

## Typical Bypass Setups

### Double Pump Setup, common discharge, critical job

**Materials List Double Pump Setup** - common discharge, critical job

Print this list to verify completion for both setups.

1. Suction hose or pipe- two independent lines sized to match flow requirements of the pump, with some method of protecting the pump from oversized objects in the fluid (hose location or suction screen).
2. Extend the Priming Venturi Discharge Hose- both pumps into the manhole or other suitable collection point (ensuring no kinks or plugs in the hose).
3. Solids Handling Pump - two independent pumps sized for the required flow rate and head.
4. Discharge piping- common to both pumps sized for the required flow rate, velocity and acceptable head loss.
  - A. Flush Fitting located as close to the pump as possible (a "T" with a reducer and a gate valve so that clean water can be used to flush the line of solids).
  - B. Cutting Gate Valves- one in each discharge line located as close to each pump as possible. For pump isolation.
5. Air Vent Valve(s) as required, determined by the length of the discharge pipe and the elevation changes. The air vent riser(s) should be mounted on a "T" in the main pipe, with the riser being 4 to 5 feet in length (this reduces the chance of solids getting into the air vent). A gate valve is located on the top of the riser, before the air vent valve. The gate valve (normally open) is used to isolate the air vent for cleaning in case it becomes fouled and starts to leak.
6. Collection Tank (if needed) is connected to the air vent valve to collect any fluids that escape due to the pressure changes at start up as well as shut down.