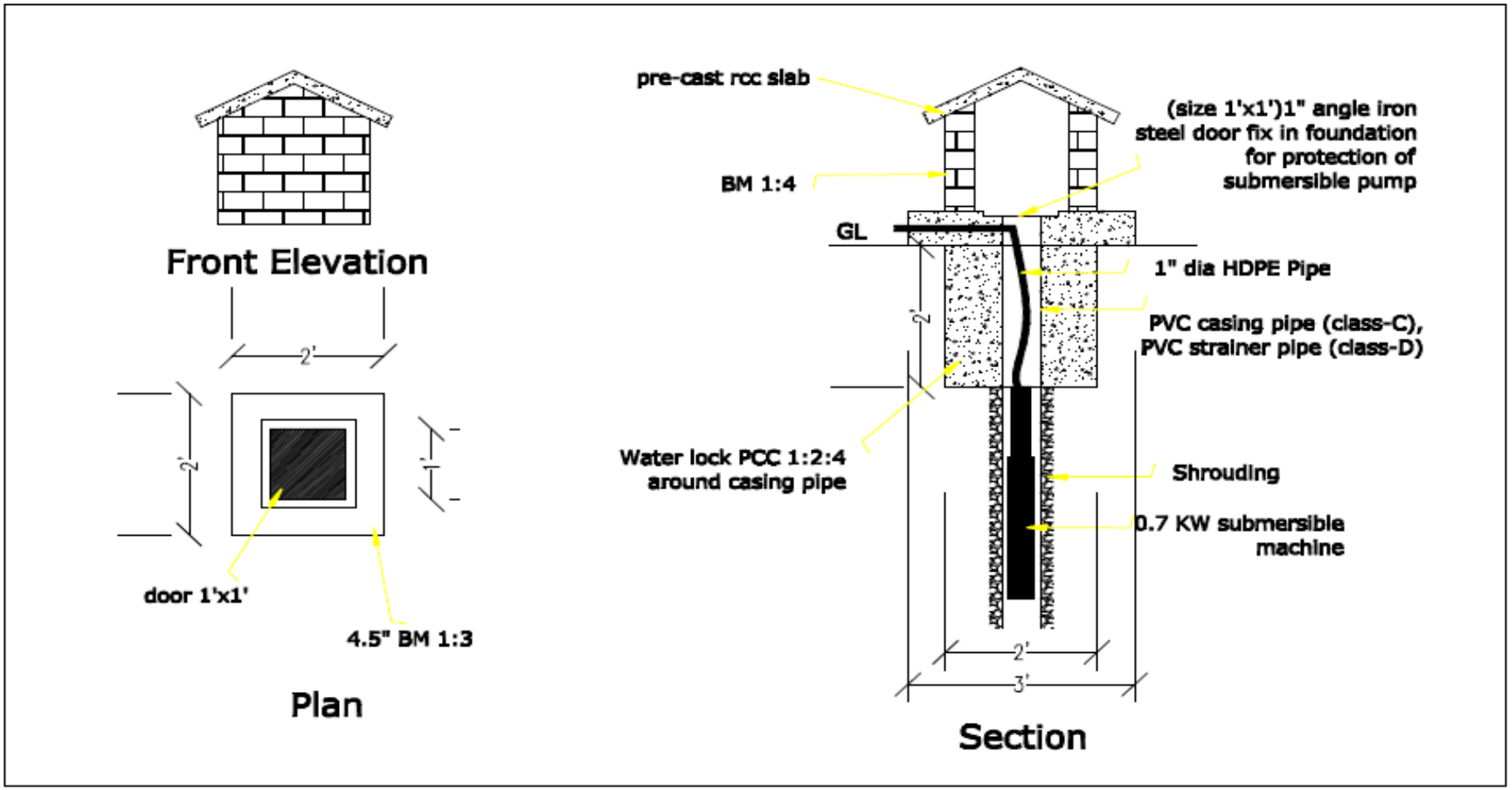
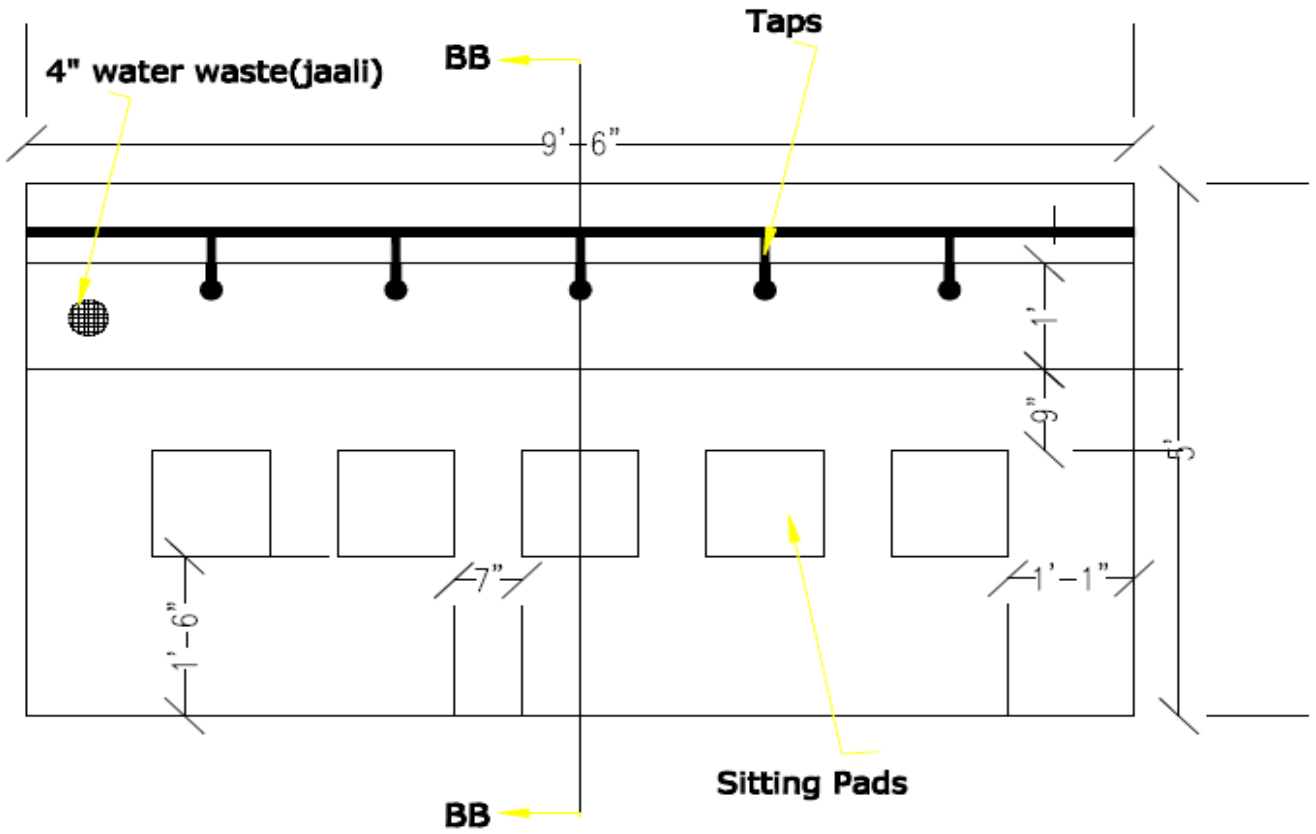
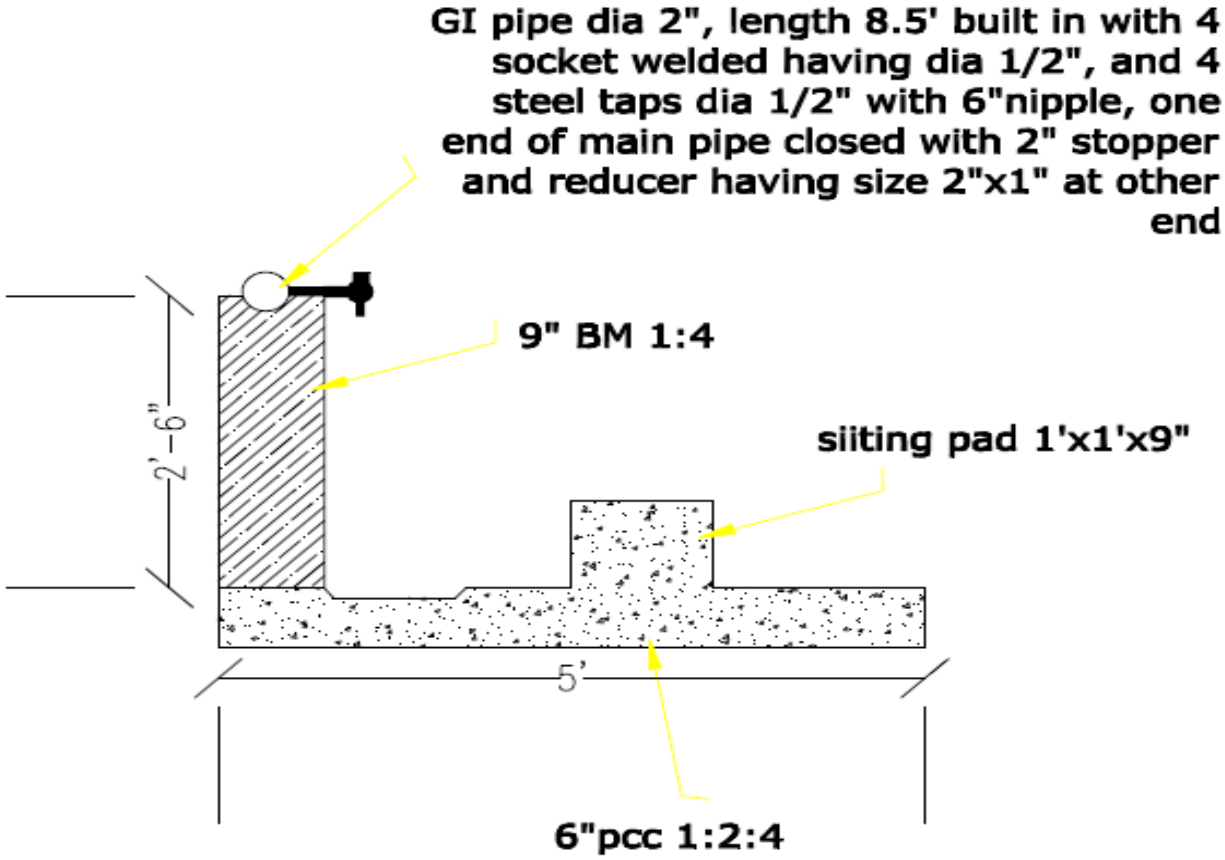
Pressure Pump (PP) Drawing

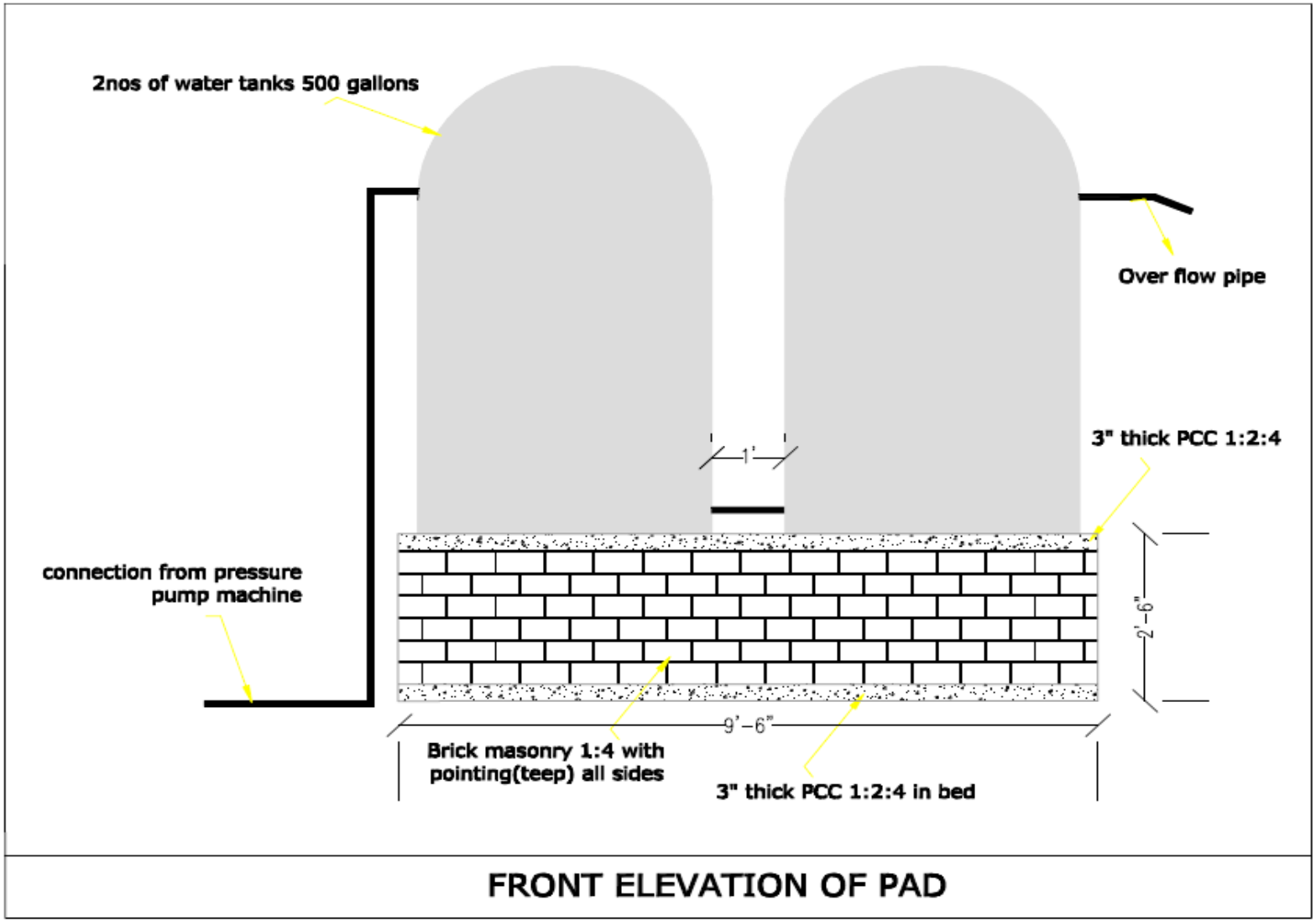




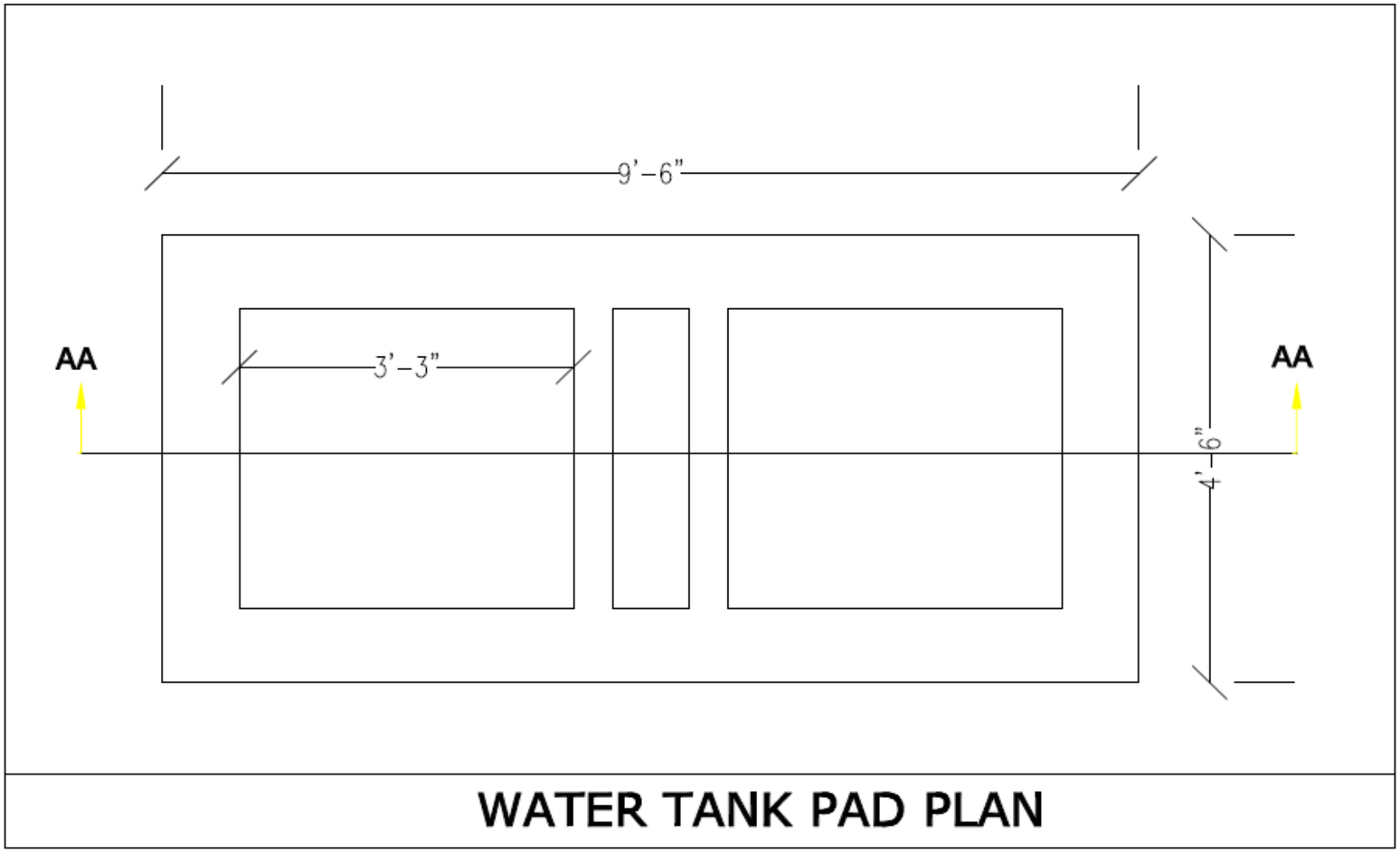
PLAN OF APRON FOR PRESSURE PUMP



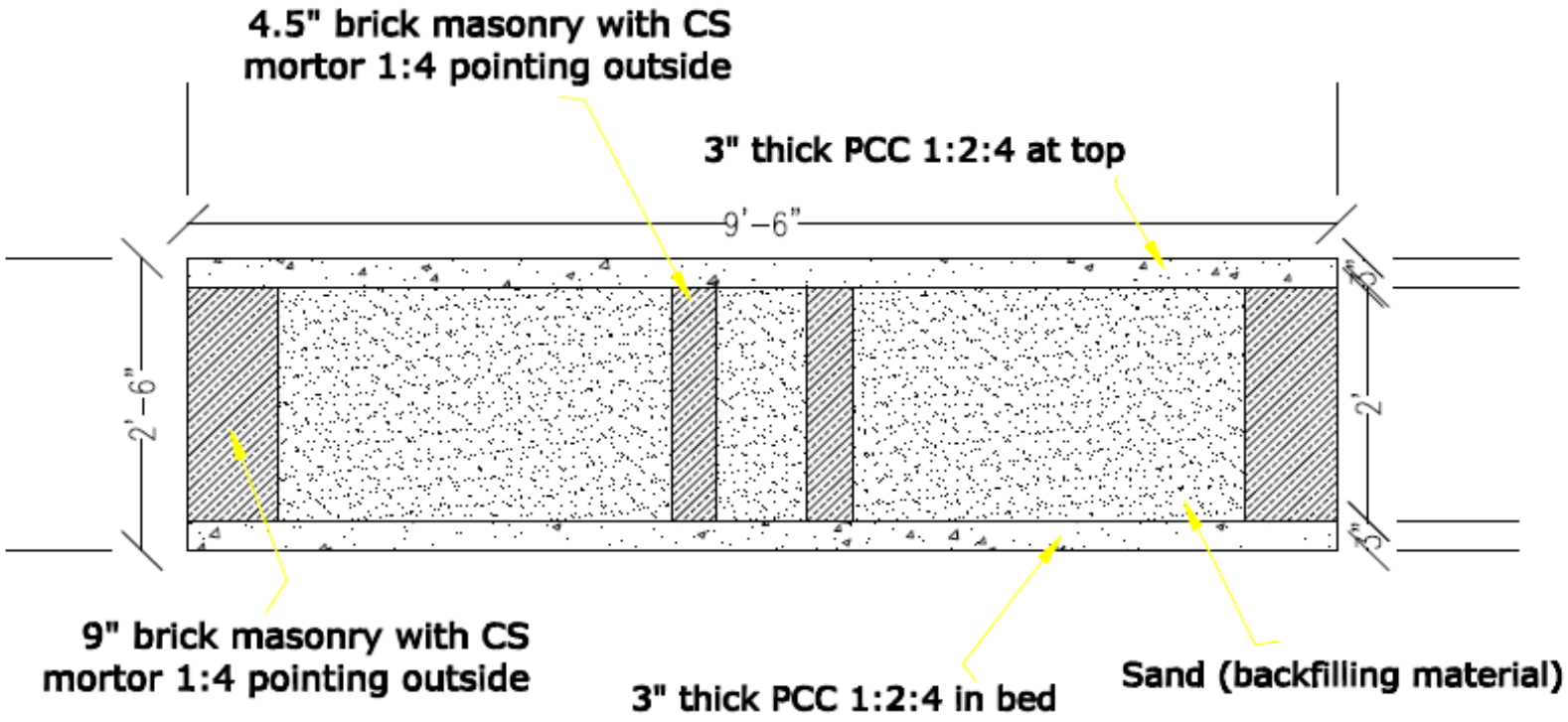
BB-SECTIONAL VIEW OF PP



FRONT ELEVATION OF PAD



WATER TANK PAD PLAN



AA-SECTIONAL VIEW OF WATER TANK PAD

Design consideration for selecting submersible solar water pump				
A	**Dicharge Calculation**			
	Decription	Quantity	Unit	Remarks
	Total person per scheme	420	Persons	60 House Holds @ 7 persons per family
	Growth rate	3	Percent	
	Design Period	5	Year	
	Design Population	487	Persons	
	Per person requirements	15	LPCD	15 Litter required per person per day as per Sphere Standards (Due to emergency response)
	Total required discharge in 8 hours solar	7305	Litters/day	8 hours day light requirements
	Wastage @ 15%	1095.75	Litters	
	Total water demand	8400.75	Litters	
	Total discharge required per minute in day	17.50156	Litters/minutes	Based on 8 hours day light
	Peak hour demand including summer	20	Liters per minute	
	Required discharge in Gallons	**5**	**Gallons/minutes**	**Designed discharge for pump**

B	**Pump Horse Power (HP) & Solar Power Calculations**			
	Static Water head	200	Ft	Maximum Level in the intervention area
	Vertical Hight	9	Ft	Heigh of water tank inlet from NSL
	Draw Down with Discharge	3	Ft	
	Frictional Losses	4	Ft	Losses @ 1.66 feet in 100 feet HDPE pipe 32 mm and two bends 90 degree
	Total Dynamic Head (TDH)	216	Ft	TDH= Static Wate head + Draw Down + vertical Height + Frictional Losses
	Required Discharge (Q)	5	G/M	From above Table A
	Specific Gravity (SG)	1		1 for Water
	Pump Efficency	45	Percent	
	Motor Efficiency	70	Percent	
	Water Hourse Power (WHP)	0.272727	HP	WHP = TDH*Q*SG/3960
	Pump Shaft Power HP= WHP/Pump eff	0.606061	HP	Pump Shaft Power HP = WHP/Motor Eff
	Motor Input power in Watts= (pump shaft power HP * 746)/ Pump Efficiency	**645.8874**	**Watt**	Say Motor Input Power 0.7 KW
	Total PV Power Required	839.6537	Watt	Total PV Power Required = Motor Input Power + 30% Dissipation of enerrgy losses (Factor of safety 30%)
	Total PV required @ 280 Watt per solar	**2.9988**	**No**	**3 Pannels @ 280 Watts each**