

CONSTRUCTION OF PRE-ENGINEERED HATCHERY BUILDING AND GROWOUT

SUMMARY OF PRICE

SCHEDULE	DESCRIPTION	AMOUNT (Nu.)
Schedule 1	General Civil Works	
Schedule 2	Growout Ponds	
Schedule 2	Installation of Equipments	
TOTAL (Nu.)		

Project: CONSTRUCTION OF PRE-ENGINEERED HATCHERY BUILDING AND GROWOUT
Schedule - 1: Civil Works for Hatchery Building

Sl. No	Description of item of work	Provisional Quantity	Unit	Rate	Amount	Remarks
	PEB					
1	<p>PEB Warehouse including design, supply, hoisting, erection ,finishing with the following requirements:</p> <ul style="list-style-type: none"> • Primary structural members, column, beam, rafter etc. shop fabricated from hot-rolled steel plates, hot rolled steel section or tube section (as per approved design including fixing with foundation bolts on R.C.C. foundation. • Secondary structural members (purlin, girt, hangers, louver frames, bracings, etc etc.), fabricated from cold rolled steel sections conforming to IS:800 Grade 2062 with minimum yield strength of 250 MPa • Bolts & nuts : <ul style="list-style-type: none"> - High strength bolts hot dip galvanized conforming to ASTM A 325M (full thread), Class 8.8 Type 1(or equivalent) used to connect primary members. - Machine bolts electro-galvanized with a yellow chromate color conversion coating conforming to DIN 933 Class 4.6 (or equivalent) which may be used to connect secondary members like purlins and girts. - Anchor bolts manufactured from rods conforming to ASTM A 36M (or equivalent) with a minimum yield strength of 350MPa. - Nuts of at least the strength grade appropriate to the grade of bolts or other threaded elements with which they are used. • Wall cladding & roofing using PPGL sheet. • Sky light sheet, canopy, Anodized Aluminum door, windows, wall ventilators, rolling shutters etc. • Design, manufacture and erection. • Roofing sheet accessions: Ridges, Apron, Gutter, External corner flashing etc. fitted with nuts/screens. • Painting of Structural Steel Works of Warehouse. • Electrical Works. <p>including cost of all materials, labour, hire charges of equipment and T&P, POL, etc complete, including all the items given in the general specification for PEB buildings as per technical specs, construction drawing and direction of Engineer-in-charge except the cost of RCC foundation, RCC flooring and plinth protection.</p>	5,184.00	sq.m			<p>For enclosed PEB building. Note: all PEB materials should be from reputed make acceptable to client's engineer</p>
	Earth work					
	Earthwork in surface excavation including clearing away and uprooting vegetation if any, for general site grading, road formation etc. in all types of soils (ordinary/ hard soil) in both dry and wet conditions & transporting excavated material (at all leads and lifts) to temporary stockpiles within the EMPLOYER's premises, spreading, levelling etc. all complete as specified and as directed by client's representative at site.					
3	All Kinds of soil	7,107.87	cum			
	Earthwork in excavation including clearing away vegetation in foundations, pits trenches, drains and earthing etc. for all widths or areas on plan in both dry and wet conditions including shoring, strutting, dewatering, dressing of sides and ramming of bottom & backfilling with selected earth from excavation in layers of 200 mm, watering, ramming, consolidation & transporting excavated material (at all leads and lifts) to temporary stockpiles within the PURCHASER's premises, spreading, levelling etc. all complete as specified and as directed.					
3	All kinds of soil	1,264.18	cum			
4	All kinds of rocks with or without blasting	20.00	cum			

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Sl. No	Description of item of work	Provisional Quantity	Unit	Rate	Amount	Remarks
	Concrete/ RCC work					
5	Providing and Laying plain or Sulphate resistant cement concrete including formworks, thickness as shown in drawings, under reinforced concrete, masonry walls in foundations, grade slabs, bottom of pits, sumps, etc. with 1:3:6 concrete with aggregates of size 20mm downgraded including curing, etc. complete. (Rate to be inclusive of supply of all necessary material, laying in position as per specifications and as directed by Engineer).	190.41	cum			
6	Providing and Laying plain or Sulphate resistant cement concrete including formworks, thickness as shown in drawings, under reinforced concrete, masonry walls in foundations, grade slabs, bottom of pits, sumps, etc. with 1:4:8 concrete with aggregates of size 20mm downgraded including curing, etc. complete. (Rate to be inclusive of supply of all necessary material, laying in position as per specifications and as directed by Engineer).	343.83	cum			
7	Providing and Laying Reinforced concrete of grade M20 excluding reinforcement but including formwork, with coarse aggregate of sizes 20 mm downgraded as directed by Engineer in foundations (all types), walls, water tanks and any other structures including vibrating, curing, etc. complete. (Rate to be inclusive of supply of all necessary material, laying in position as per specifications, complete, as directed by the engineer).	280.00	cum			
8	Providing and Laying Reinforced concrete of grade M20 excluding reinforcement but including formwork, with coarse aggregate of sizes 20 mm downgraded as directed by Engineer in grade slabs, including vibrating, curing, etc. complete. The grade slab should be finished with a power trowel to make it smooth and cement slurry if required. (Rate to be inclusive of supply of all necessary material, laying in position as per specifications, complete, as directed by the engineer).	520.00	cum			
9	Providing & fixing Thermo-Mechanically Treated reinforcement bar (Yield Strength 500 MPa) for R.C.C work including cutting, bending, binding and placing in position complete	46.76	MT			
	Steel work					
10	Supply, fabrication, erection, transport, delivery to site, loading and unloading, etc for pipes, angles, rolled steel columns and beams, square hollow sections, flats including fixing/ welding opening notches etc. all as per specifications and drawings.(a) Non galvanised	3.00	MT			
	Stone / Brick work					
11	Providing & laying Hand packed stone filling or soling with stones (under flooring, footings, walls, below ground floor slab, etc.)	961.47	cum			
12	Providing & laying Random Rubble Masonry with hard stone in foundation & plinth including RRM wall from basement to ground floor - In CM 1:5	267.30	cum			
13	Providing and laying autoclaved aerated cement blocks masonry (AAC blocks) in superstructure above plinth level upto floor V level with RCC band at sill level and lintel level with approved block laying polymer modified adhesive mortar all complete as per direction of Engineer-in-Charge.(The payment of RCC band and reinforcement shall be made separately)	108.00	cum			
	Flooring					
14	Providing and laying 2.5mm thk. Bitumen Felt type 3, Grade 2, sheet under walls and behind RCC walls for damp proofing, etc	86.40	sqm			
15	Providing and laying cement concrete flooring 1:2:4, finished with floating coat of neat cement - 12mm aggregates, 25mm thick	5,184.00	sqm			
16	Providing and laying moisture barrier using plastic sheeting underlay - 200 micro-metre	5,184.00	sqm			

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Schedule - 1: Civil Works for Hatchery Building

Sl. No	Description of item of work	Provisional Quantity	Unit	Rate	Amount	Remarks
	Doors & windows					

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Schedule - 1: Civil Works for Hatchery Building

Sl. No	Description of item of work	Provisional Quantity	Unit	Rate	Amount	Remarks
16	Providing and Fixing UPVC windows, with double glazed (6+10+6) mm thick toughned glass - (1.8 X 1.5)m including all necessary fixtures,complete set - W1	4.00	Nos			
17	Providing and Fixing UPVC windows, with double glazed (6+10+6) mm thick toughned glass - (1.0 X 1.5)m including all necessary fixtures,complete set - W2	2.00	Nos			
18	Providing and Fixing UPVC doors, with double glazed (6+10+6) mm thick toughned glass - (0.9x2.1)m including all necessary fixtures,complete set - D1	2.00	Nos			
19	Providing & fixing flush door shutters (pre-fabricated), block-board core with ply veneer, chemically treated-40mm thick - (0.7x2.1)m including all necessary fixtures,complete set - D2	2.00	Nos			
	Turbo vents & Installation of Insulation sheet					
19	Providing & Installation of 600mm dia. stainless wind propelled Turbo ventilators with transparent arcylic base, slope adaptor including cost of all necessary fixing accessories.	24.00	each			
20	Laying of Thermabrite insulation sheet underneath the PPGL sheet (materials will be provided by the employer)	5,443.20	sq.m			
	Plumbing and sanitation					
21	Providing & fixing P.V.C soil waste and ven pipes,single or double socketed, including pipe clip complete (excluding the cost of PVC fittings) -110mm dia	317.50	m			
22	Providing & fixing P.V.C plain bend with suitable anti insect floor trap, complete - 110mm dia	45.00	nos			
23	Providing & fixing Auto control Water Pump 1.0HP pressure pump with complete accessories.	1.00	each			
24	Providing & fixing plastic tank including all accessories complete - 2000ltr	1.00	each			
25	Constructing Soak Pit (Size 1200x1200x1200mm), filled with brick bats including 100mm SW drain pipe X 1200mm long	1.00	each			
26	Constructing Septic Tanks, in 2nd class brick masonry in cement mortar 1:4, including Heavy Duty C.I cover with frame size 600x600mm, 100mm thick concrete flooring 1:4:8 (40mm aggregates) cement plaster over concrete base in C.M 1:4 etc. complete as per standard design - 50 users	1.00	each			
	Plinth protection					
27	Providing and laying Plinth Protection and grouted with fine sand mix including well rammed, finishing the top smooth With 50mm thick cement concrete 1:3:6, 20mm aggregates, laid over 75mm thick layer of compacted gravel (40mm). 8mm dia Rebars will be drilled and installed every 600mm of the plinth wall to make sure there will be no crack formattion (seperate payment shall be made for rebars, however, no extra payment shall be made for reinforced concrete)	666.00	sq.m			
28	Providing & fixing square mouth S.W gully-trap A-grade including C.I grating, Heavy Duty C.I. cover with frame of 300 x 300 mm, brick masonry chamber 150 x 100mm P or S Type	20.00	each			
29	Const. Brick masonry manhole in CM 1:5, R.C.C top slab with 1:2:4 20mm agg., fdn. PCC 1:4:8 40mm agg.12mm CP 1:3 finished with floating coat & making channels in PCC 1:2:4., 20mm agg. neatly finished complete - as per the drawing - Inside dimension 900x800mm & 450mm deep including C.I.cover & frame (weight >38 kg)	2.00	each			
	Road work					
30	Supplying & laying soling course of finished thickness of 150 mm, packing with 80 mm metall, dry rolling, sprinkling gravel, watering and rolling, etc. all complete as specified.	288.75	cum			
31	Preparation of sub grade with proper camber by excavating earth to depth equal to pavement thickness, consolidation with roller, disposal of surplus earth up to 50m - all kinds of soil	288.75	cu.m			
32	Providing and laying Granular sub-base course (GSB) to required degree of compaction with proper formation of cross fall using motor grader for laying and compacted to required density as per material gradation and aggregate quality specified including scarifying complete.	440.00	cu.m			

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Schedule - 1: Civil Works for Hatchery Building

Sl. No	Description of item of work	Provisional Quantity	Unit	Rate	Amount	Remarks
33	Providing and laying Wet Mix Macadam (WMM) to required degree of compaction with proper formation of cross fall using motor grader for laying and compacted to required density as per material gradation and aggregate quality specified including scarifying complete.	481.25	cu.m			
34	Providing and Laying Dense Bituminous Macadam (DBM) of 50mm thickness to required degree of compaction based on mixture design (job mix formula) approved by the supervising engineer including preparation of surface with road broom, application of prime coat @ 0.75 kg/sq.m by mechanized method using asphalt plant, paver, steel roller, tyre roller etc. complete	1,925.00	sqm			
35	Providing and Laying Asphalt/Bituminous Concrete of 25mm thick to required degree of compaction based on the job mixture design approved by the supervising engineer using asphalt plant, paver, steel roller, tyre roller etc. as per material gradation and aggregate quality specified with VG30 bitumen.	1,925.00	sq.m			
36	Supplying, & Laying, jointing, hydraulically testing NP3 class cement concrete pipes conforming to IS:458 for cable crossing across the roads etc. (pipe shall have collar joint sealed in C.M. 1:2)					
	(a) 600 mm dia.	25.00	R.M.			
	(b) 900 mm dia.	25.00	R.M.			
	Gate					
37	Supplying, Fabricating and erecting M.S. gates (height 2m x width 4m) fabricated using square hollow section framework (Internal & External) including double bearing 100mm MS wheel with channel for running track, locking arrangement including applying one coat of red oxide paint and two coats of synthetic enamel paint to all exposed surfaces of steel. Contractor shall arrange for all the materials, tools, labour, etc. required to complete the job as per drawing	2.00	Nos			
	Chainlink Fence					
38	Construction of chain link fencing of 2.0m high above finished grade level, 50 x 50 mm mesh with 3.15 mm dia. GI Wire. The chain link shall be clamped to angle posts ISA 50 x 50 x 5 at spacing not exceeding 2.5m by MS flat 40x4 with 16mm diameter bolt with flat washers.The foundation shall be anchored in 1:3:6 PCC block of size 250mm x 250mm x 600mm deep, including providing of braced bays at corners and every tenth bay with angle ISA 65x65x5 diagonal bracing including earthwork in excavation, PCC slab, RRM wall, plastering, filling of trenches,erection, painting over approved primer cost, etc. complete as per details indicated in the drawings.	500.00	R.M.			
	Total for Hatchery Building only (excluding Road, gate and Chain-link Fence)					
	Total (Nu.)					

Project: CONSTRUCTION OF PRE-ENGINEERED HATCHERY BUILDING AND GROWOUT

Schedule - 2: Civil Works for Growout ponds

Sl. No	Description of item of work	Provisional Quantity	Unit	Rate	Amount	Remarks
	For Growout pond					
	Earth work					
1	Earthwork in excavation for preparation of ponds as per specifications and drawings of the ponds including clearing away vegetation in foundations, pits trenches, drains and earthing etc. for all widths or areas on plan in both dry and wet conditions including shoring, making embankments, strutting, dewatering, dressing of sides and ramming of bottom & backfilling with selected earth from excavation in layers of 200 mm, watering, ramming, consolidation & transporting excavated material (at all leads and lifts) to temporary stockpiles within the PURCHASER's premises, spreading, levelling etc. all complete as specified and as directed.					
a)	All Kinds of soil	90,000.00	cum			
b)	Hard Rock	36.00	cum			
2.0	Earthwork in filling in for pond floor and wall lining etc. including watering, ramming, compacting to 95% Modified Proctor density and dressing to the required profiles, etc. complete, as directed by the Engineer.					
2.1	With excavated earth from stockpiles in the PURCHASER's premises at all leads	36.00	cum			
2.2	With excavated earth from approved borrow areas from outside PURCHASER's premises upto a lead of 5.0 km	36.00	cum			
2.1	Extra over items 2.1 & 2.2 for lead from					
i)	5 km - 10 km.	36.00	cum			
ii)	10 km -20 km.	36.00	cum			
iii)	per km cost for a tipper truck (10 cu.m)	1.00	km			
3	Providing and laying of UV resistant 650GSM geosynthetic/geomembrane pond liner (0.75mm thick) complete, as per specifications and as directed by the Engineer.	108,900.00	sq.m			
4	Providing and fixing CGI sheet (0.3mm thick) for fencing including bamboo support on mid portion and every over lap of CGI sheet (800mm width) complete, as directed by the Engineer.	2,970.00	m			
5	Supply of H.D.P.E Pipes, 2.5 PN - 160mm dia	42.00	m			
6	Providing & laying H.D.P.E Pipes, 4 PN, including H.D.P.E fittings (excluding trenching, refilling & thrust block) -110mm dia	480.00	m			
7	Providing & fixing Flanged Bottom Drain ECO-FLANGE SUCTION FLOW [1.5:1] (160mmx110mm) with complete set suitable for pond liners.	40.00	nos			
	Total for Growout Ponds (Nu.)					
	For Inlet Drain & Inlet Weir					
8	Earthwork in excavation including clearing away vegetation in foundations, pits trenches, drains and earthing etc. for all widths or areas on plan in both dry and wet conditions including shoring, strutting, dewatering, dressing of sides and ramming of bottom & backfilling with selected earth from excavation in layers of 200 mm, watering, ramming, consolidation & transporting excavated material (at all leads and lifts) to temporary stockpiles within the PURCHASER's premises, spreading, levelling etc. all complete as specified and as directed. - All Kinds of soil	1,072.00	cum			
9	Providing & laying Hand packed stone filling or soling with stones (under flooring, footings, walls, below ground floor slab, etc.)	157.50	cum			

Project: CONSTRUCTION OF PRE-ENGINEERED HATCHERY BUILDING AND GROWOUT

Schedule - 2: Civil Works for Growout ponds

Sl. No	Description of item of work	Provisional Quantity	Unit	Rate	Amount	Remarks
10	Providing and Laying plain or Sulphate resistant cement concrete including formworks, thickness as shown in drawings, under reinforced concrete, masonry walls in foundations, grade slabs, bottom of pits, sumps, etc. with 1:2:4 concrete with aggregates of size 20mm downgraded including curing, etc. complete. (Rate to be inclusive of supply of all necessary material, laying in position as per specifications and as directed by Engineer). (For Drain)	495.30	cum			
11	Providing and Laying Reinforced concrete of grade M20 excluding reinforcement but including formwork, with coarse aggregate of sizes 20 mm downgraded as directed by Engineer in foundations (all types), walls, water tanks, grade slabs, road pavement, precast cover slabs with lifting hooks and any other structures including vibrating, curing, etc. complete. (Rate to be inclusive of supply of all necessary material, laying in position as per specifications, complete, as directed by the engineer). (Inlet weir)	27.50	cum			
12	Providing & fixing Thermo-Mechanically Treated reinforcement bar (Yield Strength 500 MPa) for R.C.C work including cutting, bending, binding and placing in position complete	5.50	MT			
13	Providing & laying H.D.P.E Pipes, 4 PN, including H.D.P.E fittings with Butt fusion coupling of pipes (including trenching, refilling & thrust block etc.) all complete as specified and as directed by the Engineer. - 110mm	500.00	m			
14	Providing and Fixing of 5HP Centrifugal pump, complete with all accessories.	2.00	nos			
15	Providing and Fixing of 50HP Centrifugal pump, complete with all accessories with connection to open Inlet drain	2.00	nos			
	Total for Inlet drain					
	Total for Growout Ponds and Inlet Drain (Nu.)					

Project: CONSTRUCTION OF PRE-ENGINEERED HATCHERY BUILDING AND GROWOUT

Schedule - 3: Equipment Installation Works

Sl. No	Description of item of work	Provisional Quantity	Unit	Rate	Amount	Remarks
Step 1:Broodstock System (400m3/h RAS System)---About 500m³ Water Volume						
1	Installation and fixing of Flowmeter Material: PVC Specification: DN25 Mechanical flow meter Note: There is a 304 stainless steel stick inside. of weight: 2 kg	192	pcs			Physical labour (Plumber, Main tool: Belt wrench) Assumption : 1 plumber - 10 installations per day
2	Installation and fixing of Crayfish Tank, PP material Size: Dia2.2m*H 1m, water level: 0.6m, the water volume is about 2.28m³ Thick: 7mm, with bottom outlet DN65 , without over flow outlet, of weight: 128 kg	192	set			Physical labour (Plumber, Main tool: Belt wrench, Laser level, Total station) Forklifts for equipment placement. Heat gun for PP tank maintain 2.2kW each pcs, 2~3 pcs is about 6.6kW-220V/50Hz Assumption : 4 labours 8 installations per day
3	Installation and fixing of Drum Filter, Type: Open Type Material: 304 stainless steel frame, 316L stainless steel mat filter Capacity: 400m3/hr, Filtration Accuracy:75um Overall Size: L2430*W1752*H1950mm Drum Size: Dia1500*L1800mm Power:2.75kW-380V/50Hz Note: one for standby Drum Filter Pond should be dug down by customer, the depth suggests at least 1.5m. of weight: 630 kg	2	set			Physical labour (Plumber, Electrician, Main tool: Ratchet wrench) Forklifts and cranes for equipment placement. Assumption : 2 labours + 1 plumber + 1 electrician + 1 crane - 1 installations per day
4	Installation and fixing of Protein Skimmer & UV Type: Customized 2 in 1 Protein Skimmer, including UV-system. Capacity: 100m3/h Inject pump:2.6 kW-220V/50Hz, UVsterilizer:75Wx5-220V/50Hz With Jet Pump, Collection Cup and Spinning Water Cleaning Device, of weight: 200 kg	4	set			Physical labour (Plumber, Electrician, Main tool: Ratchet wrench) Forklifts for equipment placement. Assumption : 2 labours + 1 electrician+ 1 plumber + forklift - 1 set of installations per day
5	Installation and fixing of Ozone Generator Usage: Used in conjunction with a protein skimmer to sterilize decolorize. and increase the protein efficient Ozone Output: 50g/h: Power: 800W-220V/50Hz, Air Source; Cooling Method: Air Cooling+ Water cooling : Ozone Concentration: 15mg/L-20mg/L; Including Oil-free air compressor, precision filter, condenser, oxygen generator, cooling tank and submersible pump. of weight: 30 kg	2	set			Physical labour (Electrician, Main tool: Cordless hand drill) Forklifts for equipment placement. Assumption : 2 electricians 1 installations per day
6	Installation and fixing of Thermal Control Air energy heat pump Power: 50HP/380V-50Hz Note:Access to the site power box. of weight: 1100 kg	4	set			Physical labour (Plumber, Electrician, Main tool: Ratchet wrench, Impact drill) Impact drill create holes in the wall for pipe to pass through. Forklifts and cranes for equipment placement. Assumption : 2 labours + 1 plumber + 1 electrician + 1 crane - 1 installations per day

Project: CONSTRUCTION OF PRE-ENGINEERED HATCHERY BUILDING AND GROWOUT
Schedule - 3: Equipment Installation Works

Sl. No	Description of item of work	Provisional Quantity	Unit	Rate	Amount	Remarks
7	Installation and fixing of Control Cabinet Customized PLC control cabinet with 15 inches screen according to the system design, good quality electrical devices, with indicator and emergency button Switch Brand ZHENGTAI, PLC Brand SIEMENS. of weight: 100 kg	2	set			Physical labour (Electrician) Forklifts for equipment placement. Assumption : 2 labours + 1 electrician + forklift - 2 installations per day
8	Installation and fixing of Water Monitoring System Usage: online monitoring the water content of PHORPDO. Support 4-wav sensors.4way independent control: Platform management support: APP for IOS / Android, WEB: Including cloud server, 5-inch touch screen and several detection probes to monitor water condition. Including PH probe. ORP probe. DO probe. Note:1 Ammonia nitrogen probe is prepared by customer, it needs to be jointly debugged with the controlplatform of weight: 5 kg	1	set			Physical labour (Electrician, Main tool: Hand drill) Hand drill for fixing platform to wall with bolts Assumption : 1 electrician - half day of work
9	Installation of submersible water pumps: 300m3/h Power:11kW-380V/50Hz Including 2m PVC Steel wire hose Installation of Submersible pump seal	4	set			Physical labour (Electrician) Assumption : 2 labours + 1plumber +1 electrician - 4 installations per day
10	Installation of submersible water pump: 120m3/h Power:11kW-380V/50Hz Including 2m PVC steel wire hose. Installation of seal pump	8	set			Physical labour (Electrician) Assumption : 2 labours + 1plumber +1 electrician - 4 installations per day
11	Installation of pump for water temperature control: 38.1m3/h Power: 2.2kW-220V/50Hz	4	set			Physical labour (Electrician) Assumption : 2 labours + 1plumber +1 electrician - 4 installations per day
12	Installation of air pump for bio filter pond: 210m3/h Power: 2.2kW-380V/50Hz	4	set			Physical labour (Electrician) Assumption : 2 labours + 1plumber +1 electrician - 4 installations per day
13	Installation of air pump for breeding tanks: 110m3/h Power: 0.85kW-380V/50Hz	16	set			Physical labour (Electrician) Assumption : 2 labours + 1plumber +1 electrician - 4 installations per day
	Step 2: Nursery System (180m3/h RAS System 1 unit)---About 180m³ Water Volume					
14	Installation and fixing of Crayfish Tank, Unit Material food grade PP tank, including flowmeter, and filter net Including Ratchet steel bracket. 5 layers Crayfish tank. Each tank size: L1*W1*H0.15 m, water volume is about 0.12m ³ Frame over size: L1.2*W1.2*H2.05m Note: There is 0.2m operating space between every layer. of weight: 85 kg	300	set			Physical labour (Plumber, Main tool:14" Cutting Machine, Ratchet wrench, Belt wrench, Laser level, Total station) Forklifts for equipment placement. 14" Cutting Machine for pipe cutting 1.8kW each pcs, 2~3 pcs is about 5.4kW-220V/50Hz Assumption : 2 labours + 1 plumber + forklift - 10 installations per day

Project: CONSTRUCTION OF PRE-ENGINEERED HATCHERY BUILDING AND GROWOUT
Schedule - 3: Equipment Installation Works

Sl. No	Description of item of work	Provisional Quantity	Unit	Rate	Amount	Remarks
15	Installation and fixing of Drum Filter Type: Open Type Material: 304 stainless steel frame, 316L stainless steel mat filter Capacity: 200m ³ /hr, Filtration Accuracy:75um Overall Size: L2100*W1400*H1700mm Drum Size: Dia1210xL1600m Pawer: Motor 0.55kW, Pulp 1.1kW, 380V/50Hz Note: one for standby Drum Filter Pond should be dug down by customer, the depth suggest at least 1.5m. of weight: 280 kg	2	set			Physical labour (Plumber, Electrician, Main tool: Ratchet wrench) Forklifts and cranes for equipment placement. Assumption : 4 labours + 1 plumber + 1 electrician + forklift - 2 installations per day
16	Installation and fixing of Prote in Skimmer & UV Type: Customized 2 in 1 Prote in Skimmer, including UVsystem. Caacity: 100m ³ /h Inject pump:2.6kW-220V50Hz UV steriltzer:75Wx5-220V/50Hz With Jet Pump, Collectin Cup and Spinning Water Cleaning Device. of weight: 200 kg	2	set			Physical labour (Plumber, Electrician, Main tool: Ratchet wrench) Forklifts for equipment placement. Assumption : 2 labours + 1 plumber + 1 electrician + forklift - 2 installations per day
17	Installation and fixing of Ozone Generator, Usage: Used in conjunctian with a protein skimmer to sterilize, decolorize, and increase the protein efficient Ozone Output:20g/h; Power:280W-220V/50Hz, Air Source, Cooling Method: Air Cooling; Ozone Concentration: 15mg/L-20mg/L; Including Oil-free air compressor, precision filter condenser, oxygen generator, cooling tank and submmersible pump. of weight: 20 kg	2	set			Physical labour (Electrician, Main tool: Cordless hand drill) Forklifts for equipment placement. Assumption : 1 electrician - 2 installations per day
18	Installation and fixing of Oxygen Cone, FRP material. Size: Dia700 (exeluding the flange size)*H1730mm. of weight: 46 kg	6	set			Physical labour (Plumber, Main tool: Ratchet wrench, Belt wrench) Forklifts for equipment placement. Assumption : 2 labour + 1plumber - 3 installations per day

Project: CONSTRUCTION OF PRE-ENGINEERED HATCHERY BUILDING AND GROWOUT
Schedule - 3: Equipment Installation Works

Sl. No	Description of item of work	Provisional Quantity	Unit	Rate	Amount	Remarks
19	Installation and fixing of Venturi tube. PVC material. Used for oxygen cone, mixing oxygen. of weight: 0.1 kg	6	set			Physical labour (Plumber, Main tool: Belt wrench) Assumption : 1 plumber - 2 installations per day
20	Installation and fixing of Oxygen Generator Output: 50L/min, Power: 5.5kW-220V/50Hz, running according to DO level. Integrate oxygen generator, with stabilizer ,High quality molecular sieve. of weight 130 kg	2	set			Physical labour (Electrician) Forklifts for equipment placement. Assumption : 4 labours + 1 electrician - 2 installations per day
21	Installation and fixing of Oxygen tube PU material. oxygen tube. Size: Dia12*8, 100m /roll. of weight: 2 kg	3	roll			Physical labour (Plumber, Main tool: Scissors) Assumption : 1 plumber - 2 installations per day
22	Installation and fixing of Thermal Control. Air energy heat pump, Power:20HP/380V-50Hz Note: Access to the site power box.of weight: 1000 kg	2	set			Physical labour (Plumber, Electrician, Main tool: Ratchet wrench, Impact drill) Impact drill create holes in the wall for pipe to pass through. Forklifts and cranes for equipment placement. Assumption : 4 labours + 1 electrician + 1 plumber + crane - 1 installations per day
23	Installation and fixing of Control Cabinet Customized PLC, control cabinet with 15 inches screens according to the system design, good quality electrical devices, with indicator and emergency button . Switch Brand ZHENGTAI PLC Brand SIEMENS. of weight: 100 kg	2	set			Physical labour (Electrician) Forklifts for equipment placement. Assumption : 2 labours + 1 electrician - 2 installations per day
24	Installation and fixing of Water Monitoring System Usage: online monitoring the water content of PH, ORP, DO. Support 4-way sensors, 4-way independent control; Platform management support: APP for IOS / Android, WEB; Including cloud server, 5-inch touch screen and several detection probes to monitor water condition.Including PH probe,ORP probe,DO probe. Note: Ammonia nitrogen probe is prepared by customer, it needs to be jointly debugged with the control platform	2	set			Physical labour (Electrician, Main tool: Hand drill) Hand drill for fixing platform to wall with bolts Assumption : 1 electrician - 2 installations per day
25	Installation of submersible water pumps for protein skimmer: 120m ³ /h Power: 11kW-380V/50Hz Including 2m PVC steel wire hose, Installation of pump seal	8	set			Physical labour (Electrician) Assumption : 2 labours + 1plumber +1 electrician - 4 installations per day
26	Installation of submersible water pumps for Oxygen cone and fry rack: 80m ³ /h Power: 5.5kW-380V/50Hz Including 2m PVC steel wire hose, installation of pump seal	12	set			Physical labour (Electrician) Assumption : 2 labours + 1plumber +1 electrician - 4 installations per day
27	Installation of pump for water temperature control: 38.1m ³ /h Power: 2.2kW-220V/50Hz	4	set			Physical labour (Electrician) Assumption : 2 labours + 1plumber +1 electrician - 4 installations per day

Project: CONSTRUCTION OF PRE-ENGINEERED HATCHERY BUILDING AND GROWOUT

Schedule - 3: Equipment Installation Works

Sl. No	Description of item of work	Provisional Quantity	Unit	Rate	Amount	Remarks
28	Installation of air pump for bio filter pond: 210m ³ /h Power: 2.2kW-380V/50Hz	8	set			Physical labour (Electrician) Assumption : 2 labours + 1plumber +1 electrician - 4 installations per day
Source Water System						
29	Installation and fixing of Sand Filter, Type : Side out; Size: dia1200mm*H1450mm With multi-function control valve, inlet & outlet: DN80 Note: without media, suggestion sand 1-2mm, 300kg each set. of weight: 150 kg	2	set			Physical labour (Plumber, Main tool: Ratchet wrench) Forklifts and cranes for equipment placement. Assumption : 2 labours + 1 Plumber + 1 forklift - 2 installations per day
30	Installation and fixing of Control Cabinet Customized making according to the system design, good quality electrical devices, with indicator and emergency button. of weight: 45 kg	1	set			Physical labour (Electrician) Forklifts for equipment placement. Assumption : 2 labours + 1 electrician - quarter of a day
31	Installation of submersible water pumps for sand filter: 100m ³ /h Power: 5.5kW-380V/50Hz Including 2m PVC steel wire hose, installation of pump seal	1	set			Physical labour (Electrician) Assumption : 2 labours + 1plumber +1 electrician - 4 installations per day
32	Installation of submersible water pumps for group tanks: 100m ³ /h Power: 5.5kW-380V/50Hz Including 2m PVC steel wire hose, installation of pump seal	1	set			Physical labour (Electrician) Assumption : 2 labours + 1plumber +1 electrician - 4 installations per day
Sewage Treatment System						
33	Installation and fixing of Under water air pusher Usage: put in the bottom of pool and create flow by air pump Material: iron power:3kW, 380V/50Hz Note: the ecological pond should be built by customer (suggest size:L25*W25*H1.8m) . of weight: 90kg	2	pcs			Physical labour (Plumber, Electrician, Main tool: Ratchet wrench) Forklifts for equipment placement. Assumption : 2 labours + 1 plumber + 1 electrician+ 1forklift - half day
Installation of Piping system under the guidance of the Employeeer						
34	Plumber	4	nos			Quote Per day rate for Plumber
35	Skilled Labour	6	nos			Quote Per day rate for Skilled Labour
Total						

NOTE:

1. All the labour, tool and machine are supplied by the contractor.

2. Before installation, one MUST USE laser level and total station to review the axis and position of the civil pond and trench, the elevation of the embedded pipe opening.