Cost**

Item	Item Description	Unit	Quantity	Unit Rate (Rs) in Figures	Amount (Rs.) in Figures	Amount (Rs) in Words
6.1	<b>Air Testing at site</b> 1. Carbon Monoxide (CO) 2. Sulfur Dioxide (SO <sub>2</sub> ) 3. Nitric Oxide(NO) 4. Nitrogen Dioxide(NO <sub>2</sub> ) 5. PM10 6. PM2.5	No	4	8,000.00	32,000.00	(Rupees Thirty Two Thousand Only)
6.2	<b>Noise Testing at site</b> 1. Noise	No	4	1,000.00	4,000.00	(Rupees Four Thousand Only)
6.3	<b>Water Testing in Lab</b> 1. Total Coli form 2. E.coli 3. pH 4. Total Dissolved solids (TDS) 5. Total Hardness as CaCO <sub>3</sub> 6. Sodium 7. Potassium 8. Sulphate 9. Chloride 10. Alkalinity 11. Color 12. Odor 13. Taste 14. Nitrogen-Nitrates 15. TSS	No	8	11,000.00	88,000.00	(Rupees Eighty Eight Thousand Only)
<b>Sub-Total Cost</b>					<b>124,000.00</b>	<b>(Rupees One Hundred Twenty Four Thousand Only)</b>
<b>Contingency Cost @ 5%</b>					<b>6,200.00</b>	<b>(Rupees Six Thousand Two Hundred Only)</b>
<b>Total Cost for Bill No.6</b>					<b>130,200.00</b>	<b>(Rupees One Hundred Thirty Thousand Two Hundred Only)</b>