



PDHonline Course C165 (2 PDH)

General Principles of Pumping Station Layout

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Pumping Station Terms & Definitions

Air break: An air gap intended to ensure against back siphonage. The discharge must be located well above the highest feasible water level.

Axial flow pump: A pump in which the impeller moves fluid parallel to the pump shaft.

Bowl: The casing that contains the impeller of vertical or vertical axial flow pump.

Cavitation: Vapor bubbles formed on a solid surface (often an impeller) in contact with the liquid. Vapor bubbles occur when the pressure in the liquid falls below the vapor pressure.

Closed impeller: An impeller with vanes enclosed by shrouds on both sides.

Drawdown: The vertical distance over which the surface of the pumped liquid is lowered during the pumping cycle

Fillet: Concrete in the bottom of the wet well shaped to smooth liquid flow into the pump suction openings and to prevent the accumulation of solids.

Home runs: Wires running directly back to the power source from field devices such as lights.

Impeller shroud: The outside part of the impeller of a centrifugal pump to which the vanes are attached.

Mixed-flow pump: A pump that produces a combination of centrifugal and axial flow.

Pig: A device for cleaning the inside of a pump.

Poppet valve: A spring-loaded valve that operates automatically to relieve excessive pressure.

Submersible pump: A pump or pump and motor suitable for fully submerged operation.

Suction flare or bell: A flaring entrance fitting to the pump suction piping.

Umbrella: An extension fastened to a pipe flare to form an entrance similar to a trumpet bell.

Vortex impeller: A recessed impeller that creates a vortex in the casing to induce flow.