

**SHAHEED BENAZIR BHUTTO UNIVERSITY  
SHERINGAL DIR UPPER  
KHYBER PAKHTUNKHWA PAKISTAN.**

· BUILDING ITEM:- CONSTRUCTION OF MICRO HYDEL POWER (CIVIL WORKS)

· PROJECT NAME: "DEVELOPMENT OF UNIVERSITY OF DIR SHERINGAL".

· SPONSORING AGENCY: HIGHER EDUCATION COMMISSION ISLAMABAD.

· FUNDING AGENCY: PLANNING COMMISSION OF PAKISTAN.

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*Bidding Documents*

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**Volume-III**

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ASSOCIATED CONSULTING ENGINEERS - ACE (PVT) LTD  
Architectural and Town Planning Section  
Ground Floor, 36-Civic Center, M-Block Model Town Extension, Lahore  
Tel: (+9242) 35170871-74 Fax: (+9242) 35170875  
Email: acearts@acepakistan.com, aceartslhr@gmail.com,  
Web Site: www.acepakistan.com



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Project Director/  
Director of Works  
Shaheed Benazir Bhutto University  
Sheringal Dir Upper

<b>Summary of Estimates</b>		
<b>Construction of Micro Hydel Power (Civil Works) at Shaheed BB University, Sheringal, Dir Upper</b>		
Ser	Description of Works	Amount
	(Schedule items) Priced on MRS 2019 Khyber Pakhtunkhwa.	
A.	Intake Structure	Rs. 6,993,253/-
B.	Head Race Channel	Rs. 21,101,225/-
C.	Forebay Spill Channel, Fall Structure, and Forebay Tank	Rs. 15,577,261/-
	<b>Grand Total.</b>	<b>Rs. 43,671,740/-</b>
	<b>Grand Total (Millions)</b>	<b>Rs. 43.672</b>
	Add/deduct $\pm$ % over Total (by the Bidder) _____ % _____	<b>Rs. _____/-</b>
	<b>Net Total</b>	<b>Rs. _____/-</b>

We the undersigned offer to execute and complete such works and remedy any defect therein in conformity with the complete bidding/ contract documents (i-e Conditions of the Contract, GCC/PCC, Bill of Quantities/Engineer's Estimate alongwith preamble, Specifications (Technical & Special Provisions), Appendices, and Drawings within the Stipulated Period in the Quoted Rates by us.

Signature \_\_\_\_\_  
Seal and Stamp \_\_\_\_\_  
Name of Bidder \_\_\_\_\_

**Engineer's Estimates/Bill of Quantities**

**Construction of Micro Hydel Power (Civil Works) at Shaheed BB University, Sheringal, Dir Upper**

Sr. No.	Description	Qty	Unit	MRS It No	Rate	Amount
1	2	3	4	5	6	7
<b>A. Intake Structure</b>						
<b>Excavation/Earth works</b>						
1	Earthwork by mechanical means in drains, channels and irrigation channels in DRY & WET soil dressed to designed section, grades profile/with excavated material, disposed off within 50 feet (15.2 m) lead and dressed as directed, complete all as per Drawings, Specifications and Directions of the Engineer.	840.00	Cft	03-72-b	1.585	Rs. 1,331/-
2	Earth work Excavation (in Hard Rock requiring blasting but blasting prohibited) as in Irrigations Channels, Drains and the like structures etc. as and where required/directed to designed sections, grade and profile, (excavated materials disposed off and dressed within 25 meter lead) complete all as per Drawings, Specifications and Directions of the Engineer.	105.00	Cft	03-15-a	16.187	Rs. 1,700/-
3	Excavation for core trench of Dam Embankment/ Spillway/ Intake & Outlet Structure upto a minimum depth of 35 ft in shingle gravel including removing of excavated material by machinery in 1 KM radius, complete all as per Drawings, Specifications and Directions of the Engineer.	19320.00	Cft	03-78-a	6.750	Rs. 130,410/-
<b>Filling /Embankments/Compaction</b>						
4	Embankment formation in ordinary soil & compaction by mechanical means at optimum moistures content to 95% to 100% max. modified. AASHTO dry density complete all as per Drawings, Specifications and Directions of the Engineer .The rate includes hire charges of machinery, cost of fuel, lubricants, pay of driver and cleaner. The rate also includes clearing and grubbing where necessary complete all as per Drawings, Specifications and Directions of the Engineer.	1680.00	Cft	03-06-a	2.566	Rs. 4,311/-
5	Compaction of Natural Ground using mechanical means, watering, power Road Roller (Static) and other macninery complete including cut or fill upto 6" all as per Drawings, Specifications and Directions of the Engineer.	840.00	Sft	03-65	2.138	Rs. 1,796/-
6	Providing and Laying, Filter granular backfill behind retaining wall (stone/boulder filling upto one meter to prevent choking of weep holes) with Boulder (Screened/Washed) Mixed graded shingle of NHA, specifications, in any position, complete all as per Drawings, Specifications and Directions of the Engineer.	420.00	Cft	19-47	36.373	Rs. 15,277/-
<b>Demolation</b>						
7	Cutting through or demolition of PCC (Plum Concrete) including removal of boulders complete all as per Drawings, Specifications and Directions of the Engineer.	288.00	Cft	04-03	22.590	Rs. 6,506/-

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**Engineer's Estimates/Bill of Quantities**

**Construction of Micro Hydel Power (Civil Works) at Shaheed BB University, Sheringal, Dir Upper**

Sr. No.	Description	Qty	Unit	MRS It No	Rate	Amount
1	2	3	4	5	6	7
	<b>Stone works/pitching etc.</b>					
8	Supply and spreading stone aggregate size 1/8" to 3/4" using mechanical means (Tractor with blade / Plough), watering, power Road Roller (Static) and other machinery complete all as per Drawings, Specifications and Directions of the Engineer.	294.00	Cft	03-35	44.470	Rs. 13,074/-
9	Supply and spreading stone aggregate size 3/4" to 2" using mechanical means (Tractor with blade / Plough), watering, power Road Roller (Static) and other machinery complete all as per Drawings, Specifications and Directions of the Engineer.	294.00	Cft	16-28	38.648	Rs. 11,363/-
10	Provide and laying Dry Stone Pitching complete in all respect complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	08-17	67.276	Rs. 6,728/-
11	Provide & Weave GI wire netting for wire crates 6"x6" mesh: 10 SWG wire, in any position, complete all as per Drawings, Specifications and Directions of the Engineer.	5040.00	Sft	19-13-b-2	38.206	Rs. 192,558/-
12	Supplying and Filling of Stone in GI Wire Crate and its Sewing, (excluding cost of crates) in any position, complete all as per Drawings, Specifications and Directions of the Engineer.	10080.00	Cft	19-26	71.770	Rs. 723,442/-
13	Providing and Laying grouted stone pitching, in PCC 1:3:6 on slope or on level , in any position, complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	19-31-d	139.362	Rs. 13,936/-
14	Providing and Laying and Stone pitching hand packed with surface levelled off to the correct section with hammer dressed stone and voids filled in 1:8 cement mortar in floors of bridges and along banks and in aprons etc including 91.50 meter lead, in any position, complete all as per Drawings, Specifications and Directions of the Engineer.	564.00	Cft	19-38-c	152.766	Rs. 86,160/-
	<b>Concrete works</b>					
15	Providing and laying of Plain Cement Concrete (using Stone Ballast) under foundation and under layers of floors, as and where required etc. including Placing, compacting, finishing & curing complete (including screening and washing of aggregates) (Ratio 1:4:8) complete all as per Drawings, Specifications and Directions of the Engineer.	547.75	Cft	06-03-b	140.840	Rs. 77,145/-
16	Providing and laying of Plain Cement Concrete (using Crushed Stone) under foundation and under layers of floors, or chequered Flooring or as and where required etc. including Placing, compacting, finishing & curing complete (including screening and washing of aggregates) (Ratio 1:2:4) complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	06-05-f	236.670	Rs. 23,667/-

Signature \_\_\_\_\_  
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 Name of Bidder \_\_\_\_\_

**Engineer's Estimates/Bill of Quantities**

**Construction of Micro Hydel Power (Civil Works) at Shaheed BB University, Sheringal, Dir Upper**

Sr. No.	Description	Qty	Unit	MRS It No	Rate	Amount
1	2	3	4	5	6	7
17	Reinforced Cement Concrete Work (1:2:4) 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, all as per Drawings, Specifications and Directions of the Engineer.	7245.00	Cft	06-07-d-03	270.360	Rs. 1,958,758/-
18	Supply & Fabrication of Mild Steel Reinforcement using Hot Rolled Deformed Bars Grade 40 for Cement Concrete, including cutting, bending, laying in position, making joints and fastening, including cost of binding wires and labour charges for binding of Steel Reinforcement (overlaps, chairs, and wastage, shall not be measured & paid separately) all as per Drawings, Specifications and Directions of the Engineer.	2173.50	Kgs	06-08-c	159.980	Rs. 347,717/-
19	--ditto-- but deformed bars Gde-60.	19561.50	Kgs	06-08-b	163.650	Rs. 3,201,239/-
20	Providing and laying of Plain Cement Concrete as and where required etc. including Placing, compacting, finishing & curing complete (less formwork) (Ratio 1:3:6 using 50% boulders) complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	06-44-a	135.460	Rs. 13,546/-
21	Providing and laying of Plain Cement Concrete as and where required etc. including Placing, compacting, finishing & curing complete (less formwork) (Ratio 1:4:8 using 50% boulders) complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	06-45-a	119.399	Rs. 11,940/-
22	Erection and removal of Steel Formwork for RCC or PCC.	100.00	Sft	06-47-b	66.780	Rs. 6,678/-
23	Supplying and Fixing of PVC water stopper 8" wide and 3/8" thick in any position and any floor/storey/roof complete all as per Drawings, Specifications and Directions of the Engineer.	10.00	Rft	24-40	170.430	Rs. 1,704/-
	<b>Masonry works</b>					
24	Pacca/Burnt Brick Work in Foundation, Plinth and anywhere below Ground Level in Cement, Sand Mortar Ratio 1:6 complete all as per Drawings, Specifications and Directions of the Engineer.	10.00	Cft	07-04-a-05	260.990	Rs. 2,610/-
25	Pacca/Burnt brick work in Ground Floor in Cement, sand mortar Ratio 1:6 complete all as per Drawings, Specifications and Directions of the Engineer.	10.00	Cft	07-05-a-05	280.270	Rs. 2,803/-
26	Coursed Rubble Masonry (Hammer Dressed) in foundation & plinth or as and where directed by the Engineer laid, jointed and pointed in Cement, Sand Mortar Ratio 1:6 complete all as per Drawings, Specifications and Directions of the Engineer.	10.00	Cft	08-02-d-3	211.093	Rs. 2,111/-

Signature \_\_\_\_\_  
 Seal and Stamp \_\_\_\_\_  
 Name of Bidder \_\_\_\_\_

**Engineer's Estimates/Bill of Quantities**

**Construction of Micro Hydel Power (Civil Works) at Shaheed BB University, Sheringal, Dir Upper**

Sr. No.	Description	Qty	Unit	MRS It No	Rate	Amount
1	2	3	4	5	6	7
	<b>Pipes culverts etc.</b>					
27	Providing & laying R.C.C. pipe sewers, moulded with cement concrete 1:1-1/2:3 conforming to ASTM specification C-76-79, Class II, Wall B, including carriage, lowering in trenches to correct alignment and grade, jointing with rubber ring, cutting pipes where necessary, testing, etc. complete:- 12" i/d, wall thickness 2", all as per Drawings, Specifications and Directions of the Engineer.	6.00	Rft	23-03-a-01	560.730	Rs. 3,364/-
28	Providing & laying R.C.C. pipe sewers, moulded with cement concrete 1:1-1/2:3 conforming to ASTM specification C-76-79, Class II, Wall B, including carriage, lowering in trenches to correct alignment and grade, jointing with rubber ring, cutting pipes where necessary, testing, etc. complete:- 24" i/d, wall thickness 3", all as per Drawings, Specifications and Directions of the Engineer.	6.00	Rft	23-03-a-05	1,054.190	Rs. 6,325/-
	<b>Steel and Iron Works</b>					
29	Providing and fixing Mild Steel Sections of T, L, Flat, Square, Rectangular, MS Sheets, Solid and Hollow Sections as in Grating, Grill, Railing, Ladders, Doors, Holdfasts, Handles, Locking arrangement and other positions including, cut of dead length and welding, painting 3 coats, etc complete in all respect as per drawing, specification and as directed by the Engineer Incharge.	10.00	Kg	25-09	238.888	Rs. 2,389/-
30	Providing and fixing Mild Steel Gate Valves, controle valves complete in all respect including spindle, gear, core and other items required, complete in all respect as per drawing, specification and as directed by the Engineer Incharge.	10.00	Kg	25-09	238.888	Rs. 2,389/-
a.	<b>G. Total</b>	<b>Intake Structure</b>				<b>Rs. 6,872,976/-</b>
b.	Deduct of 7.5% withholding tax (included in CSR/MRS rates not payable/deductable to/from firms pertaing to tax exempted area.					Rs. 515,473/-
c.	<b>Sub-Total (a-b)=c</b>					<b>Rs. 6,357,503/-</b>
d.	Add 10% location factor (c x10/100)					Rs. 635,750/-
e.	<b>Net-Total (c+d)=e</b>					<b>Rs. 6,993,253/-</b>

Signature \_\_\_\_\_  
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**Engineer's Estimates/Bill of Quantities**

**Construction of Micro Hydel Power (Civil Works) at Shaheed BB University, Sheringal, Dir Upper**

Sr. No.	Description	Qty	Unit	MRS It No	Rate	Amount
1	2	3	4	5	6	7
<b>B. Head Race Channel</b>						
<b>Excavation/Earth works</b>						
1	Earthwork by mechanical means in drains, channels and irrigation channels in DRY & WET soil dressed to designed section, grades profile/with excavated material, disposed off within 50 feet (15.2 m) lead and dressed as directed, complete all as per Drawings, Specifications and Directions of the Engineer.	296138.70	Cft	03-72-b	1.585	Rs. 469,380/-
2	Earth work Excavation (in Hard Rock requiring blasting but blasting prohibited) as in Irrigations Channels, Drains and the like structures etc. as and where required/directed to designed sections, grade and profile, (excavated materials disposed off and dressed within 25 meter lead) complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	03-15-a	16.187	Rs. 1,619/-
3	Excavation for core trench of Dam Embankment/ Spillway/ Intake & Outlet Structure upto a minimum depth of 35 ft in shingle gravel including removing of excavated material by machinery in 1 KM radius, complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	03-78-a	6.750	Rs. 675/-
<b>Filling /Embankments/Compaction</b>						
4	Embankment formation in ordinary soil & compaction by mechanical means at optimum moistures content to 95% to 100% max. modified. AASHTO dry density complete all as per Drawings, Specifications and Directions of the Engineer .The rate includes hire charges of machinery, cost of fuel, lubricants, pay of driver and cleaner. The rate also includes clearing and grubbing where necessary complete all as per Drawings, Specifications and Directions of the Engineer.	147638.70	Cft	03-06-a	2.566	Rs. 378,841/-
5	Compaction of Natural Ground using mechanical means, watering, power Road Roller (Static) and other macninery complete including cut or fill upto 6" all as per Drawings, Specifications and Directions of the Engineer.	10000.00	Sft	03-65	2.138	Rs. 21,380/-
6	Providing and Laying, Filter granular backfill behind retaining wall (stone/boulder filling upto one meter to prevent choking of weep holes) with Boulder (Screened/Washed) Mixed graded shingle of NHA, specifications, in any position, complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	19-47	36.373	Rs. 3,637/-
<b>Demolation</b>						
7	Cutting through or demolition of PCC (Plum Concrete) including removal of boulders complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	04-03	22.590	Rs. 2,259/-

Signature \_\_\_\_\_  
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 Name of Bidder \_\_\_\_\_

**Engineer's Estimates/Bill of Quantities**

**Construction of Micro Hydel Power (Civil Works) at Shaheed BB University, Sheringal, Dir Upper**

Sr. No.	Description	Qty	Unit	MRS It No	Rate	Amount
1	2	3	4	5	6	7
	<b>Stone works/pitching etc.</b>					
8	Supply and spreading stone aggregate size 1/8" to 3/4" using mechanical means (Tractor with blade / Plough), watering, power Road Roller (Static) and other machinery complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	03-35	44.470	Rs. 4,447/-
9	Supply and spreading stone aggregate size 3/4" to 2" using mechanical means (Tractor with blade / Plough), watering, power Road Roller (Static) and other machinery complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	16-28	38.648	Rs. 3,865/-
10	Provide and laying Dry Stone Pitching complete in all respect complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	08-17	67.276	Rs. 6,728/-
11	Provide & Weave GI wire netting for wire crates 6"x6" mesh: 10 SWG wire, in any position, complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Sft	19-13-b-2	38.206	Rs. 3,821/-
12	Supplying and Filling of Stone in GI Wire Crate and its Sewing, (excluding cost of crates) in any position, complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	19-26	71.770	Rs. 7,177/-
13	Providing and Laying grouted stone pitching, in PCC 1:3:6 on slope or on level , in any position, complete all as per Drawings, Specifications and Directions of the Engineer.	1000.00	Cft	19-31-d	139.362	Rs. 139,362/-
14	Providing and Laying and Stone pitching hand packed with surface levelled off to the correct section with hammer dressed stone and voids filled in 1:8 cement mortar in floors of bridges and along banks and in aprons etc including 91.50 meter lead, in any position, complete all as per Drawings, Specifications and Directions of the Engineer.	1000.00	Cft	19-38-c	152.766	Rs. 152,766/-
	<b>Concrete works</b>					
15	Providing and laying of Plain Cement Concrete (using Stone Ballast) under foundation and under layers of floors, as and where required etc. including Placing, compacting, finishing & curing complete (including screening and washing of aggregates) (Ratio 1:4:8) complete all as per Drawings, Specifications and Directions of the Engineer.	8350.00	Cft	06-03-b	140.840	Rs. 1,176,014/-
16	Providing and laying of Plain Cement Concrete (using Crushed Stone) under foundation and under layers of floors, or chequered Flooring or as and where required etc. including Placing, compacting, finishing & curing complete (including screening and washing of aggregates) (Ratio 1:2:4) complete all as per Drawings, Specifications and Directions of the Engineer.	2012.50	Cft	06-05-f	236.670	Rs. 476,298/-

Signature \_\_\_\_\_  
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**Engineer's Estimates/Bill of Quantities**

**Construction of Micro Hydel Power (Civil Works) at Shaheed BB University, Sheringal, Dir Upper**

Sr. No.	Description	Qty	Unit	MRS It No	Rate	Amount
1	2	3	4	5	6	7
17	Reinforced Cement Concrete Work (1:2:4) 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, all as per Drawings, Specifications and Directions of the Engineer.	23690.75	Cft	06-07-d-03	270.360	Rs. 6,405,031/-
18	Supply & Fabrication of Mild Steel Reinforcement using Hot Rolled Deformed Bars Grade 40 for Cement Concrete, including cutting, bending, laying in position, making joints and fastening, including cost of binding wires and labour charges for binding of Steel Reinforcement (overlaps, chairs, and wastage, shall not be measured & paid separately) all as per Drawings, Specifications and Directions of the Engineer.	5922.69	Kgs	06-08-c	159.980	Rs. 947,512/-
19	--ditto-- but deformed bars Gde-60.	53304.19	Kgs	06-08-b	163.650	Rs. 8,723,230/-
20	Providing and laying of Plain Cement Concrete as and where required etc. including Placing, compacting, finishing & curing complete (less formwork) (Ratio 1:3:6 using 50% boulders) complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	06-44-a	135.460	Rs. 13,546/-
21	Providing and laying of Plain Cement Concrete as and where required etc. including Placing, compacting, finishing & curing complete (less formwork) (Ratio 1:4:8 using 50% boulders) complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	06-45-a	119.399	Rs. 11,940/-
22	Erection and removal of Steel Formwork for RCC or PCC.	100.00	Sft	06-47-b	66.780	Rs. 6,678/-
23	Supplying and Fixing of PVC water stopper 8" wide and 3/8" thick in any position and any floor/storey/roof complete all as per Drawings, Specifications and Directions of the Engineer.	10.00	Rft	24-40	170.430	Rs. 1,704/-
	<b>Masonry works</b>					
24	Pacca/Burnt Brick Work in Foundation, Plinth and anywhere below Ground Level in Cement, Sand Mortar Ratio 1:6 complete all as per Drawings, Specifications and Directions of the Engineer.	10.00	Cft	07-04-a-05	260.990	Rs. 2,610/-
25	Pacca/Burnt brick work in Ground Floor in Cement, sand mortar Ratio 1:6 complete all as per Drawings, Specifications and Directions of the Engineer.	10.00	Cft	07-05-a-05	280.270	Rs. 2,803/-
26	Coursed Rubble Masonry (Hammer Dressed) in foundation & plinth or as and where directed by the Engineer laid, jointed and pointed in Cement, Sand Mortar Ratio 1:6 complete all as per Drawings, Specifications and Directions of the Engineer.	8340.00	Cft	08-02-d-3	211.093	Rs. 1,760,516/-

Signature \_\_\_\_\_  
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1	2	3	4	5	6	7
	<b>Pipes culverts etc.</b>					
27	Providing & laying R.C.C. pipe sewers, moulded with cement concrete 1:1-1/2:3 conforming to ASTM specification C-76-79, Class II, Wall B, including carriage, lowering in trenches to correct alignment and grade, jointing with rubber ring, cutting pipes where necessary, testing, etc. complete:- 12" i/d, wall thickness 2", all as per Drawings, Specifications and Directions of the Engineer.	6.00	Rft	23-03-a-01	560.730	Rs. 3,364/-
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	<b>Steel and Iron Works</b>					
29	Providing and fixing Mild Steel Sections of T, L, Flat, Square, Rectangular, MS Sheets, Solid and Hollow Sections as in Grating, Grill, Railing, Ladders, Doors, Holdfasts, Handles, Locking arrangement and other positions including, cut of dead length and welding, painting 3 coats, etc complete in all respect as per drawing, specification and as directed by the Engineer Incharge.	10.00	Kg	25-09	238.888	Rs. 2,389/-
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a.	<b>G. Total</b>	<b>Head Race Channel</b>				<b>Rs. 20,738,305/-</b>
b.	Deduct of 7.5% withhoding tax (included in CSR/MRS rates not payable/ deductible to/ from firms pertaing to tax exampmed area.					Rs. 1,555,373/-
c.	<b>Sub-Total (a-b)=c</b>					<b>Rs. 19,182,932/-</b>
d.	Add 10% location factor (c x10/100)					Rs. 1,918,293/-
e.	<b>Net-Total (c+d)=e</b>					<b>Rs. 21,101,225/-</b>

Signature \_\_\_\_\_  
 Seal and Stamp \_\_\_\_\_  
 Name of Bidder \_\_\_\_\_

**Engineer's Estimates/Bill of Quantities**

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<b>C. Forebay Spill Channel, Fall Structure, and Forebay Tank</b>						
<b>Excavation/Earth works</b>						
1	Earthwork by mechanical means in drains, channels and irrigation channels in DRY & WET soil dressed to designed section, grades profile/with excavated material, disposed off within 50 feet (15.2 m) lead and dressed as directed, complete all as per Drawings, Specifications and Directions of the Engineer.	10000.00	Cft	03-72-b	1.585	Rs. 15,850/-
2	Earth work Excavation (in Hard Rock requiring blasting but blasting prohibited) as in Irrigations Channels, Drains and the like structures etc. as and where required/directed to designed sections, grade and profile, (excavated materials disposed off and dressed within 25 meter lead) complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	03-15-a	16.187	Rs. 1,619/-
3	Excavation for core trench of Dam Embankment/ Spillway/ Intake & Outlet Structure upto a minimum depth of 35 ft in shingle gravel including removing of excavated material by machinery in 1 KM radius, complete all as per Drawings, Specifications and Directions of the Engineer.	9200.00	Cft	03-78-a	6.750	Rs. 62,100/-
<b>Filling /Embankments/Compaction</b>						
4	Embankment formation in ordinary soil & compaction by mechanical means at optimum moistures content to 95% to 100% max. modified. AASHTO dry density complete all as per Drawings, Specifications and Directions of the Engineer .The rate includes hire charges of machinery, cost of fuel, lubricants, pay of driver and cleaner. The rate also includes clearing and grubbing where necessary complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	03-06-a	2.566	Rs. 257/-
5	Compaction of Natural Ground using mechanical means, watering, power Road Roller (Static) and other macninery complete including cut or fill upto 6" all as per Drawings, Specifications and Directions of the Engineer.	100.00	Sft	03-65	2.138	Rs. 214/-
6	Providing and Laying, Filter granular backfill behind retaining wall (stone/boulder filling upto one meter to prevent choking of weep holes) with Boulder (Screened/Washed) Mixed graded shingle of NHA, specifications, in any position, complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	19-47	36.373	Rs. 3,637/-
<b>Demolation</b>						
7	Cutting through or demolition of PCC (Plum Concrete) including removal of boulders complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	04-03	22.590	Rs. 2,259/-

Signature \_\_\_\_\_  
 Seal and Stamp \_\_\_\_\_  
 Name of Bidder \_\_\_\_\_

**Engineer's Estimates/Bill of Quantities**

**Construction of Micro Hydel Power (Civil Works) at Shaheed BB University, Sheringal, Dir Upper**

Sr. No.	Description	Qty	Unit	MRS It No	Rate	Amount
1	2	3	4	5	6	7
	<b>Stone works/pitching etc.</b>					
8	Supply and spreading stone aggregate size 1/8" to 3/4" using mechanical means (Tractor with blade / Plough), watering, power Road Roller (Static) and other machinery complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	03-35	44.470	Rs. 4,447/-
9	Supply and spreading stone aggregate size 3/4" to 2" using mechanical means (Tractor with blade / Plough), watering, power Road Roller (Static) and other machinery complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	16-28	38.648	Rs. 3,865/-
10	Provide and laying Dry Stone Pitching complete in all respect complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	08-17	67.276	Rs. 6,728/-
11	Provide & Weave GI wire netting for wire crates 6"x6" mesh: 10 SWG wire, in any position, complete all as per Drawings, Specifications and Directions of the Engineer.	3360.00	Sft	19-13-b-2	38.206	Rs. 128,372/-
12	Supplying and Filling of Stone in GI Wire Crate and its Sewing, (excluding cost of crates) in any position, complete all as per Drawings, Specifications and Directions of the Engineer.	6960.00	Cft	19-26	71.770	Rs. 499,519/-
13	Providing and Laying grouted stone pitching, in PCC 1:3:6 on slope or on level , in any position, complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	19-31-d	139.362	Rs. 13,936/-
14	Providing and Laying and Stone pitching hand packed with surface levelled off to the correct section with hammer dressed stone and voids filled in 1:8 cement mortar in floors of bridges and along banks and in aprons etc including 91.50 meter lead, in any position, complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	19-38-c	152.766	Rs. 15,277/-
	<b>Concrete works</b>					
15	Providing and laying of Plain Cement Concrete (using Stone Ballast) under foundation and under layers of floors, as and where required etc. including Placing, compacting, finishing & curing complete (including screening and washing of aggregates) (Ratio 1:4:8) complete all as per Drawings, Specifications and Directions of the Engineer.	1049.75	Cft	06-03-b	140.840	Rs. 147,847/-
16	Providing and laying of Plain Cement Concrete (using Crushed Stone) under foundation and under layers of floors, or chequered Flooring or as and where required etc. including Placing, compacting, finishing & curing complete (including screening and washing of aggregates) (Ratio 1:2:4) complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	06-05-f	236.670	Rs. 23,667/-
17	Reinforced Cement Concrete Work (1:2:4) 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, all as per Drawings, Specifications and Directions of the Engineer.	18842.05	Cft	06-07-d-03	270.360	Rs. 5,094,137/-
18	Supply & Fabrication of Mild Steel Reinforcement using Hot Rolled Deformed Bars Grade 40 for Cement Concrete, including cutting, bending, laying in position, making joints and fastening, including cost of binding wires and labour charges for binding of Steel Reinforcement (overlaps, chairs, and wastage, shall not be measured & paid separately) all as per Drawings, Specifications and Directions of the Engineer.	5652.62	Kgs	06-08-c	159.980	Rs. 904,305/-
19	--ditto-- but deformed bars Gde-60.	50873.54	Kgs	06-08-b	163.650	Rs. 8,325,454/-

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**Engineer's Estimates/Bill of Quantities**

**Construction of Micro Hydel Power (Civil Works) at Shaheed BB University, Sheringal, Dir Upper**

Sr. No.	Description	Qty	Unit	MRS It No	Rate	Amount
1	2	3	4	5	6	7
20	Providing and laying of Plain Cement Concrete as and where required etc. including Placing, compacting, finishing & curing complete (less formwork) (Ratio 1:3:6 using 50% boulders) complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	06-44-a	135.460	Rs. 13,546/-
21	Providing and laying of Plain Cement Concrete as and where required etc. including Placing, compacting, finishing & curing complete (less formwork) (Ratio 1:4:8 using 50% boulders) complete all as per Drawings, Specifications and Directions of the Engineer.	100.00	Cft	06-45-a	119.399	Rs. 11,940/-
22	Erection and removal of Steel Formwork for RCC or PCC.	100.00	Sft	06-47-b	66.780	Rs. 6,678/-
23	Supplying and Fixing of PVC water stopper 8" wide and 3/8" thick in any position and any floor/storey/roof complete all as per Drawings, Specifications and Directions of the Engineer.	10.00	Rft	24-40	170.430	Rs. 1,704/-
<b>Masonry works</b>						
24	Pacca/Burnt Brick Work in Foundation, Plinth and anywhere below Ground Level in Cement, Sand Mortar Ratio 1:6 complete all as per Drawings, Specifications and Directions of the Engineer.	10.00	Cft	07-04-a-05	260.990	Rs. 2,610/-
25	Pacca/Burnt brick work in Ground Floor in Cement, sand mortar Ratio 1:6 complete all as per Drawings, Specifications and Directions of the Engineer.	10.00	Cft	07-05-a-05	280.270	Rs. 2,803/-
26	Coursed Rubble Masonry (Hammer Dressed) in foundation & plinth or as and where directed by the Engineer laid, jointed and pointed in Cement, Sand Mortar Ratio 1:6 complete all as per Drawings, Specifications and Directions of the Engineer.	10.00	Cft	08-02-d-3	211.093	Rs. 2,111/-
<b>Pipes culverts etc.</b>						
27	Providing & laying R.C.C. pipe sewers, moulded with cement concrete 1:1-1/2:3 conforming to ASTM specification C-76-79, Class II, Wall B, including carriage, lowering in trenches to correct alignment and grade, jointing with rubber ring, cutting pipes where necessary, testing, etc. complete:- 12" i/d, wall thickness 2", all as per Drawings, Specifications and Directions of the Engineer.	6.00	Rft	23-03-a-01	560.730	Rs. 3,364/-
28	Providing & laying R.C.C. pipe sewers, moulded with cement concrete 1:1-1/2:3 conforming to ASTM specification C-76-79, Class II, Wall B, including carriage, lowering in trenches to correct alignment and grade, jointing with rubber ring, cutting pipes where necessary, testing, etc. complete:- 24" i/d, wall thickness 3", all as per Drawings, Specifications and Directions of the Engineer.	6.00	Rft	23-03-a-05	1,054.190	Rs. 6,325/-

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**Engineer's Estimates/Bill of Quantities**

**Construction of Micro Hydel Power (Civil Works) at Shaheed BB University, Sheringal, Dir Upper**

Sr. No.	Description	Qty	Unit	MRS It No	Rate	Amount
1	2	3	4	5	6	7
	<b>Steel and Iron Works</b>					
29	Providing and fixing Mild Steel Sections of T, L, Flat, Square, Rectangular, MS Sheets, Solid and Hollow Sections as in Grating, Grill, Railing, Ladders, Doors, Holdfasts, Handles, Locking arrangement and other positions including, cut of dead length and welding, painting 3 coats, etc complete in all respect as per drawing, specification and as directed by the Engineer Incharge.	10.00	Kg	25-09	238.888	Rs. 2,389/-
30	Providing and fixing Mild Steel Gate Valves, controle valves complete in all respect including spindle, gear, core and other items required, complete in all respect as per drawing, specification and as directed by the Engineer Incharge.	10.00	Kg	25-09	238.888	Rs. 2,389/-
a.	<b>G. Total</b>	<b>Forebay Spill Channel, Fall Structure, and Forebay Tank</b>				<b>Rs. 15,309,348/-</b>
b.	Deduct of 7.5% withhoding tax (included in CSR/MRS rates not payable/deductable to/from firms pertaing to tax exampted area.					Rs. 1,148,201/-
c.	<b>Sub-Total (a-b)=c</b>					<b>Rs. 14,161,147/-</b>
d.	Add 10% location factor (c x10/100)					Rs. 1,416,115/-
e.	<b>Net-Total (c+d)=e</b>					<b>Rs. 15,577,261/-</b>

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