

PLANT SYSTEMS ENGINEERING

Slurry / Site Water Systems Project Case Studies

Project: 2,000 GPM Fines Removal System
Year: 2013
Client: Proprietary Mining Operation
Project Location: Missouri
Material: Mineral Fines
Services: Engineering Design
Constructed Value: \$3M



Complete engineering package including site grading development, foundations, HDPE piping, pumping systems. Worked with client selected equipment vendor to coordinate all infrastructure designs. Coordinated vendor control system with plant PLC based control system.

Design of 10,000 gallon ANSI/AWWA D100-11 water tanks reinforced for highly active seismic region. Design of chemical additive and pumping room. Over 2,000 lineal feet of 8" and 10" HDPE piping designed for overland, under haul roads.

Totally greenfield project area at mine site with limited interface into existing equipment. MSHA Plant.

Project: Retention Pond De-Watering System
Year: 2012
Client: Proprietary Mining Operation
Project Location: Pennsylvania
Material: Site Drainage Pond
Services: Engineering
Constructed Value: \$1M



Complete engineering package for de-watering system for mine site retention pond. Coordination with vendor selected vertical turbine pumps. Infrastructure design of piers and platforms for access to pumps at pond site.

Over ½ mile of HDPE piping design overland and under haul roads. Concrete vaults design for valve access. Coordination of vendor supplied control system into plant PLC based control system.

Totally greenfield project area. MSHA Plant.



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507 N. York St., Suite 2A
Mechanicsburg, PA 17055
717-795-9122 717-795-9525 Fax

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Project: Quarry De-Watering System
Year: 2011
Client: Proprietary Industrial Minerals Plant
Project Location: Pennsylvania
Material: Site Drainage
Services: Engineering
Constructed Value: \$1.0M

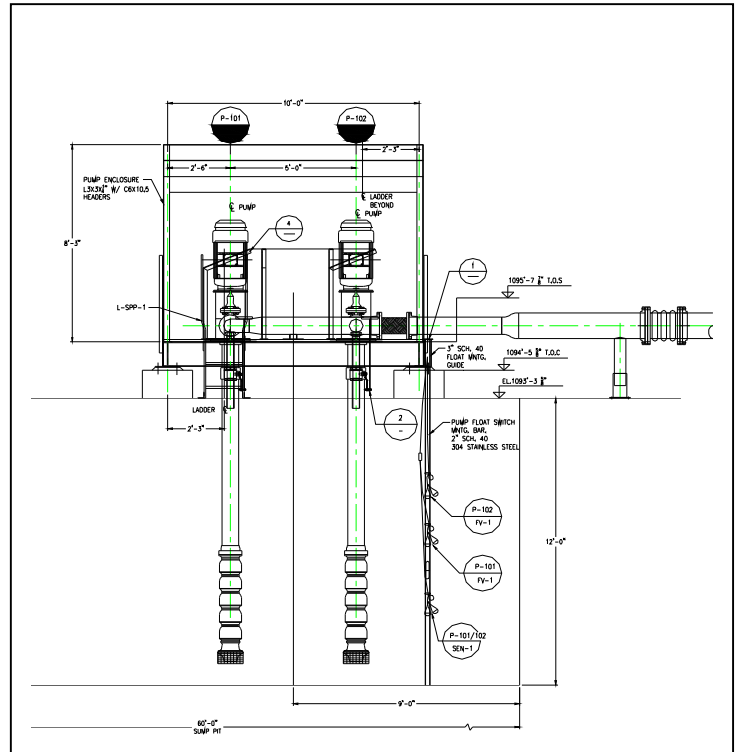
Complete engineering package for pumping surface water out of the 6th level of a quarry.

1,000 GPM vertical turbine pumps, float system, valving arrangements, structures mounted to quarry floor and face with Hilti Rock Systems.

Over 5,000 feet of fusion welded HDPE pipe designed with valving vaults, haul road below grade crossings and bridge supports over spans in grade..

Greenfield project area at mine site with limited interface into existing drainage system.

MSHA Plant.

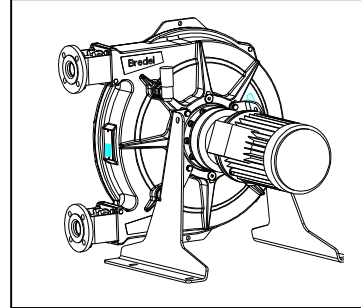


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Project: Wash Out Water System
Year: 2004
Client: Proprietary Industrial Minerals Plant
Project Location: SW USA
Material: Process Water
Services: Engineering
Constructed Value: \$1.5M

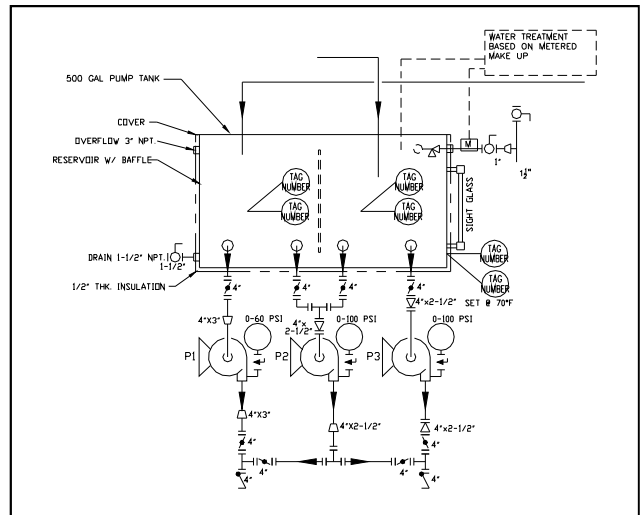


Complete engineering package for collection, storage and re-cycling of water used to clean out coloring mixer tanks.

Design of gravity flow and pressurized carbon steel piping systems. Infrastructure, retaining walls and coordination with vendor supplied 10K and 20K gallon tanks. Watson Marlow heavy duty industrial hose pumps.

Complete retrofit project area with extensive interface into new and existing equipment. MSHA Plant.

Project: Water Recycling System
Year: 2002
Client: Quaker Color
Project Location: Quakertown, PA
Material: Pigment Dispersions
Services: Engineering
Constructed Value: \$750K



Existing system utilized one pass city water for mill and reactor cooling water. New system designed with closed loop cooling water and chillers. Water filtration and treatment systems. Designed all piping systems, specified chilling and water treatment equipment.

Retrofit project area with extensive interface into new and existing equipment. OSHA Plant.

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