

# Manure Management



## ***Dairy Treatment***

***High Profile PolyGeyser®  
(HPPG 650)***

- **Automatic operation**
- **Low operation costs**
- **Low maintenance costs**
- **No moving parts**
- **Low energy use**



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## HPPG 650: *Savings & Benefits*








The High Profile PolyGeyser® Filter (HPPG) is capable of handling high solids loading with minimal water loss due to its patented water recycling technology.

This PolyGeyser filter automatically backwashes the media, to maintain a healthy biofilm that is capable of breaking down readily digestible refractory organics. The enhanced media adds surface area to the beads and makes this unit ideal for applications with high biofiltration needs.

The design pairs low head loss and high flow rates with the convenience and efficiency of a PolyGeyser and its autopneumatic backwash. The PolyGeyser also has an internal sludge storage chamber that concentrates the sludge prior to removal from the unit. This highly concentrated process significantly lowers the amount of water removed with the sludge.

### DAIRY TREATMENT BENEFITS

	Reduce carbon footprint/GHG emissions
	Improve water quality of lagoon
	Remove +50% of solids
	Create supplemental fertilizer revenue stream
	Lower nutrient concentrations in lagoon

### FILTER BENEFITS:

- Superior solids capture in a small footprint
- Inlets and outlets sized for high flow
- Backwash water is recycled internally for low water loss
- Solids capture & biofiltration
- Automatic pneumatic backwashing for low maintenance
- Sludge is highly concentrated for low water loss
- No moving parts, no electronics for high reliability

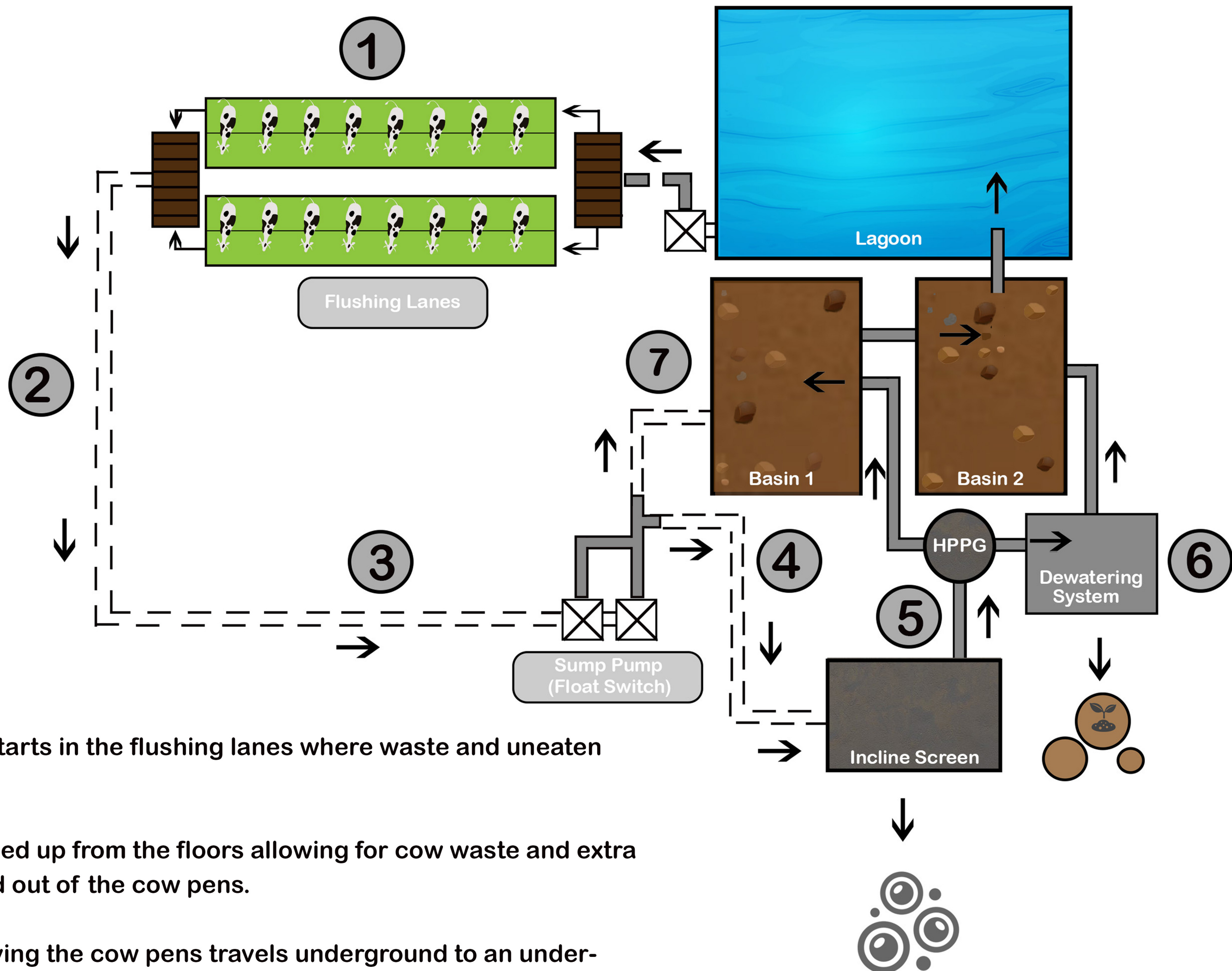


An example of an HPPG-10 Pilot used on a dairy farm in Merced, CA. This pilot was used to take influent and effluent samples in order to showcase the filter's effectiveness at removing solids from the water post-screen.

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## HPPG 650: Process Overview



1.) The process starts in the flushing lanes where waste and uneaten feed is collected.

2.) Water is pumped up from the floors allowing for cow waste and extra feed to be flushed out of the cow pens.

3.) The water leaving the cow pens travels underground to an underground sump pump.

4.) The water from the sump is pumped up to the incline screen where it removes a majority of the large solids. Solids removed from incline screen are sent to a conveyer where they are piled.

5.) The water leaving the incline screen goes to the HPPG filter to remove a majority of the remaining solids. The water leaving the filter goes to the solids-settling basins and the sludge goes to dewatering.

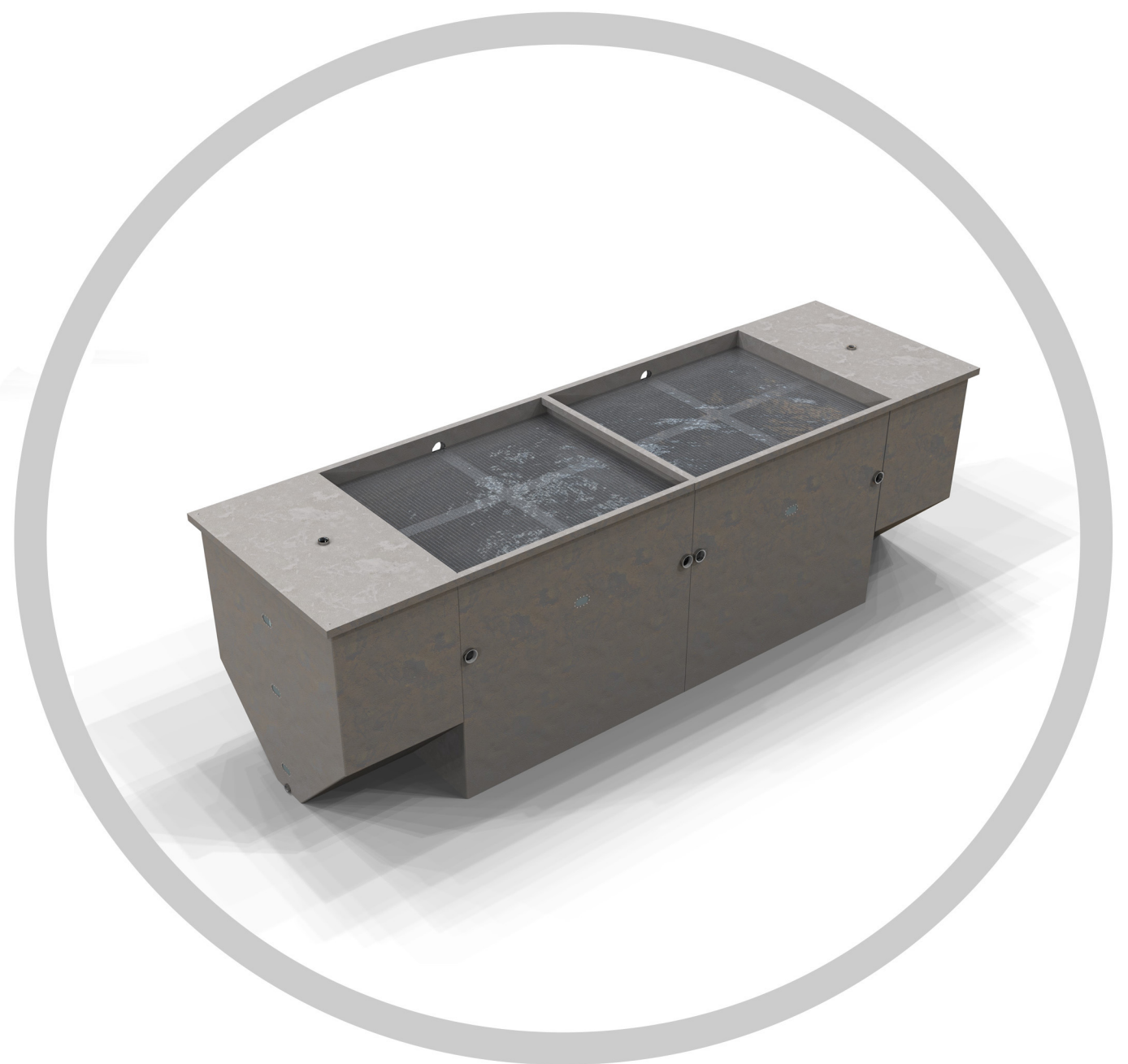
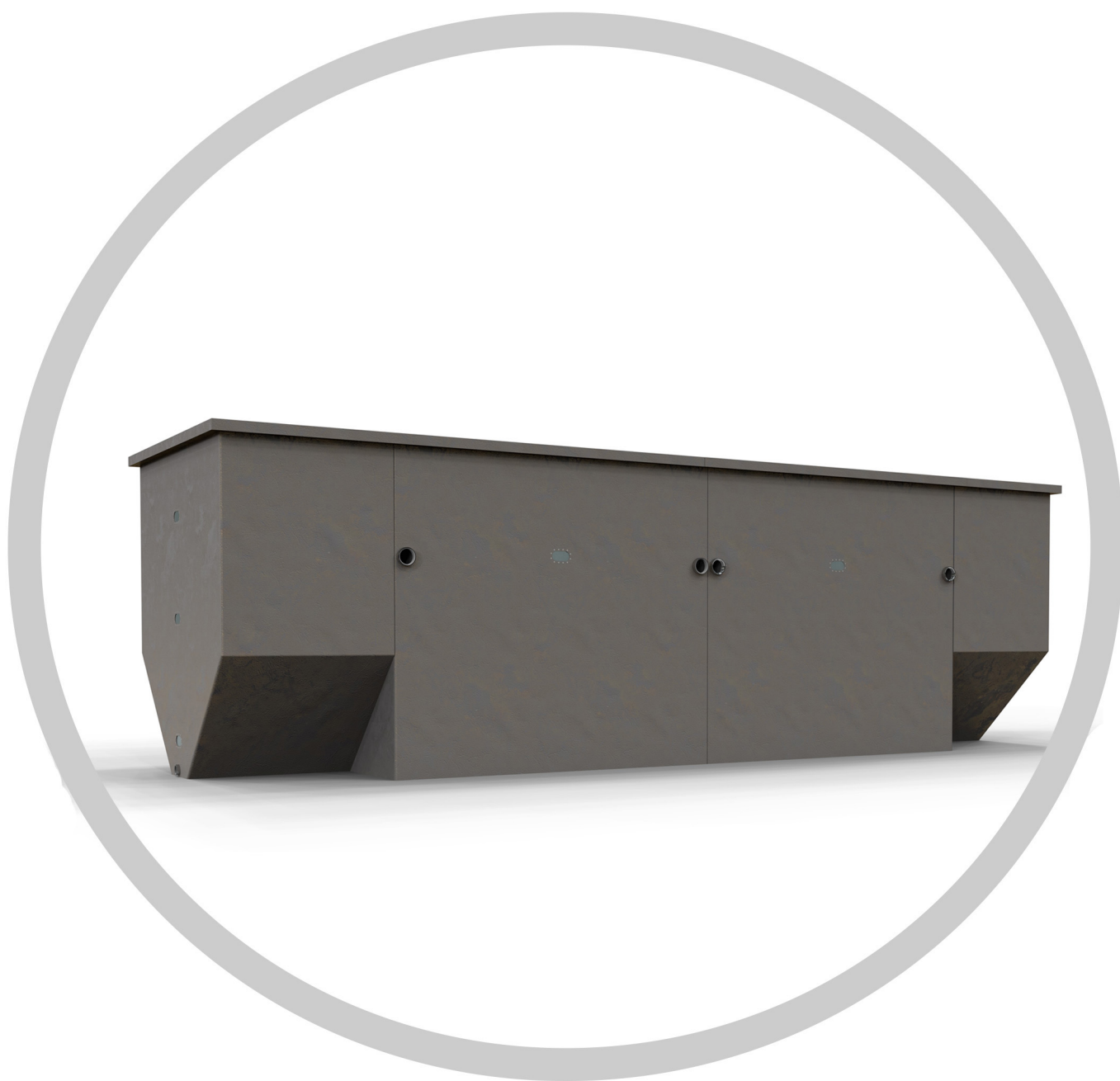
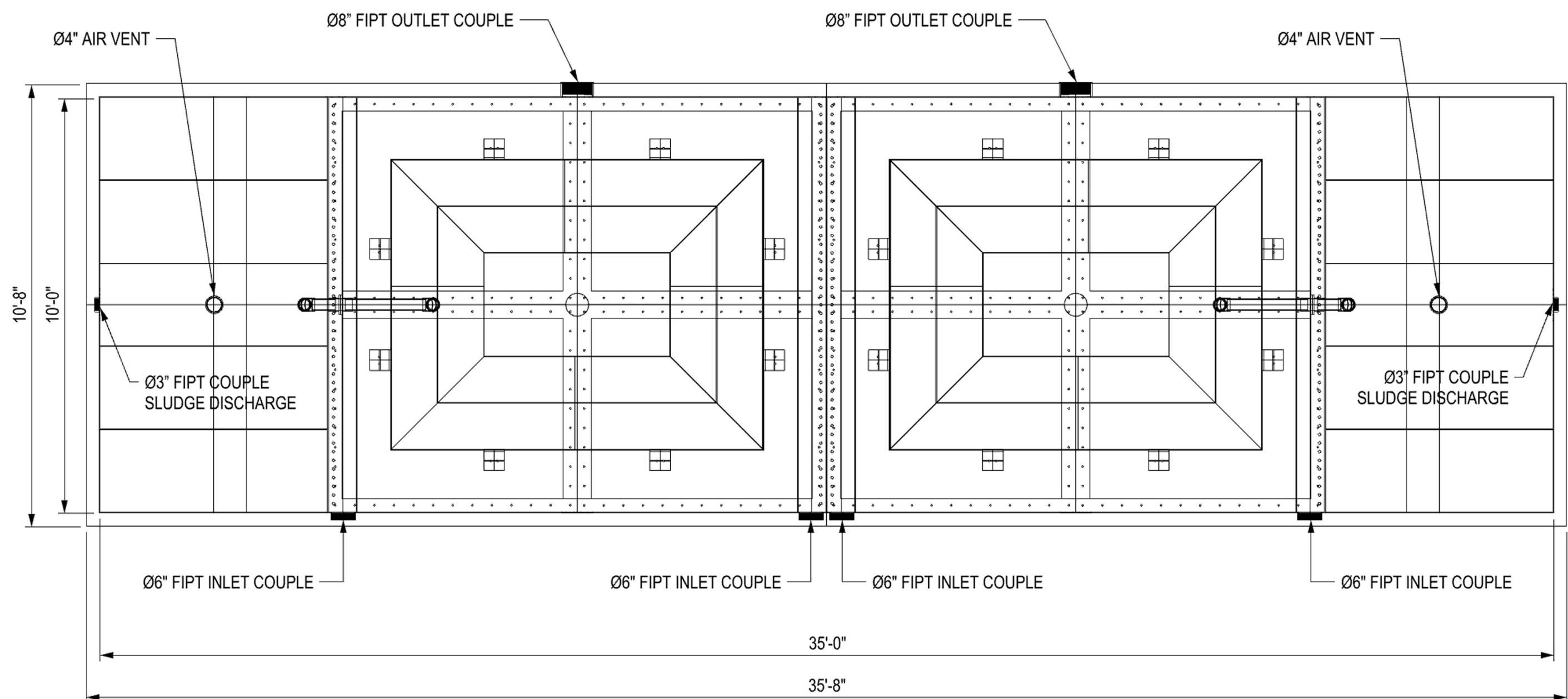
6.) Sludge leaving the filter goes through the dewatering process to remove any remaining solids and the clear effluent is returned back to the basin. Remaining sludge is discharged as waste. The process comes full circle and starts again with the lagoon water being used to flush the cow pens.

7.) The sump has a bypass valve that can advert a small amount of its flow to the basins above if needed. This subverted flow travels to the lagoon.

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## HPPG 650: *Dimensional Aspects*



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