

**NATIONAL GAMES SECRETARIAT**  
**UPGRADATION/RENOVATION OF KWA SWIMMING POOL AT VELLAYAMBALAM, THIRUVANANTHAPURAM.**  
**SPECIFICATION AND SCHEDULE OF QUANTITIES**  
**PART A : CIVIL WORKS**

SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
	<b>SH :1 EARTHWORK</b>					
1.01	Clearing grass and removal of the rubbish up to a distance of 50 m outside the periphery of the area cleared.	sqm	105.00	4.38	Rupees Four And Paise Thirty Eight Only	459.90
1.02	Earth work in excavation by means (Hydraulic excavator)/manual means in foundation trenches or drains (not exceeding 1.5m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within the site as directed by the Engineer-in-Charge.					
	All kinds of soil	cum	967.00	296.82	Rupees Two Hundred and Ninety Six and Paise Eighty Two only	287024.94
1.02.01	Do same as above item no1.02 but for every additional lift of 1.5m to 3.00m or part there of					
	All kinds of soil.	cum	586.00	361.38	Rupees Three Hundred Sixty One And Paise Thirty Eight Only	211768.68
1.02.02	Do same as above item no. 1.02 but for every additional lift of 3m to 4.5m or part there of :All kinds of soil					
	All kinds of soil.	cum	346.00	425.94	Rupees Four Hundred Twenty Five And Paise Ninety Four Only	147375.24
1.02.03	Do same as above item no. 1.02 but for every additional lift of 4.5m to 6.00m or part there of :All kinds of soil					
	All kinds of soil.	cum	202.00	490.50	Rupees Four Hundred Ninety And Paise Fifty Only	99081.00
1.03	Earth work in excavation by means (Hydraulic excavator)/manual means over areas (exceeding 30cm in depth.1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50 m and lift upto 1.5 m; disposed earth to be levelled and neatly dressed, as directed by the Engineer- in-Charge					
	All kinds of soil.	cum	68.00	291.35	Rupees Two Hundred Ninety One And Paise Thirty Five Only	19811.80
1.04	Do same as above item no. 1.03 but for every additional lift of 1.5m to 3.00m or part there of :All kinds of soil					
	All kinds of soil	cum	5.00	355.91	Rupees Three Hundred Fifty Five And Paise Ninety One Only	1779.55

SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
1.05	Excavating trenches of required width for pipes, cables, etc. including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5m including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil and unserviceable material as directed, within a lead of 50 m					
	All kinds of soil					
	Pipes, cables etc. not exceeding 80mm dia	m	20.00	200.26	Rupees Two Hundred And Paise Twenty Six Only	4005.20
1.06	Extra for additional lead upto 100m over initial lead of 50m for disposing surplus excavated earth as per the direction of Engineer-in-Charge.	cum	7.00	74.45	Rupees Seventy Four And Paise Forty Five Only	521.15
1.07	Bailing out water from well with 5HP Engine and pump set including conveyance to the site and erection, cost of fuel, lubricating oil and other stores etc. complete as directed by the Engineer- in-Charge.	hr	2.00	209.82	Rupees Two Hundred Nine And Paise Eighty Two Only	419.64
1.08	Filling available excavated earth(excluding rock) in trenches, under floors,plinth,sides of foundation,in areas etc. in layers not exceeding 20cm in depth,consoldating each deposited layer by ramming and watering,lead upto 50m and lift upto 1.5m including cost and conveyance of all materials,labour charges, etc complete at all levels as directed by the Engineer-in-Charge	cum	521.00	126.99	Rupees One Hundred Twenty Six And Paise Ninety Nine Only	66161.79
1.09	Providing and filling the areas with good quality available earth with all leads and lifts, transporting to site, spreading, grading to the required slope and compacting as per MORT&H specification Section 305 including cost and conveyance of all materials,labour charges ,lead,lift etc complete as directed by the Engineer- in-Charge	cum	4626.64	129.00	Rupees One Hundred Twenty Nine Only	596836.56
	<b>Sub Total</b>					<b>1435245.45</b>

SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
	<b>(SH: - 2.0 - CONCRETE WORK)</b>					
2.01	Providing and laying cement concrete of specific grade properly mixed and consolidated with hand rammers, including cost and conveyance of all materials, labour, curing, lead lift , etc. complete for all work up to plinth levels as directed by Engineer- in-Charge.					
2.01.01	1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size)	cum	154.00	6129.06	Rupees Six Thousand One Hundred Twenty Nine And Paise Six Only	943875.24
2.02	Extra for providing and mixing water proofing liquid in cement concrete work, masonry work, plastering etc in the proportion recommended by the manufacturers including cost and conveyance of all materials, labour, curing, lead lift , etc. complete as directed by Engineer-in-Charge at all levels.	ltr	35.00	75.50	Rupees Seventy Five And Paise Fifty Only	2642.50
	<b>Sub Total</b>					<b>946517.74</b>
	<b>(SH: - 3.0 - R.C.C. WORK)</b>					
3.01	Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of M-25 grade for reinforced cement concrete structural elements, excluding the cost of centering, shuttering, finishing and reinforcement including admixtures in recommended proportion (as per IS 9103) to accelerate,retard setting of concrete to improve workability without impairing strength and durability as per direction of Engineer-in-Charge .					
	All work upto plinth level.	cum	384.00	8740.88	Eight Thousand seven hundred and forty and paise eighty eight only	3356497.92
3.02	Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of M-25 grade for reinforced cement concrete structural elements, excluding the cost of centering, shuttering, finishing and reinforcement including admixtures in recommended proportion (as per IS 9103) to accelerate,retard setting of concrete to improve workability without impairing strength and durability as per direction of Engineer-in-Charge					
	All work upto floor V level.	cum	169.00	8740.88	Eight Thousand seven hundred and forty and paise eighty eight only	1477208.72

SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
3.03	Providing ,hoisting and fixing upto floor five level precast cement concrete string or lacing courses, copings, bed plates, anchor blocks, plain window sills, shelves, louvers, steps, stair cases, slabs,brackets etc. including hoisting and setting in position with cement mortar 1:3 (1 Cement : 3 coarse sand), cost of required centering, shuttering and finishing smooth with 6mm thick cement plaster 1:3 (1 Cement : 3 fine sand) on exposed surfaces complete.but excluding the cost of reinforcement with					
	1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	cum	3.00	16384.42	Rupees Sixteen Thousand Three Hundred Eighty Four And Paise Forty Two Only	49153.26
3.04	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding with 16 gauge GI binding wire etc complete including cost, conveyance, lead, lift of all materials for all types of RCC works as per drawing/specification and as directed by Engineer-in-Charge at all levels.					
	Thermo-Mechanically Treated bars	kg	78507.00	76.53	Rupees Seventy Six And Paise Fifty Three Only	6008140.71
3.05	Centering and shuttering including strutting, propping etc. and removal of form for :					
3.05.01	Foundations, footings, bases of columns etc. for mass concrete.	sqm	34.00	294.29	Rupees Two Hundred Ninety Four And Paise Twenty Nine Only	10005.86
3.05.02	Suspended floors, roofs, landings, balconies and access platform.	sqm	321.00	512.86	Rupees Five Hundred Twelve And Paise Eighty Six Only	164628.06
3.05.03	Lintels, beams, plinth beams, girders, bressumers and cantilevers.	sqm	202.00	421.07	Rupees Four Hundred Twenty One And Paise Seven Only	85056.14
3.05.04	Columns, Pillars, Piers, Abutments, Posts and Struts.	sqm	20.00	636.65	Rupees Six Hundred Thirty Six And Paise Sixty Five Only	12733.00
3.05.05	Edges of slab and breaks in floors and walls under 20 cms wide	m	919.00	152.87	Rupees One Hundred Fifty Two And Paise Eighty Seven Only	140487.53
3.05.06	Weather shade, Chajjas, corbels etc., including edges.	sqm	1.00	673.15	Rupees Six Hundred Seventy Three And Paise Fifteen Only	673.15
3.05.07	Walls of (any thickness)including attached pilasters butteresses plinth and string course etc.	sqm	326.00	499.19	Rupees Four Hundred Ninety Nine And Paise Nineteen Only	162735.94
	<b>Sub Total</b>					<b>11467320.29</b>

SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
	<b>(SH: - 4.0 - MASONRY WORK)</b>					
4.01	Providing and constructing brick masonry in C.M 1:6 (1 cement, 6 coarse sand) with country burnt bricks of 22.9x11.2x7 cm size and approved quality (average compressive strength not less than 35 kg/cm <sup>2</sup> ) including scaffolding, raking out of joints, curing, cost and conveyance of all materials, labour, lead, lift, etc. complete for foundation, trenches, basement etc. below highest plinth level as directed by Engineer-in-Charge at all levels	cum	11.00	5303.70	Rupees Five Thousand Three Hundred Three And Paise Seventy Only	58340.70
4.02	Providing and constructing brick masonry in CM 1:6 (1 cement, 6 coarse sand) with country burnt bricks of 22.9x11.2x7 cm size and approved quality (average compressive strength not less than 35 kg/cm <sup>2</sup> ) including scaffolding, raking out of joints, curing, cost and conveyance of all materials, labour, lead, lift, etc. complete for all type of masonry work in super structure above highest plinth level as directed by Engineer-in-Charge at all levels					
	Ground floor	cum	43.00	6166.18	Rupees Six Thousand One Hundred Sixty Six And Paise Eighteen Only	265145.74
4.03	Providing and constructing 115mm thick brick masonry in CM 1:4 (1 cement, 4 coarse sand) in partition walls, parapets, etc. with bricks of standard sizes and of approved quality (average compressive strength not less than 50 Kg/cm <sup>2</sup> ) including scaffolding, raking out of joints, curing, cost and conveyance of all materials, lead, lift, etc. complete including providing 2 Nos. of 8mm dia bars as reinforcement at every third layer wherever specified (Reinforcement shall be measured and paid for under relevant item ) and as directed by Engineer-in-Charge					
	Ground floor	sqm	37.00	749.18	Rupees Seven Hundred Forty Nine And Paise Eighteen Only	27719.66
4.04	Extra for providing and placing in position 2 Nos. 6 mm dia M.S. bars at every third course of single block masonry at all levels including cost and conveyance of MS bars etc complete as directed by Engineer-in-Charge	sqm	37.00	80.83	Rupees Eighty And Paise Eighty Three Only	2990.71

SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
4.05	Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20mm nominal size) at plinth level with cement mortar 1:6 (1 cement : 6 coarse sand) including raking out of joints, filling the joints /hollows with suitable sizes of split stones, filling the joints clearly, curing, cost and conveyance of all materials, cost of bond stone (should be provided at every 0.5 sqm of face area) , lead, lift etc. complete as directed by Engineer-in-Charge at all levels.					
4.05.01	Using departmentally available rubble	cum	330.00	3756.11	Rupees Three Thousand Seven Hundred Fifty Six And Paise Eleven Only	1239516.30
4.05.02	Using brought out rubble	cum	11.00	5670.17	Rupees Five Thousand Six Hundred Seventy And Paise Seventeen Only	62371.87
	<b>Sub Total</b>					<b>1656084.98</b>
	<b>(SH: - 5.0 - JOINERY WORKS )</b>					
5.01	Supplying and fixing FRP frames made of glass fibre conforming to IS:11551-1986, glass fibre rovings conforming to IS:11390-1985, isophthalic resin conforming to IS: 6746-1972, curing agents, accelerators, fillers, additives, fire retardants and pigments as specified. The frames shall be contact moulded by laying gelcoat at 500gm/m2 and laid over with two layers of FRP mat (one layer of 300 CSM mat and one layer of 450 CSM mat). The CSM mat shall be bonded with isophthalic resin and fillers of additives by weight. The edges shall be sealed with gelcoat and FRP mat to obtain smooth finish. The frames shall have an overall size of 100x63mm including the thickness of FRP and shall be filled with seasoned treated rubber wood on the inside. Suitable depressions shall be made in the door frames for receiving the fixtures such as hinges, mortice lock as well as 30mm door shutter. (one number mortice lock at the centre and three numbers of 100mm heavy duty hinges).					

SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
	The rate shall include providing and fixing frames of approved colour for, providing and fixing 6 Nos. of flat iron hold fast of size 300mmx30mmx3mm using stainless steel screws, fixing in PCC 1:2:4 blocks, finishing the joints to match the surroundings and finishing the frames by buffing and polishing with wax as directed. (The contractor shall supply 1 No. of frames free of cost for every 10 Nos. of frames supplied at site or part thereof for destructive testing) The shutter shall be contact moulded by laying gelcoat at 500gm/m <sup>2</sup> and laid over with two layers of FRP mat (one layer of 300 CSM mat and another layer of 450 CSM mat) for each of the web (panels) and two layers of FRP mat (one layer of 300 CSM mat and another layer of 450 CSM mat) for the flange portion (rails and styles).					
	The CSM mat shall be bonded with isophthalic resin in the ratio of not less than 1:2 (one part of mat : 2 part of isophthalic resin and fillers and additives) by weight. The edges shall be sealed with gelcoat and FRP mat to obtain smooth finish. The shutter/frames shall have an overall thickness of 30mm with a width of 100mm for outer frames and 80mm for resin frames (as per drawings enclosed). The shutter frames shall be provided with treated and seasoned rubber-wood on the insides to receive the tower bolts, handle, mortise lock, hinges, door closers, etc. at specified locations. Suitable depressions shall be made in the shutter frames for receiving the hinges and concealed mortise locks. The rates shall include providing and fixing shutter of					
	approved colour in the frames already provided and fixed, including fittings such as hinges, tower bolts, handles, door closers, mortice locks, etc. but excluding the cost of door fittings. The shutter shall be buffed and polished with wax as directed. The thickness of FRP laminate of hollow rails and styles shall be minimum 2mm and thickness of FRP laminate used for panel in shutter shall be minimum 3mm.(Mode of measurement: Length shall be taken as back to back of outer frame and the height shall be taken from the Sill to the top of the outer frame)	sqm	19.00	5906.23	Rupees Five Thousand Nine Hundred Six And Paise Twenty Three Only	112218.37

SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
5.02	Providing and fixing powder coated aluminium work for doors ,windows& partitions with extruded built up standard tubular sections/appropriate Z sections & other sections of approved make confirming to IS:733 & IS:1285 fixed with rawl plugs & screws or with fixing clips including necessary filling up of gaps at junctions,at top,bottom & sides with required PVC/neoprene felt etc.Aluminium sections shall be smooth,rust free,straight,mitred & jointed mechanically where ever required including cleat angle,aluminium snap beading for glazing/panelling,cp brass/stainless steel screws all complete as per architectutal drawings & directions of Engineer-in-Charge at all levels.(glazing & panelling to be paid seperately).Minimum thickness of powder coating for powder coated Aluminium shall be 50 micron					
	For fixed portion	kg	40.00	378.90	Rupees Three Hundred Seventy Eight And Paise Ninety Only	15156.00
5.03	For shutter of doors ,windows & ventilators including providing and fixing hinges/pivots and making provision for fixing of fittings,exhaust fan of required size,etc wherever required including the cost of PVC neoprene gasket required(fittings shall be paid for separately)	kg	55.00	401.70	Rupees Four Hundred One And Paise Seventy Only	22093.50
5.04	Providing and fixing glazing in aluminium doors,windows,ventilator shutters,partitions etc. with PVC/ neoprene gasket etc. complete as per the architectural drawings and the directon of Engineer-in-Charge at all levels					
	with float glass panes of 4.00mm thickness	sqm	7.00	975.62	Rupees Nine Hundred Seventy Five And Paise Sixty Two Only	6829.34
	<b>Sub Total</b>					<b>156297.21</b>
	<b>(SH: - 6.0 - FINISHING WORK)</b>					
6.01	12mm cement plaster of mix 1:4 (1 cement : 4 fine sand)including cost and conveyance of all materials, labour charges, scaffolding, sundries etc complete as directed by the Engineer in charge at all levels.	sqm	1187.00	220.89	Rupees Two Hundred Twenty And Paise Eighty Nine Only	262196.43
6.02	6 mm cement plaster to ceiling of mix 1:3 (1 Cement : 3 fine sand) including cost and conveyance of all materials, labour charges, scaffolding, sundries etc complete as directed by the Engineer in charge at all levels.	sqm	93.00	172.77	Rupees One Hundred Seventy Two And Paise Seventy Seven Only	16067.61



SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
6.03	15mm cement plaster of mix, 1:3 (1 cement : 3 fine sand) finished with a floating coat of neat cement 2 kg/sqm including mixing water proofing material in separately).proportion recommended by manufacturer over roof at all heights including cost and conveyance of all materials, labour charges, scaffolding, sundries etc complete as directed by the Engineer in charge at all levels. (water proofing liquid will be paid)	sqm	477.00	318.06	Rupees Three Hundred Eighteen And Paise Six Only	151714.62
6.04	Finishing walls with acrylic smooth exterior paint for new work (Two or more coat applied @1.67 ltr/10 sqm over and including base coat of water proofing cement paint applied @ 2.20kg/ 10sqm including cost and conveyance of all materials, labour charges, scaffolding s etc complete as directed by the Engineer in Charge at all levels.	sqm	130.00	105.82	Rupees One Hundred Five And Paise Eighty Two Only	13756.60
6.05	Painting the inside walls with ready mix plastic emulsion paint of approved quality two or more coats to smooth even finish on ceiling and walls including cost and conveyance of all materials to site, labour charges, hire charges for scaffolding, etc as directed by Engineer-in-Charge at all levels	sqm	173.00	87.74	Rupees Eighty Seven And Paise Seventy Four Only	15179.02
6.06	Applying one coat of cement primer of approved brand and manufacture on wall surface including cost and conveyance of all materials, labour charges, scaffolding, sundries etc complete as directed by the Engineer in charge at all levels.	sqm	519.00	43.05	Rupees Forty Three And Paise Five Only	22342.95
6.07	Distemping with 1st quality acrylic washable distemper (ready made) of approved manufacture and of required shade and colour two coats on new work including cost and conveyance of all materials, labour charges, scaffolding, sundries etc complete as directed by the Engineer in charge at all levels.	sqm	120.00	64.85	Rupees Sixty Four And Paise Eighty Five Only	7782.00
6.08	Providing and applying water proof cement paint of approved brand and colour two coats on walls after scraping and cleaning the surface including cost and coveyance of all materials,labour charges,hire charges for scaffolding etc.complete at all levels	sqm	113.00	53.59	Rupees Fifty Three And Paise Fifty Nine Only	6055.67

SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
6.09	Providing 50mm thick ferrocement concrete lining in CM 1:2 (1 cement : 2 medium sand) over cement slurry @ 2kg per cm <sup>2</sup> . The cement mortar shall be laid over one layer of 14 gauge welded mesh and 29 gauge chicken mesh. The rate shall include cost of all materials, labour etc complete as directed by Engineer - in- charge at all levels. Reinforcement steel if required shall be provided along with welded mesh and chicken mesh will be measured and paid separately.	sqm	1641.00	1045.35	Rupees One Thousand Forty Five And Paise Thirty Five Only	1715419.35
<b>Sub Total</b>						<b>2210514.25</b>
<b>(SH: - 7.0 - FLOORING WORK)</b>						
7.01	Providing and laying Antiskid Ceramic floor tiles 300x300x7 mm of 1st quality conforming to IS : 15622 of approved make, shade, and pattern laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) and jointed with grey cement slurry @ 3.3 kg/sqm including pointing the joints with white cement and matching pigment etc. including cost and conveyance of all materials, labour charges, lead, lift etc, complete as directed by the Engineer in Charge at all levels. (The purchase price of tiles should be taken as Rs.368/sqm and any deviation plus or minus in the purchase price in approved shade will be adjusted in the price quoted)	sqm	51.00	1012.10	Rupees One Thousand Twelve And Paise Ten Only	51617.10
7.02	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS : 15622 (thickness to be specified by the manufacture of approved make in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in- charge in skirting, risers of steps and dados over 12mm thick bed of cement Mortar 1:3 (1 cement: 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete.	sqm	81.00	1068.38	Rupees One Thousand Sixty Eight And Paise Thirty Eight Only	86538.78

SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
7.03	52 mm thick cement concrete flooring with hardcare concrete hardener topping under layer 40mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) and top layer 12mm thick Hardcrete cement hardener consisting of mix 1:2 (1 cement hardener mix : 2 graded stone aggregate 6 mm nominal size) by volume with which Hardcrete hardening compound of approved make is mixed as per manufactures specification and providing and fixing 4 mm thick glass strips in approved pattern including cost of cement slurry, but excluding the cost of nosing of steps etc. complete as directed by the Engineer-in-Charge at all levels.	sqm	343.00	705.10	Rupees Seven Hundred Five And Paise Ten Only	241849.30
7.04	Cement plaster skirting 18 mm thick with cement mortar 1:3 (1 cement: 3 coarse sand) finished with a floating coat of neat cement etc. complete as directed by the Engineer in Charge at all levels.	sqm	3.00	423.02	Rupees Four Hundred Twenty Three And Paise Two Only	1269.06
7.05	Tile work in skirting and on walls, with Homogeneous Vitrified Tiles of 9.6 to 10mm thickness over cement base high polymer modified quick set tile adhesive (water based ) conforming to IS:15477, using 5kg. adhesive per sqm of tile area, in average 3mm thickness, filling the joints with matching epoxy filler complete as directed by Engineer in charge, complete. Johnson Orient blue or black, 247x122x8mm or equivalent for pool tiles (Base rate -Rs.62/sq.ft) (The purchase price considered for tiles is Rs. 62/- per sq.ft. Any deviations plus or minus in the purchase price will be adjusted in the price quoted)	sqm	474.00	1405.01	Rupees One Thousand Four Hundred Five And Paise One Only	665974.74
7.06	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption's less than 0.08% and conforming to IS:15622 of approved make in all colours and shades, laid on cement base high polymer modified quick set tile adhesive (water based ) conforming to IS:15477, using 5kg. adhesive per sqm of tile area, in average 3mm thickness, filling the joints with matching epoxy filler complete as directed by Engineer in charge, complete.(The purchase price considered for tiles is as indicated below. Any deviations plus or minus in the purchase price will be adjusted in the price quoted)					
7.06.01	Blue or black tiles of approved make and size for pool tiles (Base rate -Rs.56/sq.ft)	sqm	1250.00	1280.12	Rupees One Thousand Two Hundred Eighty And Paise Twelve Only	1600150.00

SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
7.06.02	Antiskid tiles ,of approved make and size for pool deck(Rs.42/sq.ft)	sqm	931.00	1102.49	Rupees One Thousand One Hundred Two And Paise Forty Nine Only	1026418.19
7.07	Providing and laying 80 mm thick High density cement concrete interlocking paver block of M - 40 grade as per IS:15658 2006 made by block making machine with strong vibratory compaction and of approved size and design/shape laid in required colour and pattern over and including 50 mm thick compacted bed of course sand, filling the joints with coarse sand etc., all complete as directed by the Engineer-in- Charge.	sqm	100.00	842.09	Rupees Eight Hundred Forty Two And Paise Nine Only	84208.75
	<b>Sub Total</b>					<b>3758025.92</b>
	<b>(SH: - 8.0 - STEEL WORK)</b>					
8.01	Steel work welded in built up sections/framed work including cutting hoisting, fixing in position and applying two coats of approved make and colour synthetic enamel paint over two coats of approved make anticorrosive yellow zinc chromate primer, etc. including cost and conveyance of all materials, labour, lead,lift etc. complete as directed by Engineer- in-Charge at all levels.					
	In gratings, frames, guard bar, ladders, railings, brackets, gates & similar works.	kg	119.00	98.56	Rupees Ninety Eight And Paise Fifty Six Only	11728.64
8.02	Providing and fixing stainless steel tube (304grade) hand rail up to 90cm height with 50mm dia pipe for top rail and post 25mm dia pipe as verticals at 30 cm c/c including cutting, welding, and fixing in position and finishing the surface as per approved design and drawings etc. complete as per the direction of Engineer-in-charge.	m	42.00	3352.88	Rupees Three Thousand Three Hundred Fifty Two And Paise Eighty Eight Only	140820.96

SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
8.03	Supplying and fixing rolling shutters of approved make,made of required size M.S laths interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets,side guides and arrangements for inside and outside locking with push and pull operation complete including the cost of providing and fixing necessary 27.5cm long wire springs grade No.2 and M.S top cover of required thickness for rolling shutters including two coats of approved make and colour synthetic enamel paint over two coats of approved make anticorrosive yellow zinc chromate primer, including cost and conveyance of all materials, labour charges,lead,lift etc complete as directed by Engineer in Charge at all levels. 80 X 1.25 mm M.S.Laths with 1.25mm thick top cover	sqm	6.00	3216.98	Rupees Three Thousand Two Hundred Sixteen And Paise Ninety Eight Only	19301.88
8.04	Providing and fixing ball bearing for rolling shutters including cost and conveyance of all materials, labour, etc. as directed by the Engineer-in-Charge at all levels.	no	2.00	759.30	Rupees Seven Hundred Fifty Nine And Paise Thirty Only	1518.60
8.05	Extra for providing grill rolling shutter manufactured out of 8 mm dia M.S barsinstead of laths as per the design approved by the Engineer in charge(area of grill to be measured)	no	6.00	686.54	Rupees Six Hundred Eighty Six And Paise Fifty Four Only	4119.24
8.06	Structural steel work welded in single sections,trussess and framed work including cutting, hoisting, fixing in position and applying two coats of Synthetic enamel paint over two coats of anticorrosive Yellow zinc chromate primer including cost and conveyance of all materials,labour charges ,lead,lift etc complete as directed by Engineer in Charge at all levels.	kg	430.00	67.67	Rupees Sixty Seven And Paise Sixty Seven Only	29098.10
	<b>Sub Total</b>					<b>206587.42</b>

SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
	<b>(SH: - 9.0 - WATER SUPPLY)</b>					
9.01	Supplying, laying, and jointing schedule 40 UPVC ASTM pipe and Schedule 80 ASTM-UPVC specials of approved make such as tees elbows, unions,bends,sockets bends,flanges, reducers, end caps,saddles, plugs,coupling, etc. including cost of all jointing materials like solvent cement, bolts, nuts, rubber washers,ferrule,pipe supports, cost of extra wastage of fittings during laying of pipe line such as rectification and recharging of the existing line as and when required etc.hire of tools and plant, cost and conveyance of water for testing after connecting to mains including all testing pipe line to the specified hydrostatic test pressure,rectifying any leakage or defects etc. complete.as directed by Engineer-in-Charge for water supply.					
9.01.01	100mm dia	m	6.00	738.56	Rupees Seven Hundred Thirty Eight And Paise Fifty Six Only	4431.36
9.01.02	80mm dia	m	46.00	540.37	Rupees Five Hundred Forty And Paise Thirty Seven Only	24857.02
9.01.03	65mm dia	m	6.00	269.05	Rupees Two Hundred Sixty Nine And Paise Five Only	1614.30
9.01.04	50mm dia	m	40.00	190.74	Rupees One Hundred Ninety And Paise Seventy Four Only	7629.60
9.01.05	40mm dia	m	29.00	163.56	Rupees One Hundred Sixty Three And Paise Fifty Six Only	4743.24
9.01.06	32mm dia	m	31.00	124.22	Rupees One Hundred Twenty Four And Paise Twenty Two Only	3850.82
9.01.07	25 mm dia	m	7.00	87.99	Rupees Eighty Seven And Paise Ninety Nine Only	615.93
9.02	Supplying, laying, jointing and hydrostatically testing ISI marked PVC pipes as per IS 4985 and specials such as Tees, elbows,bends,flanges, reducers, end caps,saddles, plugs,coupling, etc. as per IS 7834 or IS 10124as the case may be including cost of all jointing materials like solvent cement, bolts, nuts, rubber washers,ferrule,pipe supports, cost of extra wastage of fittings during laying of pipe line such as rectification and recharging of the existing line as and when required etc.hire of tools and plant, cost and conveyance of water for testing after connecting to mains including all testing charges,rectifying any leakage or defects, cutting and making good the walls etc. complete.as directed by Engineer-in-Charge for concealed lines for water supply.					
9.02.01	32 mm OD (10 kg/cm <sup>2</sup> )	m	53.00	247.39	Rupees Two Hundred Forty Seven And Paise Thirty Nine Only	13111.67

SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
9.02.02	25 mm OD (10 kg/cm <sup>2</sup> )	m	53.00	229.35	Rupees Two Hundred Twenty Nine And Paise Thirty Five Only	12155.55
9.02.03	20 mm OD (10 kg/cm <sup>2</sup> )	m	18.00	212.70	Rupees Two Hundred Twelve And Paise Seventy Only	3828.60
9.03	Providing and fixing 3 layer PP-R (Poly propylene Random copolymer) pipes SDR 7.4 U V stabilized & anti - microbial fusion welded, having thermal stability for hot & cold water supply including all PP - R plain & brass threaded polypropylene random fitting					
9.03.01	15 mm dia	m	15.00	226.50	Rupees Two Hundred Twenty Six And Paise Fifty Only	3397.50
9.03.02	20mm dia	m	25.00	254.21	Rupees Two Hundred Fifty Four And Paise Twenty One Only	6355.25
9.03.03	25mm dia	m	30.00	297.00	Rupees Two Hundred Ninety Seven Only	8910.00
9.04	Providing and fixing on wall face unplasticised - Rigid PVC rain water pipes conforming to IS : 13592 Type-A including jointing with seal ring conforming to IS:5382 leaving 10mm gap for thermal expansion.					
	Single socketed pipes- 110mm diameter OD	m	24.00	292.06	Rupees Two Hundred Ninety Two And Paise Six Only	7009.44
9.05	Providing and fixing gun metal gate valve with C.I. Wheel of approved quality (screwed end) including cost and conveyance of all materials, labour charges, sundries etc complete as directed by the Engineer- in-Charge at all levels					
9.05.01	80 mm dia nominal bore	no	3.00	12198.75	Rupees Twelve Thousand One Hundred Ninety Eight And Paise Seventy Five Only	36596.25
9.05.02	65 mm dia nominal bore	no	1.00	8379.47	Rupees Eight Thousand Three Hundred Seventy Nine And Paise Forty Seven Only	8379.47
9.05.03	50 mm dia nominal bore	no	2.00	5518.17	Rupees Five Thousand Five Hundred Eighteen And Paise Seventeen Only	11036.34
9.05.04	40 mm dia nominal bore	no	1.00	3781.39	Rupees Three Thousand Seven Hundred Eighty One And Paise Thirty Nine Only	3781.39
9.05.05	32 mm dia nominal bore	no	6.00	2749.90	Rupees Two Thousand Seven Hundred Forty Nine And Paise Ninety Only	16499.40
9.05.06	25 mm dia nominal bore	no	2.00	1840.68	Rupees One Thousand Eight Hundred Forty And Paise Sixty Eight Only	3681.36
9.06	Providing and fixing CP brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms including cost and conveyance of all materials, labour charges, sundries etc complete as directed by the Engineer in charge at all levels					

SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
	15 mm nominal bore	no	7.00	709.25	Rupees Seven Hundred Nine And Paise Twenty Five Only	4964.75
9.07	Providing & fixing angle valve for geyser points (The purchase price considered including all accessories is Rs 820/- and any deviation plus or minus in the purchase price will be adjusted in the price quoted)	no	4.00	954.50	Rupees Nine Hundred Fifty Four And Paise Fifty Only	3818.00
9.08	Providing and fixing gun metal non-return valve of approved quality, screwed and including all necessary fittings					
9.08.01	32 mm	no	2.00	1068.44	Rupees One Thousand Sixty Eight And Paise Forty Four Only	2136.88
9.08.02	50 mm	no	1.00	2142.85	Rupees Two Thousand One Hundred Forty Two And Paise Eighty Five Only	2142.85
9.08.03	80mm	no	3.00	5651.04	Rupees Five Thousand Six Hundred Fifty One And Paise Four Only	16953.12
9.09	Providing and fixing GM footvalve, flanged type, CI construction including all necessary fittings as per the direction of Engineer-in-charge.					
9.09.01	40 mm	no	2.00	1498.39	Rupees One Thousand Four Hundred Ninety Eight And Paise Thirty Nine Only	2996.78
9.09.02	80mm	no	2.00	4806.02	Rupees Four Thousand Eight Hundred Six And Paise Two Only	9612.04
9.10	Supplying and fixing of CI single flanged wall casting pipe with puddle, 0.6m length					
9.10.01	65mm	no	2.00	1967.58	Rupees One Thousand Nine Hundred Sixty Seven And Paise Fifty Eight Only	3935.16
9.10.02	80mm	no	2.00	2220.79	Rupees Two Thousand Two Hundred Twenty And Paise Seventy Nine Only	4441.58
9.11	Supplying and fixing of CI double flanged wall casting pipe with puddle, 0.6m length					
9.11.01	65 mm	no	2.00	2136.00	Rupees Two Thousand One Hundred Thirty Six Only	4272.00
9.11.02	80 mm	no	4.00	2475.16	Rupees Two Thousand Four Hundred Seventy Five And Paise Sixteen Only	9900.64
9.11.03	100 mm	no	2.00	2897.94	Rupees Two Thousand Eight Hundred Ninety Seven And Paise Ninety Four Only	5795.88
9.12	Providing and fixing in position of approved quality G M float valve with copper ball float and brass rods of required length suitable for pressure of 10Kg/cm <sup>2</sup> of the following sizes:					
	40 mm dia.	no	1.00	1430.28	Rupees One Thousand Four Hundred and Thirty and Paise Twenty Eight Only	1430.28
9.13	Supplying and fixing of centrifugal pump, with CI construction, CI impeller complete with motor, base plate, foundation bolts, nuts, pressure guage and all accessories. and working with 415V, 3ph and 50 Hz					



SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
	frequency					
	Capacity : 10 m <sup>3</sup> /hr.					
	Head : 11 m	no	2.00	9180.00	Rupees Nine Thousand One Hundred Eighty Only	18360.00
9.14	Supplying and fixing of centrifugal pump, with CI construction, CI impeller complete with motor, base plate, foundation bolts, nuts, pressure guage and all accessories. and working with 415V, 3ph and 50 Hz frequency					
	Capacity : 64 m <sup>3</sup> /hr.					
	Head : 7 m	no	2.00	14422.00	Rupees Fourteen Thousand Four Hundred Twenty Two Only	28844.00
9.15	Providing and placing on terrace (at all floor levels) polyethylene water storage tank ISI:12701 marked indicating the BIS License No. with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank including cost and conveyance of all materials, labour charges, sundries etc complete as directed by the Engineer in charge in multiple nos wherever required	ltr	7000.00	6.97	Rupees Six And Paise Ninety Seven Only	48790.00
<b>Sub Total</b>						<b>350878.45</b>
<b>(SH:-10.00-SANITARY WORKS</b>						
10.01	Supplying, laying and jointing hard PVC pipes with PVC specials such as tees, bends, door bend, door tee, elbows, unions, etc. with clamps including cutting and making good the walls, testing the lines rectifying any leakages or defects, etc. complete as directed by the Engineer-in-Charge for soil, waste, rain water, drains, vent pipe, etc. concealed or open at all levels including cost and conveyance of all materials, labour charges, sundries etc complete for concealed work as directed by the Engineer- in-Charge					
10.01.01	110mm OD (6 kg/cm <sup>2</sup> )	m	40.00	499.07	Rupees Four Hundred Ninety Nine And Paise Seven Only	19962.80
10.01.02	75mm OD(6kg/cm <sup>2</sup> )	m	48.00	346.56	Rupees Three Hundred Forty Six And Paise Fifty Six Only	16634.88
10.01.03	50mm OD(6 kg/cm <sup>2</sup> )	m	16.00	266.42	Rupees Two Hundred Sixty Six And Paise Forty Two Only	4262.72

SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
10.02	Supplying, laying and jointing hard PVC pipes with PVC specials such as tees, bends, door bend, door tee, elbows, unions, etc. with clamps including earth work, refilling, testing the lines rectifying any leakages or defects, etc. complete as directed by the Engineer-in-Charge for soil, waste, rain water, drains, vent pipe, etc. concealed or open at all levels including cost and conveyance of all materials, labour charges, sundries etc complete for external works as directed by the Engineer -in-Charge					
10.02.01	160mm OD(6 kg/cm <sup>2</sup> )	m	48.00	813.07	Rupees Eight Hundred Thirteen And Paise Seven Only	39027.36
10.02.02	110mm OD(6 kg/cm <sup>2</sup> )	m	36.00	436.06	Rupees Four Hundred Thirty Six And Paise Six Only	15698.16
10.02.03	75mm OD(6 kg/cm <sup>2</sup> )	m	12.00	253.30	Rupees Two Hundred Fifty Three And Paise Thirty Only	3039.60
10.03	Providing and fixing coloured vitreous china counter top round wash basin 470 mm or nearest size of approved make including one CP brass pillar cock 15 mm NB including connecting pipes with all fittings 32 mm dia rubber plugs 32 mm dia CP brass waste coupling, 32 mm dia CP brass bottle trap, 15mm angle valve, etc. complete as directed by the Engineer-in-charge. (The purchase price considered for washbasin is Rs.1580, pillar cock is Rs.1100, bottle trap is Rs 1050, angle valve is Rs 550 and any deviation plus or minus in the purchase price will be adjusted in the price quoted).	no	4.00	5932.52	Rupees Five Thousand Nine Hundred Thirty Two And Paise Fifty Two Only	23730.08
10.04	Supplying and fixing European type floor mounted white glazed WC with trap including seat cover, with CP brass hinges and rubber buffers, 10 litres capacity PVC low level white flushing cistern with fittings and brackets, 40mm dia PVC flush bend over flow pipe with mosquito proof arrangements, with all necessary fittings complete including cutting and making good the walls and floors etc. complete as directed by the Engineer-in-Charge. (The purchase price considered for EWC is Rs.920, seat cover is Rs.427, cistern is Rs1027, fittings is Rs 762 and any deviation plus or minus in the purchase price will be adjusted in the price quoted).	no	3.00	5718.65	Rupees Five Thousand Seven Hundred Eighteen And Paise Sixty Five Only	17155.95

SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
10.05	Providing and fixing white vitreous china flat back large urinal of 590x390x375 or nearest size of approved make with fittings, standard size CP brass flush pipe, spreaders with unions and clamps (all in CP brass) with waste fitting as per IS:2556, CI trap with outlet grating and other couplings in CP brass including paintings of fittings and brackets, cutting and making good the walls and floors wherever required. Single half stall urinals with 5 litre PVC automatic flushing cistern (The purchase price considered for urinal is Rs.2390 and any deviation plus or minus in the purchase price will be adjusted in the price quoted).	no	3.00	8925.49	Rupees Eight Thousand Nine Hundred Twenty Five And Paise Forty Nine Only	26776.47
10.06	Supplying and fixing approved quality white vitreous china urinal division plate 700 x 340 including cost and conveyance of all material, labour charge, lead, lift, all taxes etc. complete as directed by the Engineer-in-Charge. (The purchase price considered for division plate is Rs.969, and any deviation plus or minus in the purchase price will be adjusted in the price quoted).	no	3.00	1363.14	Rupees One Thousand Three Hundred Sixty Three And Paise Fourteen Only	4089.42
10.07	Providing and fixing floor trap of PVC,110 mm outer dia(multi trap) including CP cockroach free floor grating with cup etc including cost and conveyance of all materials, labour charges, sundries etc complete as directed by the Engineer in charge at all levels	no	10.00	356.00	Rupees Three Hundred Fifty Six Only	3560.00
10.08	Providing and fixing premium quality C.P. brass overhead shower 4" and wall flange of approved make and model including cost of all materials, labour etc., complete as directed by the Engineer-in-Charge at all levels. (The purchase price considered including all accessories is Rs. 820/- including all accessories any deviation plus or minus in the purchase price will be adjusted in the price quoted.)	no	4.00	969.16	Rupees Nine Hundred Sixty Nine And Paise Sixteen Only	3876.64
10.09	Providing and fixing CP brass wall mixer/ divertor, with provision for over head shower with 115mm long bend upper side connecting legs and wall flanges of approved premium make and model including cost of materials, labour etc. complete as directed by the Engineer in charge.(The purchase price considered including all accessories is Rs.2900/- and any deviation plus or minus in the purchase price will be adjusted in the price quoted.)	no	4.00	3351.55	Rupees Three Thousand Three Hundred Fifty One And Paise Fifty Five Only	13406.20

SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
10.10	Providing and fixing CP brass health faucets with 8mm dia 1 meter long flexible tube and wall hook with all fittings and fixtures complete including cutting and making good the walls and floors wherever required including cost and conveyance of all materials, labour charges, sundries etc complete as directed by the Engineer in charge at all levels.(The purchase price considered including all accessories is Rs 1400/-any deviation plus or minus in the purchase price will be adjusted in the price quoted).	no	3.00	1704.37	Rupees One Thousand Seven Hundred Four And Paise Thirty Seven Only	5113.11
10.11	Supplying and fixing the following approved quality and make toilet fixtures including cost and conveyance of all materials labour charges ,lead, lift, all taxes ,cutting and making good the walls and floors etc complete etc complete as directed by the Engineer in Charge					
10.11.01	CP brass Soap tray (The purchase price considered including all accessories is Rs.610/- and any deviation plus or minus in the purchase price will be adjusted in the price quoted)	no	9.00	809.53	Rupees Eight Hundred Nine And Paise Fifty Three Only	7285.77
10.11.02	Providing and fixing CP Towel rail of approved make including cost and conveyance of all materials, labour charges, sundries etc complete as directed by the Engineer in charge at all levels.(The purchase price considered is Rs 800/-any deviation plus or minus in the purchase price will be adjusted in the price quoted).	no	11.00	979.38	Rupees Nine Hundred Seventy Nine And Paise Thirty Eight Only	10773.18
10.11.03	Providing and fixing CP Toilet paper holder with flap of approved make as directed by Engineer in charge(The purchase price considered is Rs 975/-any deviation plus or minus in the purchase price will be adjusted in the price quoted).	no	3.00	1210.73	Rupees One Thousand Two Hundred Ten And Paise Seventy Three Only	3632.19
10.11.04	Providing and fixing frameless mirror, with all four edges machine polished and back side protected with safety film and 4 mm thick Plywood backing and fixed on walls with mirror screws. The rate includes lifting, cutting etc. as per design and drawing. (The purchase price considered is Rs 3000/- any deviation plus or minus in the purchase price will be adjusted in the price quoted.)	no	2.00	3716.80	Rupees Three Thousand Seven Hundred Sixteen And Paise Eighty Only	7433.60

SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
10.12	Supplying approved make PVC gully trap and CI grating 300mmx300mm size and light duty C.I cover and frames 500mmx500mm of weight not less than 21kg each(CI MH cover and frame as per IS:1726) single sealed of size conveying to size the above mentioned items and constructing 50cmx50cm internal size gully trap chamber and depth upto 60cm,230 thk brick wall in CM 1:6 on a foundation of PCC 1:4:8.100mm thick plastering inside with CM 1:3,12mm thk with a neat cement flushing coat and conveying to site,cleaning ,installing and testing approved make PVC gully trap with 160mm outlet(Fabricated),surrounding with CC 1:1.5:3, 150x150mmm,top with CI grating above the PVC gully trap and light duy CI cover and frame over the chamber including cost of all materials, etc complete as per approved drawing and as directed by Engineer-in- Charge	no	2.00	3036.25	Rupees Three Thousand Thirty Six And Paise Twenty Five Only	6072.50
10.13	Constructing brick masonry manhole with 75 class designation bricks in cement mortar 1:4 (1 Cement : 4 coarse sand) R.C.C. top slab with 1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) foundation concrete with 1:4:8 mix (1 Cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size) inside plastering 12 mm thick with cement mortar 1:3 (1 Cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design including cost and conveyance of all materials, labour charges, sundries etc complete as directed by the Engineer-in-Charge					
	Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) :					
	With bricks.Class designation 75	no	8.00	11457.51	Rupees Eleven Thousand Four Hundred Fifty Seven And Paise Fifty One Only	91660.08
10.14	Making soak pit 2.5 m diameter 3.0 meter deep with 45 x 45 cm dry brick honey comb shaft with bricks of class designation 75 and S W drain pipe 100 mm diameter, 1.8 m long complete as per standard design and as directed by Engineer-in-Charge	no	1.00	22505.50	Rupees Twenty Two Thousand Five Hundred Five And Paise Fifty Only	22505.50
	<b>Sub Total</b>					<b>345696.21</b>

SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
	<b>(SH:-11.00-MISCELLANEOUS WORKS)</b>					
11.01	Providing and applying 2 coats of brush applicated elastomeric water proofing coating over a coat of primer and including application of intermediate reinforcement layer (The coating shall be done after making of corner fillets 25 x 25mm size of all joints horizontal and vertical surface and also sealing joints of pipe and masonry/concrete using polymer mortar.) inside swimming pool after thouroughly cleaning the surface by making it free of any loose mortar,unsound substrate,filling the joints of slab/wall, cracks in the slab ( if any ) including cost and conveyance of all materials,labour charges etc complete as directed by the Engineer in Charge .The above work shall be carried by an experienced agency having sufficient experience in membrane water proofing and should ensure a guarantee of 5 years. .Only skilled and experienced persons shall be employed for this purpose	sqm	1724.00	828.00	Rupees Eight Hundred Twenty Eight Only	1427472.00
	<b>Sub Total</b>					<b>1427472.00</b>
	<b>(SH:-12.00-PILE WORK)</b>					
12.01	Boring ,providing and installing bored cast-in-situ single under reamed piles of specified diametre and length below the pile cap in M30 mix in cement concrete to carry a safe working load not less than specified excluding the cost of steel reinforcement but including the cost of boring with ,bentonite solution and the length of the pile to be embedded in the pile cap,chipping the pile etc all complete (Length of pile for payment shall be measured up to bottom of pile cap)					
12.01.02	500mm dia	m	60.00	4990.85	Rupees Four Thousand Nine Hundred Ninety And Paise Eighty Five Only	299451.00
12.02	Chipping and removing excess portion of R.C.C. piles to lines and levels , carefully without damaging the remaining structure and removing the debris within a distance of 150m etc. complete as directed by Engineer-in-charge	cum	1.00	5093.00	Rupees Five Thousand Ninety Three Only	5093.00
12.03	Arranging and conducting vertical load testing of piles in accordance with IS.2911 (Part IV ) including installation of loading platform and preparation of pile head or construction of test cap and dismantling of test cap after test etc complete as per specification & the direction of Engineer - in - Charge.					
	Group of Two or more piles up to 50 Tonne capacity					

SI No.	Description	Unit	Quantity	Rate (in figures)	Rate (in words)	Amount(Rs)
12.03.01	Initial test Group of Two or more piles up to 50 Tonne capacity	no	1.00	92774.82	Rupees Ninety Two Thousand Seven Hundred Seventy Four And Paise Eighty Two O	92774.82
12.03.02	Routine test.	no	1.00	56901.89	Rupees Fifty Six Thousand Nine Hundred One And Paise Eighty Nine Only	56901.89
	<b>Sub Total</b>					<b>454220.71</b>
	<b>(SH:-13.00-DISMANTLING AND DEMOLISION)</b>					
13.01	Demolishing stone rubble masonry manually/by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-Charge:	cum	414.00	1173.35	Rupees One Thousand One Hundred Seventy Three And Paise Thirty Five Only	485766.90
13.02	Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 metres lead.	sqm	294.00	26.62	Rupees Twenty Six And Paise Sixty Two Only	7826.28
13.03	Chipping and removing portions of existing RCC work carefully without damaging the remaining structure and removing the debris within a distance of 150m	cum	50.00	4876.00	Rupees Four Thousand Eight Hundred Seventy Six Only	243800.00
13.04	Removal of street lights including dismantling of RCC/PCC foundations including cutting of bars and disposal of unserviceable materials with in a distance of 150m as directed by Engineer in charge.	no	4.00	1307.84	Rupees One Thousand Three Hundred Seven And Paise Eighty Four Only	5231.36
	<b>Sub Total</b>					<b>742624.54</b>
	<b>Grand Total</b>					<b>25157485.00</b>

**NATIONAL GAMES SECRETARIAT**  
**UPGRADATION/RENOVATION OF KWA SWIMMING POOL AT VELLAYAMBALAM, THIRUVANANTHAPURAM.**  
**SPECIFICATION AND SCHEDULE OF QUANTITIES**  
**PART B : RECIRCULATION AND FILTRATION SYSTEM**

SI No.	Description	Unit	Quantity	Rate in figures(Rs)	Rate in Words(Rs)	Amount(Rs)
	<b>(SH:-14.00-RECIRCULATION TANK &amp; OTHER EQUIPMENTS)</b>					
	Design, Supply, Fabrication, Erection & Commissioning of Water Treatment and Recycling Plant comprising of filter units, Ozonator with accessories, Plumbing with specials, valves for the complete recycling system and chemical system as detailed					
	Note: Filtration system and equipment shall have 2 years replacement guarantee from the date of commissioning and the contractor shall provide required chemicals and labour for the initial testing and commissioning of the same.					
14.01	<b>FILTERS: -</b>					
14.01.01	Supplying to Site and installing in position, testing and commissioning Bobbin Wound Filter manufactured from fibreglass and polyester/, approx. 2000mm diameter. complete with pressure gauge panel, manual air bleeder, water drain and emptying plug, collector arms and diffuser made from unplasticized PVC /polypropelene. Filtration velocity 40m <sup>3</sup> /hr/m <sup>2</sup> . Max. working pressure : 2.5 kg/cm <sup>2</sup> . Flow rate - 112m <sup>3</sup> /hr.					
	The quoted rate will include the cost of all necessary control valves manufactured from PP as per DIN Standards, and connected to filters, including the required butterfly valves , non return valves, for carrying out filtration, back washing, rinsing and shutdown of filters and with required valve battery supports manufactured from electroplated galvanized steel.	no	4.00	685000.00	Rupees Six Lakh(s) Eighty Five Thousand Only	2740000.00
14.01.02	Supplying to Site and installing in position, testing and commissioning Bobbin Wound Filter manufactured from fibreglass and polyester/, approx. 1500mm diameter. complete with pressure gauge panel, manual air bleeder, water drain and emptying plug, collector arms and diffuser made from unplasticized PVC /polypropelene. Filtration velocity 40m <sup>3</sup> /hr/m <sup>2</sup> . Max. working pressure : 2.5 kg/cm <sup>2</sup> . Flow rate - 60m <sup>3</sup> /hr.					
	The quoted rate will include the cost of all necessary control valves manufactured from PP as per DIN Standards, and connected to filters, including the required butterfly valves , non return valves, for carrying out filtration, back washing, rinsing and shutdown of filters and with required valve battery supports manufactured from electroplated galvanized steel.	no	1.00	470000.00	Rupees Four Lakh(s) Seventy Thousand Only	940000.00
14.02	<b>FILTER MEDIA: -</b>					
	Supplying to Site and filling media in filter vessels as per standard specification					



SI No.	Description	Unit	Quantity	Rate in figures(Rs)	Rate in Words(Rs)	Amount(Rs)
	Silica Sand : 0.4-0.8mm	kg.	34,200.00	12.00	Rupees Twelve Only	410400.00
	Gravel : 1 - 2 mm	kg.	9,450.00	11.00	Rupees Eleven Only	103950.00
14.03	<b>RE-CIRCULATING PUMPS &amp; PREFILTERS: -</b>					
14.03.01	Supplying to Site and fixing in position, testing and commissioning Cast Iron Pump, 1440 r.p.m., Mechanical Seal in Cast Iron, CI Impeller, IP-44 motor protection. Flowrate : 112m3/h @ 15mtr. head. Voltage 415V / 3 phase, (4 Working + 2 Standby) with Pre-filter made in thermo-plastic with easily removable lid. Connections: As per design or 160mm (4 working and 2 standby)	no	6.00	95000.00	Rupees Ninety Five Thousand Only	570000.00
14.03.02	Supplying to Site and fixing in position, testing and commissioning Cast Iron Pump, 1440 r.p.m., Mechanical Seal in Cast Iron, CI Impeller, IP-44 motor protection. Flowrate : 60 m3/h @ 15mtr. head. , Voltage 415V / 3 phase, (1 Working + 1 Standby) with Pre-filter made in thermo-plastic with easily removable lid. Connections: As per design or 160mm, (1 working and 1 standby)	no	2.00	55000.00	Rupees Fifty Five Thousand Only	165000.00
14.04	<b>DOSING PUMPS: -</b>					
	Supplying to Site and fixing in position, Electronic Dosing Pump with IP-55 protection. Flow Rate - 6 LPH@4 Kg./cm2	no	6.00	15000.00	Rupees Fifteen Thousand Only	90000.00
14.05	<b>CHEMICAL STORAGE TANKS: -</b>					
	Supplying to Site and fixing in position, Made in HDPE. Capacity - 500 Liters	no	6.00	4000.00	Rupees Four Thousand Only	24000.00
14.06	<b>POOL BASIN EQUIPMENT</b>					
14.06.01	<b>POOL DRAINS: -</b>					
	Supplying to Site and fixing in position, Main Drains with Frame in ABS with screws Dimension 600 x 600 mm (In diving area and in Shallow portion)	no	2.00	38500.00	Rupees Thirty Eight Thousand Five Hundred Only	77000.00
14.06.02	<b>SUCTION INLET: -</b>					
	Supplying to Site and fixing in position, Suction inlet in ABS with cap internal thread of 1 1/2" dia and external thread 2".	no	28.00	750.00	Rupees Seven Hundred Fifty Only	21000.00
14.06.03	<b>PVC WALL CONDUITS: -</b>					
	Supplying to Site and fixing in position, PVC wall conduits 150mm long. Rear connection to pipe by 2" female adaptor	no	28.00	900.00	Rupees Nine Hundred Only	25200.00
14.07	<b>FLOOR INLETS: -</b>					

SI No.	Description	Unit	Quantity	Rate in figures(Rs)	Rate in Words(Rs)	Amount(Rs)
	Supplying to Site and fixing in position, White ABS floor inlet for concrete with S.S. screws and regulable flow. Max. Flow/ inlet = 9,000l/hr	no	63.00	1250.00	Rupees One Thousand Two Hundred Fifty Only	78750.00
14.08	<b>POOL LADDER: -</b>					
	Supplying to Site and fixing in position, Ladder in stainless steel 304 Handrails dia 43mm stainless steel non-slip safety steps, provided with electrical earthing connection and anchoring fixtures. No. of treads - 5	no	6.00	23500.00	Rupees Twenty Three Thousand Five Hundred Only	141000.00
14.09	<b>MAINTENANCE ACCESSORIES</b>					
14.09.01	Supplying to Site and fixing in position, Double length metal head in polished Al and chrome bronze 2" length 800mm. Trailed via cable	no.	1.00	30000.00	Rupees Thirty Thousand Only	30000.00
14.09.02	Supplying to Site and fixing in position, Extensible handles for cleaning attachments in anodized aluminium which can be adapted to the entire range of cleaning equipment, brushes, leaf skimmers and scoops. 13.00 mts. Long	no.	1.00	20000.00	Rupees Twenty Thousand Only	20000.00
14.09.03	Supplying to Site and fixing in position, Handle Adaptor for matching wingnut with wishbone connection	no.	1.00	1300.00	Rupees One Thousand Three Hundred Only	1300.00
14.09.04	Supplying to Site and fixing in position, Transparent blue plastic vacuum hose 2" dia 30mtrs long including hose cuffs for connection to suction inlets.	no.	1.00	9500.00	Rupees Nine Thousand Five Hundred Only	9500.00
14.09.05	Supplying to Site and fixing in position, Deep bag net made in polypropelene and white polyester netting shark series	no.	1.00	1400.00	Rupees One Thousand Four Hundred Only	1400.00
14.09.06	Supplying to Site and fixing in position, Curved brushes made in polypropelene for pool basins and scum liners shark series	no.	1.00	1000.00	Rupees One Thousand Only	1000.00
14.09.10	Supplying to Site and fixing in position, Straight brushes made in polypropelene for pool basins and scum liners shark series	no.	1.00	950.00	Rupees Nine Hundred Fifty Only	950.00
14.09.11	Supplying to Site and fixing in position, Algae brushes with stainless steel bristles clip type	no.	1.00	8800.00	Rupees Eight Thousand Eight Hundred Only	8800.00
14.09.12	Supplying to Site Test kit for free chlorine & pH	no.	1.00	2400.00	Rupees Two Thousand Four Hundred Only	2400.00
14.10	<b>INTER-CONNECTING PIPING: -</b>					
14.10.1	Supplying to Site and fixing in position, testing and commissioning, Inter-connecting Piping in PVC (6 kg./cm2) with PVC Fittings (PN6)					
14.10.1.1	110mm dia	m	240.00	436.06	Rupees Four Hundred Thirty Six And Paise Six Only	104654.40
14.10.1.2	160mm dia	m	30.00	813.07	Rupees Eight Hundred Thirteen And Paise Seven Only	24392.10
14.10.1.3	200mm dia	m	30.00	1178.95	Rupees One Thousand One Hundred Seventy Eight And Paise Ninety Five Only	35368.50
14.10.1.4	315mm dia	m	110.00	2635.12	Rupees Two Thousand Six Hundred Thirty Five And Paise Twelve Only	289863.20

SI No.	Description	Unit	Quantity	Rate in figures(Rs)	Rate in Words(Rs)	Amount(Rs)
14.11	Supplying to Site and fixing in position, testing and commissioning Ball Valves, Butterfly Valves & Butterfly Check Valves with all accessories like flanges, tail piece, nuts, bolts, washers etc					
14.11.1	Providing and fixing of CI butterfly valve,screwed/flanged type, appropriate with PVC lines including supplying and fixing necessary tail pieces, flanges with bolts, nuts, etc. complete					
14.11.1.1	150 mm	no	14.00	4965.23	Rupees Four Thousand Nine Hundred Sixty Five And Paise Twenty Three Only	69513.22
14.11.1.2	200 mm	no	1.00	11741.30	Rupees Eleven Thousand Seven Hundred Forty One And Paise Thirty Only	11741.30
14.11.1.3	300 mm	no	2.00	22771.54	Rupees Twenty Two Thousand Seven Hundred Seventy One And Paise Fifty Fo	45543.08
14.11.2	Providing and fixing CI non-return valve of approved quality, screwed and including all necessary fittings					
14.11.2.1	150 mm	no	7.00	6846.87	Rupees Six Thousand Eight Hundred Forty Six And Paise Eighty Seven Only	47928.09
14.11.2.2	200 mm	no	1.00	12584.68	Rupees Twelve Thousand Five Hundred Eighty Four And Paise Sixty Eight Only	12584.68
14.11.2.3	300 mm	no	9.00	25956.80	Rupees Twenty Five Thousand Nine Hundred Fifty Six And Paise Eighty Only	233611.20
14.12	STARTING BLOCKS;					
	Starting Blocks As per FINA standards with SS Base and FRP Non Slip platform in Blue Colour with grip for Back stroke and other fittings complete.	no	10.00	65000.00	Rupees Sixty Five Thousand Only	650000.00
14.13	RACING LANES WITH HOOKS:					
	Antiwave Racing lane of 50 mtrs in length supplied with floats and rope as per latest FINA Standard and SS wall anchor hooks complete set.	no	9.00	36000.00	Rupees Thirty Six Thousand Only	324000.00
14.14	Providing and fixing prefabricated mirror finished SS ladder with anti skid plastic treads of approved make and design fixed to the RCC foundation using required bolts, base plate etc. Treads shall be fitted 15 degree slope to 50mm dia, 2mm thick SS 316 grade pipes with 250mm rise. The rates shall include cost of all materials, labour, conveyance, fixing charges etc complete.					
	For 3m high platform	no	1.00	19700.00	Rupees Nineteen Thousand Seven Hundred Only	19700.00
14.15	Supplying to Site, Installation, testing and Commissioning of Ozone Generating Equipment producing 600gm/hr. at 10% w/w concentration supplied with dual gas flow pattern inside each sub element for ozone generation in vertical electrodes, Feed gas preparation system, suitable booster pumps, chiller , NRV, Injectors, piping etc. The system shall work on Oxygen feed, corona discharge type, with controls for ozone output and oxygen feed flow, with indicators for power on, Blown fuse (control & power), ozone output, with protection and interlocks for high/low voltage, control supply fuse, HT supply MCB, high overload. The scope of work includes supply and installation of suitable equipments and assembly to produce/generate Oxygen from atmospheric air and mixing & piping arrangement. complete as required as per instructions of E.I.C.	set	1.00	3600000.00	Rupees Thirty Six Lakh(s) Only	3600000.00

SI No.	Description	Unit	Quantity	Rate in figures(Rs)	Rate in Words(Rs)	Amount(Rs)
14.16	Alum Dozer for coagulation comprising electronic dosing pumps, with pipes, fittings etc. complete with 100 ltr Sintex tank	set	1.00	45000.00	Rupees Forty Five Thousand Only	45000.00
14.17	Soda Ash Dosing Plant for PH correction comprising electronic dosing pumps, with fittings etc. complete, 100 ltr Sintex tank.	set	1.00	45000.00	Rupees Forty Five Thousand Only	45000.00
14.18	Chlorine Dosing plant for maintaining residual chlorine in water comprising electronic dosing pumps, with fittings etc. complete, 100 ltr Sintex tank	set	1.00	45000.00	Rupees Forty Five Thousand Only	45000.00
14.19	Overflow Grating PP antiskid white Modular Grating 295mm width to be placed on all 4 sides of pool	m	150.00	1800.00	Rupees One Thousand Eight Hundred Only	270000.00
14.20	<b>CONTROL PANEL: -</b>					
14.20.1	Pump Panel-1					
	Supply, installation, testing and commissioning of totally enclosed free standing thermoplastic poly carbonate floor mounting dust proof, shock proof, rust proof, water proof, corrosion proof and vermin proof outdoor cubicle type Pump panel -I suitable for 415 V, 3 phase, 50 HZ supply, fabricated of 14 SWG CRCA sheet steel Powder coated complete with busbars having 160A rating, indicating lamps (LED type) with 2A control MCBs, CT's, connections & interconnections with suitable size of copper leads/solid aluminium strips/rod and having following incoming and outgoing switches as per the drawing, specifications and standards of electrical inspectorate.					
	Incomer					
	160A, TPN SDFU with HRC fuse - 1no.					
	160A TPN busbar chamber with Aluminium busbar					
	RYB Indicating lamps LED type -3 Nos.					
	Voltmeter - 1 set					
	Ammeter - 1set					
	KWH meter - 1 No.					
	160/5A, 15 VA CTs for metering - 3 Nos					
	Outgoing					
	32A, TPN SDFU with HRC fuse - 3 nos					
	63A, TPN SDFU with HRC fuse - 4 nos					
	15 HP Fully automatic star Delta Starter with illuminated ON-OFF push buttons (LED type) having thermal over load relay, single phasing preventer and auxillary contactors - 3 Nos					
	7.5 HP Fully automatic star Delta Starter with illuminated ON-OFF push buttons (LED type) having thermal over load relay, single phasing preventer and auxillary contactors - 1 No.					
		no	1.00	194619.00	Rupees One Lakh(s) Ninety Four Thousand Six Hundred Nineteen Only	194619.00

SI No.	Description	Unit	Quantity	Rate in figures(Rs)	Rate in Words(Rs)	Amount(Rs)
14.20.2	Pump Panel-2					
	Supply, installation, testing and commissioning of totally enclosed free standing thermoplastic poly carbonate floor mounting dust proof, shock proof, rust proof, water proof, corrosion proof and vermin proof outdoor cubicle type Pump panel -2 suitable for 415 V, 3 phase, 50 HZ supply, fabricated of 14 SWG CRCA sheet steel Powder coated complete with busbars having 160A rating, indicating lamps (LED type) with 2A control MCBs, CT's, connections & interconnections with suitable size of copper leads/solid aluminium strips/rod and having following incoming and outgoing switches as per the drawing, specifications and standards of electrical inspectorate.					
	Incomer					
	160A, TPN SDFU with HRC fuse - 1no.					
	160A TPN busbar chamber with Aluminium busbar					
	RYB Indicating lamps LED type -3 Nos.					
	Voltmeter - 1 set					
	Ammeter - 1set					
	KWH meter - 1 No.					
	120/5A,15 VA CTs for metering - 3 Nos					
	Outgoing					
	32A, TPN SDFU with HRC fuse - 4 nos					
	63A, TPN SDFU with HRC fuse - 3 nos					
	15 HP Fully automatic star Delta Starter with illuminated ON-OFF push buttons (LED type) having thermal over load relay, single phasing preventer and auxillary contactors - 3 Nos					
	7.5 HP Fully automatic star Delta Starter with illuminated ON-OFF push buttons (LED type) having thermal over load relay, single phasing preventer and auxillary contactors - 1 No.					
		no	1.00	196701.00	Rupees One Lakh(s) Ninety Six Thousand Seven Hundred One Only	196701.00
14.20.3	Supply, installation, testing and commissioning of DOL starter for 0.5-3 HP motors with illuminated ON-OFF push buttons (LED type) having suitably rated thermal over load relay and single phasing preventer with auxillary contactors	no	8.00	2440.00	Rupees Two Thousand Four Hundred Forty Only	19520.00
	<b>UNDERWATER ILLUMINATION</b>					
14.21	<b>UNDERWATER LIGHTS: -</b>					
	Supplying to Site and fixing in position, Underwater Light "STANDARD" model. Niche in polypropylene and glass fibre. ABS rim. 300W 12V Lamp with 3 mtr. Cable(sample shall be approved by the engineer in charge)	no	44.00	7500.00	Rupees Seven Thousand Five Hundred Only	330000.00
14.22	<b>JUNCTION BOXES: -</b>					
	Supplying to Site and fixing in position, Junction Boxes, made in ABS, composed of 3 entries 3/4" or PG-16 coupling(Sample shall be approved by the engineer in charge)	no	44.00	1400.00	Rupees One Thousand Four Hundred Only	61600.00
14.23	<b>TRANSFORMERS: -</b>					

SI No.	Description	Unit	Quantity	Rate in figures(Rs)	Rate in Words(Rs)	Amount(Rs)
	Supplying to Site and fixing in position, Step-down Transformers, 300 VA,220 V-12 V complies with EN-60742 standard.(Sample shall be approved by the engineer in charge)	no	44.00	4800.00	Rupees Four Thousand Eight Hundred Only	211200.00
14.24	<b>TRANFORMER PROTECTION BOX: -</b>	no	44.00	900.00	Rupees Nine Hundred Only	39600.00
<b>14.25</b>	<b>CABLING AND EARTHING FOR SWIMMING POOL PUMPS</b>					
14.25.1	Supply and laying of following size 1.1 KV grade XLPE insulated, PVC sheathed, armoured Aluminium /copper conductor cable conforming to IS 7098 (Part 1) amended upto date.					
14.25.1.1	4C 25 sqmm Al	m	30	324.00	Rupees Three Hundred Twenty Four Only	9720.00
14.25.1.2	4C 16 sqmm Al	m	10	271.00	Rupees Two Hundred Seventy One Only	2710.00
14.25.1.3	3C 10 sqmm Al	m	120	229.00	Rupees Two Hundred Twenty Nine Only	27480.00
14.25.1.4	3C 6 sqmm Al	m	60	217.00	Rupees Two Hundred Seventeen Only	13020.00
14.25.1.5	3C 6 sqmm submercible cable	m	500	241.00	Rupees Two Hundred Forty One Only	120500.00
14.25.1.6	3C 4 sqmm Al	m	150	190.00	Rupees One Hundred Ninety Only	28500.00
14.25.2	Supplying and making end termination with brass compression gland and aluminium/Copper lugs for following size of XLPE insulated PVC sheathed aluminium conductor cable of 1.1 kV grade as required.					
14.25.2.1	4C 25 sqmm Al	no	6.00	368.00	Rupees Three Hundred Sixty Eight Only	2208.00
14.25.2.2	4C 16 sqmm Al	no	2.00	347.00	Rupees Three Hundred Forty Seven Only	694.00
14.25.2.3	3C 10sqmm Al	no	12.00	309.00	Rupees Three Hundred Nine Only	3708.00
14.25.2.4	3C 6 sqmm Al	no	4.00	298.00	Rupees Two Hundred Ninety Eight Only	1192.00
14.25.2.5	3C 4 sqmm Al	no	8.00	290.00	Rupees Two Hundred Ninety Only	2320.00
14.26	Supply and providing ISI pipe earthing as per IS 3043 with 2.5 meter long 40mm dia B class GI pipe with 12mm dia holes, providing GI funnel with weld mesh, fixing GI strip of size50x6mm with min. length of 20cm clamped with 50x5mm GI flat using 12x10mm GI bolt & nut at top of the GI pipe as test joint, filling around the GI pipe at a radius of 15cm with a homogeneous of charcoal, & sieved earth upto a height of 2.0 meter from the bottom, filling the rest of the portion with excavated soil including watering and ramming providing brick work (20cm) masonry at top in 1:6 cm cement mortar,plastering the inside and top of the manhole with 12mm thick 1:6 cement mortar and providing 300x300x6mm CI covering at the top.	no	2.00	5635.00	Rupees Five Thousand Six Hundred Thirty Five Only	11270.00
14.27	Supplying and laying following GI or copper strip / wire at 0.6m below ground level including excavation and refilling or on surface with mounting saddles for conductor earth electrode including welding etc as required.					
14.27.1	25x3 mm copper strip tinned at the points of contacts	m	60.00	476.00	Rupees Four Hundred Seventy Six Only	28560.00
14.27.2	3.15mm copper conductor (10 SWG)	m	600.00	83.00	Rupees Eighty Three Only	49800.00
	<b>Grand Total</b>					<b>12690472.00</b>

NATIONAL GAMES SECRETARIAT

UPGRADATION/RENOVATION OF KWA SWIMMING POOL AT VELLAYAMBALAM, THIRUVANANTHAPURAM.

SPECIFICATION AND SCHEDULE OF QUANTITIES

PART C: ELECTRICAL WORKS

Item No.	Description of Items	Unit	Qty	Rate in figures(Rs)	Rate in Word(Rs)	Amount (Rs)
1.0	<b>PART A</b>					
1.1	<b>HT EQUIPMENT</b>					
	<b>11 KV RMU (Ring Main Unit)</b>					
	Design, supply, fabrication, installation, testing & commissioning of 11 KV outdoor 3 panel RMU unit as per KSEB Norms. The RMU unit consists of the following					
	<b>Incomer</b>					
	11 KV, 630A, 20KA , Double Break Load Break switch with 3 position(on off, earth) fitted in SF6 chamber with Manual/Motor operated spring charging mechanism-2 No.s					
	<b>Outgoing</b>					
	11 KV 200 A, 20 KA VCB fitted in SF6 chamber with manual/motor operated spring charging mechanism, shunt trip coil of 24 VDC, closing coil of 24 V DC, Aux.contact, 4 NO+4 NC,mechanical ON/OFF indicator and push button mechanical operation counter-1 No.					
	Current Transformer -/5, 7.5VA, Cl. 5P1 for Protection-3 Nos					
	Self powered IDMT 20/C + 1E/F relay -1No.					
	Power pack with battery backup(110 V AC/24V DC)-1 No.					
	Capacitive Voltage Indicators -3 No.s					
	Fault passage Indicator-1 No.					
	Control Wiring with appropriate colors					
	630A, Cu Busbar(Extendable Type)-1 Set					
	Common Base Frame-1 set					
	Stainless steel enclosure for SF6 tank covers					
	Cable boxes for receiving Incomin/Outgoing cable, excluding cable termination kits and glands	no	1.00	736425.00	Rupees Seven Lakh(s) Thirty Six Thousand Four Hundred Twenty Five Only	736425.00
1.2	<b>Unitlised Substation with 160 kVA Transformer</b>					
	Supply, installation, testing and commissioning of outdoor Unitised Substation consisting of					
	11KV, 26.2KA, 630A Load Break Switch with earth switch and 3 No.s of HT HRC fuses as incomer with shunt trip (separate emergency pushbutton shall be provided as per statutory requirements) - 1 No					
	160KVA,11KV/433V, 3 phase, Vector DYN-11,Dry type ,Cast resin transformer with tappings from +5% to -10% in steps of 2.5%, operatable on offcircuit by tap links provided-1No.					

Item. No.	Description of Items	Unit	Qty	Rate in figures(Rs)	Rate in Word(Rs)	Amount (Rs)
	Resin Cast CT 10/5,15VA,CL0.5 for TOD-2 Nos					
	Resin Cast Fixed type three phase PT of ratio 11/.110KV,100VA,CL0.5					
	Seal of bushings-1 set					
	ON-OFF push button,RYB indicating lamps,Trip push button-1 set					
	Space Heater withThermostat- 1 set					
	Shunt Trip coil - 230 V AC - 1 No					
	Cubicle Illumination Lamp with Door limits switch-1 set					
	400 A aluminium busbars for linking to transformer HT side with necessary support insulators-1set					
	Cable End Boxes for incoming and outgoing cables.					
	Separate compartment with provision for fixing approved make of TOD meter					
	MS sheet enclosure suitable for outdoor installation and all the necessary accessories as required complete.	no	1.00	761836.00	Rupees Seven Lakh(s) Sixty One Thousand Eight Hundred Thirty Six Only	761836.00
1.3	TOD METER					
	Supply and installation of TOD meter (Electronic trivector type) mounted separately within the compartment provided in the unitised substation.	no	1.00	25285.00	Rupees Twenty Five Thousand Two Hundred Eighty Five Only	25285.00
	<b>SUBTOTAL(PART A)</b>					<b>1523546.00</b>
2.0	<b>PART B</b>					
	<b>LT PANEL BOARD AND ACCESSORIES</b>					
2.1	<b>MSB</b>					
	Supply, installation, testing and commissioning of totally enclosed free standing thermoplastic poly carbonate floor mounting dust proof,shock proof, rust proof, water proof , corrosion proof and vermin proof outdoor cubicle type MSB suitable for 415 V, 3 phase, 50 HZ supply, fabricated of 14 SWG CRCA sheet steel Powder coated complete with busbars having 250A rating, indicating lamps (LED type) with 2A control MCBs, CT's, connections & interconnections with suitable size of copper leads/solid aluminium strips/rod and having following incoming and outgoing switches as per the drawing , specifications and standards of electrical inspectorate.					
	<b>Incomer</b>					
	250A, FP, 35kA, Microprocessor based,motorised MCCB with provision for interlock and adjustable over load and adjustable short circuit and earth fault release,shunt trip,auxiliary and trip alarm contacts - 2 nos					
	250A TPN busbar chamber with Aluminium busbar					
	RYB Indicating lamps LED type -6 Nos.					
	Digital Voltmeter - 2 set					
	Digital Ammeter - 2set					
	250/5A,15 VA CTs for metering - 6 Nos					
	250/5A,15 VA CTs for IPFCR- 1 No.					
	KWH meter - 1 No.					
	<b>Outgoing</b>					
	160A, TPN SDFU with HRC fuse - 2 nos					



Item. No.	Description of Items	Unit	Qty	Rate in figures(Rs)	Rate in Word(Rs)	Amount (Rs)
	63A, TPN SDFU with HRC fuse - 5 nos					
	125A, TPN SDFU with HRC fuse - 2 nos	no	1.00	284955.00	Rupees Two Lakh(s) Eighty Four Thousand Nine Hundred Fifty Five Only	284955.00
2.2	<b>CAPACITOR PANEL</b>					
	Supply, installation, testing and commissioning of totally enclosed free standing thermoplastic poly carbonate floor mounting dust proof, shock proof, rust proof, water proof, corrosion proof and vermin proof outdoor cubicle type MSB suitable for 415 V, 3 phase, 50 HZ supply, fabricated of 14 SWG CRCA sheet steel Powder coated complete with busbars having 100A rating, indicating lamps (LED type) with 2A control MCBs, CT's, connections & interconnections with suitable size of copper leads/solid aluminium strips/rod and having following incoming and outgoing switches as per the drawing, specifications and standards of electrical inspectorate.					
	Incomer					
	100A, 25 kA, FP MCCB with thermal release having adjustable over load -1 no.					
	100A TPN busbar chamber with Aluminium busbars					
	<b>RYB Indicating lamps LED type - 3 Nos.</b>					
	Digital Voltmeter - 1 set					
	Digital Ammeter - 1 set					
	ON-OFF indication lamps (LED type)- 1 Set					
	Microprocessor based intelligent, 6step IPFC relay with PF display - 1 No.					
	Out goings					
	25A, 16 kA, 4P, MCCB with adjustable over load 0.8In to 1 In - 7 Nos.					
	10kVAr capacitor duty contactor(AC6B) with illuminated ON- OFF push buttons (LED type)- 2 Nos					
	5 kVAr capacitor duty contactor(AC6B) with illuminated ON- OFF push buttons (LED type)- 3 Nos					
	10 kVAr, 480 V, 50 Hz heavy duty dry type capacitor(MPP-H) with 7% series reactor -2Nos					
	5kVAr, 480 V, 50 Hz heavy duty dry type capacitor(MPP-H) with 7% series reactor - 3 Nos	no	1.00	304351.00	Rupees Three Lakh(s) Four Thousand Three Hundred Fifty One Only	304351.00
2.3	Supply and installation of totally enclosed dust and vermin proof outdoor type IP65 polycarbonate emergency ON-OFF Push button station mounted on suitable MS angle for 230V, 1phase, 50Hz supply with accessories as required. Necessary foundation for MS angle shall also be considered if mounted directly in ground.	no	12.00	2278.00	Rupees Two Thousand Two Hundred Seventy Eight Only	27336.00
2.4	Supply, installation, testing and commissioning of 250 A, 35 KA 4 P MCCB in totally enclosed wall/ floor mounting dust and vermin proof outdoor cubicle type panel board suitable for 415 V, 3 phase, 50 HZ supply, fabricated of 14 SWG CRCA sheet steel Powder coated complete with all the necessary accessories etc. a required	Job	1.00	23007.00	Rupees Twenty Three Thousand Seven Only	23007.00

Item. No.	Description of Items	Unit	Qty	Rate in figures(Rs)	Rate in Word(Rs)	Amount (Rs)
	<b>SUB TOTAL PART - B</b>					<b>639649.00</b>
	<b>PART C</b>					
<b>3</b>	<b>WIRING AND ACCESSORIES</b>					
3.1	Supply & wiring for following points in surface/recessed mounted rigid medium gauge 20mm PVC conduit with all accessories, using 3 runs of 1.5 sqmm FRLS PVCinsulated stranded copper conductor single core wire for phase, neutral & earth, with modular 6A one way switch, modular front plate, suitable GI box, ceiling rose etc asrequired. The total distance from the switch box to the point will not exceed 5mtr, incase if length increases above 5 metres, the wiring shall be measured under item 3.4					
	Light point/ exhaust fan point/call bell point	no	50.00	1170.00	Rupees One Thousand One Hundred Seventy Only	58500.00
3.2	Wiring for Circuit Wiring with 2X4 sq.mm. PVC insulated, copper conductor, stranded cable in surface/recessed 25mm dia PVC conduit along with 1 no.2.5 sq. mm. PVC insulated copper wire for loop earthing as required.	m	50.00	272.00	Rupees Two Hundred Seventy Two Only	13600.00
3.3	Wiring for Circuit Wiring with 2X2.5 sq.mm. PVC insulated, copper conductor, stranded cable in surface/recessed 25mm dia PVC conduit along with 1 no.1.5 sq. mm. PVC insulated copper wire for loop earthing as required.	m	750.00	222.00	Rupees Two Hundred Twenty Two Only	166500.00
3.4	Wiring for Circuit Wiring with 2X1.5 sq.mm. PVC insulated, copper conductor, stranded cable in surface/recessed 20mm dia PVC conduit along with 1 no.1.5 sq. mm. PVC insulated copper wire for loop earthing as required.	m	300.00	202.00	Rupees Two Hundred Two Only	60600.00
3.5	Supply and fixing suitable size GI box with modular front plate and cover on surface or in recess, including providing and fixing 2/3 pin combined 6A modular socket outlet and 6 A modular switch with connection etc as required.	no	8.00	464.00	Rupees Four Hundred Sixty Four Only	3712.00
3.6	Supply & fixing suitable size GI box with modular front plate and cover on surface or in recess, including providing & fixing of 16A modular switch with connection etc as required	no	2.00	367.00	Rupees Three Hundred Sixty Seven Only	734.00
3.7	Supply & fixing suitable size GI box with modular front plate and cover on surface or in recess, including providing & fixing of 3pin combined 6/16A modular socket outlet with connection etc as required.	no	1.00	440.00	Rupees Four Hundred Forty Only	440.00
3.8	Supply & fixing of following rigid medium gauge PVC conduit along with all accessories in surface/recess including cutting the wall and making good the same in case of recess mounting as required.					

Item. No.	Description of Items	Unit	Qty	Rate in figures(Rs)	Rate in Word(Rs)	Amount (Rs)
3.8.1	20 mm	m	25.00	114.00	Rupees One Hundred Fourteen Only	2850.00
3.8.2	25 mm	m	10.00	124.00	Rupees One Hundred Twenty Four Only	1240.00
	<b>SUB TOTAL (PART C)</b>					<b>308176.00</b>
	<b>PART -D</b>					
<b>4</b>	<b>MCBs AND MCB DISTRIBUTION BOARDS</b>					
4.1	Supply and installation of sheet steel, phosphatised and painted, dust and vermin proof enclosure of MCB DB including copper/brass bus bar, neutral link, earth bus and DIN rail suitable for fixing MCB/isolator etc. fixed on wall using suitable anchor bolts or fixed in recess including cutting hole on the wall, making good the damages, colour washing etc. as required.					
4.1.1	8 way (8+24) - outdoor type(IP 54) double cover TPN vertical DB	no	3.00	10984.00	Rupees Ten Thousand Nine Hundred Eighty Four Only	32952.00
4.1.2	4 way (8+12) - double cover TPN vertical DB (IP42/43)	no	1.00	4855.00	Rupees Four Thousand Eight Hundred Fifty Five Only	4855.00
4.1.3	8 way (8+24) -three phase double cover horizontal (IP 42/43)	no	1.00	3455.00	Rupees Three Thousand Four Hundred Fifty Five Only	3455.00
4.1.4	12 way -single phase double cover (IP 42/43)	no	3.00	1655.00	Rupees One Thousand Six Hundred Fifty Five Only	4965.00
4.2	Supply and fixing of following rating residual current circuit breaker having earth leakage protection (RCCB+MCB) as per specification as required					
4.2.1	4 pole 63 amps. (415 Volts), 100mA sensitivity.	no	4.00	6775.00	Rupees Six Thousand Seven Hundred Seventy Five Only	27100.00
4.2.2	4 pole 32 amps. (415 Volts), 30mA sensitivity.	no	1.00	3781.00	Rupees Three Thousand Seven Hundred Eighty One Only	3781.00
4.2.3	2 pole 16amps. (240 Volts), 30mA sensitivity	no	3.00	2463.00	Rupees Two Thousand Four Hundred Sixty Three Only	7389.00
4.3	Supply and fixing of following rating, 10 KA, Miniature circuit breakers of the following series as required.					
4.3.1	6A to 32A, SP, B/C-CURVE	no	64.00	213.00	Rupees Two Hundred Thirteen Only	13632.00
4.3.2	6A to 32A ,SP D curve MCB	no	14.00	279.00	Rupees Two Hundred Seventy Nine Only	3906.00
4.3.3	6A to 32A, DP, D CURVE MCB	no	2.00	636.00	Rupees Six Hundred Thirty Six Only	1272.00
4.3.4	6 A to 32 A TP MCB, C-CURVE MCB	no	14.00	846.00	Rupees Eight Hundred Forty Six Only	11844.00
4.4	SP MCB blanking plate	no	17.00	13.00	Rupees Thirteen Only	221.00
4.5	Supply and fixing cable end boxes for the following types of DB with necessary bolts and nuts etc. as required .					
4.5.1	Suitable for all IP 43, VTPN DB (Group B)	no	4.00	916.00	Rupees Nine Hundred Sixteen Only	3664.00
4.5.2	Suitable for IP 43, 8 way, TPN DB (Group B)	no	1.00	2014.00	Rupees Two Thousand Fourteen Only	2014.00
4.5.3	Suitable for IP 43, 12 way, SPN DB (Group B)	no	3.00	811.00	Rupees Eight Hundred Eleven Only	2433.00
	<b>SUB TOTAL (PART D)</b>					<b>123483.00</b>

Item. No.	Description of Items	Unit	Qty	Rate in figures(Rs)	Rate in Word(Rs)	Amount (Rs)
	<b>PART E</b>					
<b>5</b>	<b>LIGHT FIXTURES AND FANS</b>					
5.1	Supply of 1x28W surface mounted decorative fluorescent lamp fixture with T5 electronic batten, including 28W T5 lamp,prewired complete with all necessary accessories as required (Sample shall be approved by the engineer in charge)	no	18.00	630.00	Rupees Six Hundred Thirty Only	11340.00
5.2	Supply of 1x14W surface mounted decorative fluorescent lamp fixture with T5 electronic batten, including 14W T5 lamp,prewired complete with all necessary accessories as required (Sample shall be approved by the engineer in charge)	no	15.00	540.00	Rupees Five Hundred Forty Only	8100.00
5.3	Supply, of the following sizes of exhaust fans in the existing opening, fixing necessary bolt and nuts, making good the damages etc. as required including giving connections with required length of 24/0.20mm PVC insulated and PVC sheathed 3 core round copper conductor flex wire conforming to relevant ISS (Sample shall be approved by the engineer in charge)					
	250mm, single phase, light duty exhaust fan in plastic body with self opening louvers	no	7.00	1338.00	Rupees One Thousand Three Hundred Thirty Eight Only	9366.00
5.4	Supply of ceiling fan, with double ball bearing, Aluminium pressure die cast body with Aluminium blades, canopies, hanging shackle, 30 cm down rod and without speed regulator suitable for 230 V/240 V 50 HZ, AC supply confirms to IS 374/1979 as required complete. (Sample shall be approved by the engineer in charge)					
	1200mm sweep	no	2.00	1734.00	Rupees One Thousand Seven Hundred Thirty Four Only	3468.00
5.5	Installation, testing and commissioning of prewired fluorescent fitting of all types complete with all accessories and fluorescent lamps of all types directly on wall and giving connections with 16/0.20 mm 3 core PVC insulated and sheatherd round copper conductor flex wire or extending the original wiring and giving connections as required.	no	33.00	127.00	Rupees One Hundred Twenty Seven Only	4191.00
5.6	Installation, testing and commissioning of ceiling fan wiring the down rod of standard length (upto 30cm) with 1.5 sq.mm PVC insulated copper conductor single core cable including earthing the regulator etc. as required.	no	2.00	136.00	Rupees One Hundred Thirty Six Only	272.00
5.7	Supply and providing every additional length of down rod of suitable size heavy guage GI/WI pipe with 16/0.20mm PVC insulated and PVC sheathed 3 core round copper conductor flex wire conforming in relevant ISS or with original wiring extended including painting as required. (for extending the length of down rod for ceiling fan)	no	2.00	17.00	Rupees Seventeen Only	34.00

Item No.	Description of Items	Unit	Qty	Rate in figures(Rs)	Rate in Word(Rs)	Amount (Rs)
5.8	Supply and fixing of 2 module type, 5 speed electronic fan regulator 120watts rating with non metallic front plate including providing and fixing suitable size metal box in surface/ recess with all necessary accessories as required.	no	2.00	532.00	Rupees Five Hundred Thirty Two Only	1064.00
5.9	Installation, testing and commissioning of exhaust fan upto 450mm sweep in the existing opening, including making the hole to suit the size of the above fan, making good the damage, connections, testing & commissioning etc as required.	no	7.00	675.00	Rupees Six Hundred Seventy Five Only	4725.00
5.10	Numbering of ceiling fan / exhaust fan/ fluorescent fitting as required.	no	42.00	29.00	Rupees Twenty Nine Only	1218.00
<b>5.11</b>	<b>EXTERNAL LIGHTING</b>					
5.11.1	Supply & installation of Hot dipped Galvanised tubular swaged pole of 90 micron zinc coating with tensile strength 410 Mpa of overall length 9 Mtrs long single arm swan neck as per IS 2713.The pole shall have outside dia & thickness as 139.7x5.40,114.3x4.5, 88.9x3.25mm, & sectional length 5.00+2+2 Mtrs alongwith 300 x 300 x 10 mm MS base plate welded at bottom.The pole shall have planting depth of 1.5 mtr & erected in PCC1:2:4 as per the drawing. The pole shall be provided with suitable RCC foundation . The loop in loop out box shall have 3 phase power connector or bus bar of required current rating for loop in loop out of cable, 4A C curve SP MCB. Required dia GI pipe shall be provided in the foundation for taking cable in & out from the pole.	no	12.00	27334.00	Rupees Twenty Seven Thousand Three Hundred Thirty Four Only	328008.00
5.11.2	Supply, installation, testing & commissioning of IP66,150W MH street lighting, with die cast aluminium housing, anodised aluminum reflector, toughened glass, stainless steel toggle, heavy duty copper ballast, pf capacitor, 1x150W MH lamp etc as required. The light fitting shall be suitably installed with all required accessories to poles mentioned in item no. 9.1 & 9.2.The item shall include 3C x 1.5 sqmm PVC insulated copper unarmoured cable for connecting between the luminaire and the loop in loop out box.	no	12.00	1822.00	Rupees One Thousand Eight Hundred Twenty Two Only	21864.00
	<b>SUB TOTAL (PART E)</b>					<b>393650.00</b>
<b>6</b>	<b>PART -F</b>					
<b>6.1</b>	<b>HT CABLING</b>					
6.1.1	Supply of following sizes of XLPE insulated PVC sheathed, Aluminium conductor armoured power cable of 11 KV grade conforming to IS 7098 amended upto date.					
	3C X 300 sq.mm.	m	120.00	2536.00	Rupees Two Thousand Five Hundred Thirty Six Only	304320.00

Item. No.	Description of Items	Unit	Qty	Rate in figures(Rs)	Rate in Word(Rs)	Amount (Rs)
6.1.2	Laying of one number 11 kV grade XLPE cable insulated and PVC sheathed/XLPE power cable to the following sizes in ground including excavation of trench of size 35X 120 cm, sand cushioning up to a height of 25 cm,providing protective covering with country burnt bricks laid breathwise refilling the trench etc. as required.					
	Cable size exceeding 120 Sq.mm but not exceeding 400 sq.mm	m	100.00	328.00	Rupees Three Hundred Twenty Eight Only	32800.00
6.1.3	Laying of one number 11 kV grade XLPE cable of size not exceeding 400 sq.mm in the existing RCC/ HUME/ STONEWARE/ METAL pipe as required.	m	10.00	90.00	Rupees Ninety Only	900.00
6.1.4	Laying of one number 11 kV grade XLPE cable of size not exceeding 400 sq.mm in the existing masonry open duct as required.	m	10.00	72.00	Rupees Seventy Two Only	720.00
6.1.5	Supplying and making outdoor cable end termination with push on end termination kit complete with all accessories including lugs for the following size of 3 core, armoured, XLPE aluminium conductor cable of 11kV grade as required.					
	3C X300 sq.mm.	set	1.00	14191.00	Rupees Fourteen Thousand One Hundred Ninety One Only	14191.00
6.1.6	Supplying and making indoor cable end termination with push-on end termination complete with all accessories including lugs for the following size of 3 core, armoured, XLPE aluminium conductor cable of 11kV grade as required.					
	3C X300sq.mm.	set	1.00	12714.00	Rupees Twelve Thousand Seven Hundred Fourteen Only	12714.00
<b>LT CABLING</b>						
6.2	Supply of following size 1.1 KV grade XLPE insulated, PVC sheathed, armoured Aluminium /copper conductor cable conforming to IS 7098 (Part 1) amended upto date.					
6.2.1	3.5C 185 sqmm Al	m	40.00	986.00	Rupees Nine Hundred Eighty Six Only	39440.00
6.2.3	3.5C 70sqmm Al	m	40.00	442.00	Rupees Four Hundred Forty Two Only	17680.00
6.2.4	3.5C 50 sqmm Al	m	10.00	337.00	Rupees Three Hundred Thirty Seven Only	3370.00
6.2.5	4C 25 sqmm Al	m	80.00	229.00	Rupees Two Hundred Twenty Nine Only	18320.00
6.2.6	4C 16 sqmm Al	m	10.00	176.00	Rupees One Hundred Seventy Six Only	1760.00
6.2.7	4C 4 sqmm Al	m	300.00	104.00	Rupees One Hundred Four Only	31200.00
6.2.8	2C 10 sqmm Al	m	60.00	115.00	Rupees One Hundred Fifteen Only	6900.00
6.2.9	3C 10 sqmm Al	m	50.00	134.00	Rupees One Hundred Thirty Four Only	6700.00
6.2.10	3C 4 sqmm Al	m	300.00	95.00	Rupees Ninety Five Only	28500.00
6.2.11	3C 2.5 sqmm Cu	m	650.00	164.00	Rupees One Hundred Sixty Four Only	106600.00
6.3	Supplying and making end termination with brass compression gland and aluminium/Copper lugs for following size of XLPE insulated PVC sheathed aluminium conductor cable of 1.1 kV grade as required.					

Item. No.	Description of Items	Unit	Qty	Rate in figures(Rs)	Rate in Word(Rs)	Amount (Rs)
6.3.1	3.5C 185 sqmm Al	no	2.00	658.00	Rupees Six Hundred Fifty Eight Only	1316.00
6.3.2	3.5C 120sqmm Al	no	2.00	527.00	Rupees Five Hundred Twenty Seven Only	1054.00
6.3.3	3.5C 70sqmm Al	no	4.00	477.00	Rupees Four Hundred Seventy Seven Only	1908.00
6.3.4	3.5C 50 sqmm Al	no	2.00	443.00	Rupees Four Hundred Forty Three Only	886.00
6.3.5	4C 25 sqmm Al	no	6.00	368.00	Rupees Three Hundred Sixty Eight Only	2208.00
6.3.6	4C 16 sqmm Al	no	2.00	347.00	Rupees Three Hundred Forty Seven Only	694.00
6.3.7	4C 4 sqmm Al	no	24.00	292.00	Rupees Two Hundred Ninety Two Only	7008.00
6.3.8	2C 10 sqmm Al	no	4.00	305.00	Rupees Three Hundred Five Only	1220.00
6.3.9	3C 10 sqmm Al	no	2.00	308.00	Rupees Three Hundred Eight Only	616.00
6.3.10	3C 4 sqmm Al	no	30.00	290.00	Rupees Two Hundred Ninety Only	8700.00
6.3.11	3C 2.5 sqmm Cu	no	30.00	286.00	Rupees Two Hundred Eighty Six Only	8580.00
6.4	Laying & fixing of one no. XLPE insulated & PVC sheathed power or control cable of 1.1kV grade of following size in recess/ surface/ cable tray/ wall with saddles, clamps and all other accessories as required					
6.4.1	Cable size not exceeding 25Sq mm	m	995.00	95.00	Rupees Ninety Five Only	94525.00
6.4.2	Above 25 Sq.mm upto 120 Sq.mm	m	60.00	145.00	Rupees One Hundred Forty Five Only	8700.00
6.4.3	Above 120 Sq.mm upto 400 Sq.mm	m	10.00	176.00	Rupees One Hundred Seventy Six Only	1760.00
6.5	Laying of one number PVC insulated and PVC sheathed armoured power cable of 1.1kV grade fo the following sizes in ground including excavation of trench of size 35x75cm, sand cushioning up to a height of 25cm (8cm+17cm), providing protective covering with country burnt bricks laid breadth wise, refilling the trench etc. as required					
6.5.1	Cable size not exceeding 25Sq mm	m	285.00	234.00	Rupees Two Hundred Thirty Four Only	66690.00
6.5.2	Above 120 Sq.mm upto 400 Sq.mm	m	20.00	269.00	Rupees Two Hundred Sixty Nine Only	5380.00
6.6	Laying of one number additional PVC insulated and PVC sheathed armoured power cable of 1.1KV grade of the following sizes in ground in the same trench in one tier horizontal formation including widening the trench by 20 cm,sand cushioning up to the height of 25 cm,providing protective covering with country burnt bricks laid breadth wise, refilling the trench etc. as required					
	Upto 25 Sq.mm	m	90.00	149.00	Rupees One Hundred Forty Nine Only	13410.00
6.7	Laying of one number PVC insulated and PVC sheathed armoured power cable of 1.1kV grade fo the following sizes in the existing RCC/HUME/STONEWARE/GI/DWC pipe as required					
6.7.1	Upto 25 sq.mm	m	30.00	45.00	Rupees Forty Five Only	1350.00
6.7.2	Above 25 Sq.mm upto 120 Sq.mm	m	5.00	62.00	Rupees Sixty Two Only	310.00

Item. No.	Description of Items	Unit	Qty	Rate in figures(Rs)	Rate in Word(Rs)	Amount (Rs)
6.8	Laying of one number PVC insulated and PVC sheathed armoured power cable of 1.1KV grade of the following sizes in the existing masonry open duct as required.					
6.8.1	Upto 25 Sq.mm	m	50.00	36.00	Rupees Thirty Six Only	1800.00
6.8.2	Above 25 Sq.mm upto 400 Sq.mm	m	5.00	49.00	Rupees Forty Nine Only	245.00
6.9	Supply, fabricating and installing MS items such as Tees/ angles/ channels etc. on floor/ ceiling/ wall including necessary civil work such as grouting, finishing etc. and painting with two coats of primer and two coats of synthetic enamel paint as required	kg	600.00	96.00	Rupees Ninety Six Only	57600.00
6.10	Supplying, threading, laying and jointing of the following sizes of 'B' class GI pipe with all required accessories in ground in the existing trench as protective covering to earth leads.					
6.10.1	40 mm	m	30.00	259.00	Rupees Two Hundred Fifty Nine Only	7770.00
6.10.2	50 mm	m	37.00	323.00	Rupees Three Hundred Twenty Three Only	11951.00
6.11	Supply and fixing LT cable route marker with 10cmx10cmx5cm thick GI plate with inscription there on, bolted/welded to 35x35x6mm angle iron, 60 cm long and fixing the same in ground as required.	no	14.00	299.00	Rupees Two Hundred Ninety Nine Only	4186.00
<b>SUB TOTAL PART - F</b>						<b>942852.00</b>
<b>PART -G</b>						
<b>7.0</b>	<b>EARTHING AND SAFETY EQUIPMENTS</b>					
7.1	Supply & providing ISI plate earthing as per IS 3043 with 1200x1200x12.5mm GI / CI earth plate with 20mm dia B class GI pipe for watering, 50x6mm GI strip welded to the plate, GI funnel with weld mesh, fixing GI strip of size 50x6mm with min. length of 20cm clamped with 50x5mm GI flat using 12x10mm GI bolt & nut at top of the GI pipe as test joint, filling around the GI pipe at a radius of 15cm with a homogeneous mixture of charcoal, & river sand upto a height of 2.5 meter from the bottom, filling the rest of the portion with excavated soil including watering & ramming providing brick work (20cm) masonry at top in 1:6 cement mortar, plastering the inside & top of the manhole with 12mm thick 1:6 cement mortar and providing gully trap with 450x450x10mm CI covering at the top.	no	10.00	13347.00	Rupees Thirteen Thousand Three Hundred Forty Seven Only	133470.00



Item No.	Description of Items	Unit	Qty	Rate in figures(Rs)	Rate in Word(Rs)	Amount (Rs)
7.2	Supply and providing ISI pipe earthing as per IS 3043 with 2.5 meter long 40mm dia B class GI pipe with 12mm dia holes, providing GI funnel with weld mesh, fixing GI strip of size50x6mm with min. length of 20cm clamped with 50x5mm GI flat using 12x10mm GI bolt & nut at top of the GI pipe as test joint, filling around the GI pipe at a radius of 15cm with a homogeneous of charcoal, & sieved earth upto a height of 2.0 meter from the bottom, filling the rest of the portion with excavated soil including watering and ramming providing brick work (20cm) masonry at top in 1:6 cm cement mortar,plastering the inside and top of the manhole with 12mm thick 1:6 cement mortar and providing 300x300x6mm CI covering at the top.	no	6.00	5635.00	Rupees Five Thousand Six Hundred Thirty Five Only	33810.00
7.3	Supplying and laying following GI or copper strip / wire at 0.6m below ground level including excavation and refilling or on surface with mounting saddles for conductor earth electrode including welding etc as required.					
7.3.1	25x3 mm copper strip tinned at the points of contacts	m	300.00	476.00	Rupees Four Hundred Seventy Six Only	142800.00
7.3.2	3.15mm copper conductor (10 SWG)	m	500.00	83.00	Rupees Eighty Three Only	41500.00
7.3.3	4.00 mm GI conductor (8 SWG)	m	300.00	32.00	Rupees Thirty Two Only	9600.00
7.4	Supply and fixing anodised aluminum glass framed shock treatment chart.	job	1.00	422.00	Rupees Four Hundred Twenty Two Only	422.00
7.5	Supply and providing 6mm thick and1m wide electrical grade chequered type rubber mat to withstand 3.3KV dielectric strength conforming to IS 5429/1969.	job	4.00	1158.00	Rupees One Thousand One Hundred Fifty Eight Only	4632.00
7.6	Supply and fixing of First aid box	no	1.00	589.00	Rupees Five Hundred Eighty Nine Only	589.00
7.7	Supplying of Rubber hand gloves suitable for 1.1 KV.	pair	3.00	360.00	Rupees Three Hundred Sixty Only	1080.00

Item. No.	Description of Items	Unit	Qty	Rate in figures(Rs)	Rate in Word(Rs)	Amount (Rs)
7.8	Supply and providing 9 Litre capacity GI Fire Bucket painted in post office red with primer coat of red oxide and written with white paint 'FIRE' mounted on MS angle frame work/wall bracket filled with fine sand painting the bracket/floor stand including making good the damages, colour washing etc. as required.	no	3.00	1336.00	Rupees One Thousand Three Hundred Thirty Six Only	4008.00
<b>SUB TOTAL PART G</b>						<b>371911.00</b>
<b>GRAND TOTAL</b>						<b>4303267.00</b>

**NATIONAL GAMES SECRETARIAT**

**Upgradation / Renovation of KWA Swimmingpool at Vellayambalam, Thiruvananthapuram**

**ABSTRACT OF ESTIMATE**

<b>Description</b>	<b>Amount (Rs)</b>
PART A - Civil Works	25157485.00
PART B - Recirculation Tanks and equipments	12690472.00
PART C - Electrical Works	4303267.00
<b>TOTAL</b>	<b>42151224.00</b>
Less value of Market Rates	20669248.00
	21481976.00
Add value of Market Rates	20669248.00
<b>GRAND TOTAL</b>	<b>42151224.00</b>

**(Rupees Four crore Twenty one lakhs Fifty one thousand Two hundred and Twenty four only)**

I/We agree to carry out the work at par with

(1)\* at estimate rate (in figures and words).....

(2) \* .....% above estimate rate (in figures and words) .....

(3) \* .....% of below the estimate rate (in figures and words) .....

(less cost of departmental materials /L.S provisions and market rates)

Note: Strike out whichever is not applicable

\*\* Tender excess will not be applicable for market rate items in the schedule of contract

Date: \_\_\_\_\_ Signature, Full Name and  
Witness \_\_\_\_\_ Address of the Tenderer  
Name .....

Address .....