

Bear Country Exhibit Improvements

Philadelphia Zoo, Philadelphia, Pennsylvania



Project Statistics

Completion Date: 2001
Construction Cost: \$403,000

Major Program Spaces

- Freshwater polar bear pool
- Improvements to existing exhibit of 120,000 gallons
- Filtration and disinfection systems modifications

The Philadelphia Zoo required an experienced life support engineering team to address the filtration and algae problems they were experiencing in their polar bear pool. Alvine Aquatics' engineering team was selected to design the life support, mechanical and electrical systems modifications. Improvements were made to the exhibit to reduce water stagnation, disinfect the exhibit on a continual basis and replace aging equipment with more efficient and economical equipment.

Water Treatment Systems

- Piping and pumping systems
- Rapid flow sand filtration
- Ozone injection systems for disinfection
- Ozone leak detection and exhaust system for safety
- Active carbon treatment of the makeup city water
- Water features with infrared control for bear interaction
- Increased tank turnover rate from five times per hour to one and a half times per hour to eliminate water stagnation
- Improved pool circulation with new skimmer box and eight new water supplies to the pool
- pH control
- Retained existing chlorine system as a back-up alternative
- Phased project to minimize exhibit downtime and bear confinement
- New electrical panels and power distribution for equipment

