**Process Objectives:**
- 54,000 Gallons per day (Feed)
- Remove all suspended solids

**Filter Module Configuration:**
- Membrane: 0.1µm Teflon on Polyester
- Cleaning Chemical: NLR 202

**VSEP Advantages:**
- No Chemical Addition
- Easy to use and maintain
- Small Footprint
- Energy Efficient
- High % recovery as filtrate

**Controls:**
The process is controlled with a PLC. There are PID loops for the inlet pressure and Concentrate Flow rate. Concentration is accomplished using VFD's and throttling valves. The % Recovery is controlled using volumetric calculations. The system initiates upon a signal from the feed tank level sensor. The system will shut down automatically once the feed tank is emptied or the permeate tank is filled. The system will send on spec concentrate to the holding tank. After a system shut down due to low feed tank level, or after any shut down, the system would auto flush using hot water and then go into Standby Mode. On start up after flushing with water, the discharge from the VSEP goes to drain for a set time interval until all water has been purged. Then the discharge from the VSEP diverts to the appropriate holding tanks. VSEPs will automatically clean when a predetermined low permeate flow alarm is reached on any of the units, or at a predetermined timed interval. Spent cleaning chemicals would also discharge to the Chemical Treatment Sewer.

**Setpoints:**
- %Recovery, Feed Pressure, Low Permeate Alarm, Cleaning Time.

**Control Options:**
1. Density meter for concentrate destination control
2. Separate Cleaning Skid for round robin cleaning and future expansion
3. Metering Pumps for chemical injection of cleaning chemicals
4. Permeate flush tank to reduce volume of wastewater