

Projects

Penn Forest Dam

Bethlehem, Pennsylvania



Project Information

<i>Client:</i>	City of Bethlehem
<i>Conti Role:</i>	Prime Contractor
<i>Contract Type:</i>	Fixed Price
<i>Type of Work:</i>	Dam Construction
<i>Contract Value:</i>	\$24,400,000
<i>Period:</i>	07/97 to 09/98

Conti performed the complete replacement of the Penn Forest Dam located in Bethlehem, Pennsylvania. Originally constructed in 1960, the Dam endured a series of complications from the start, including weep holes, seepage, and finally a fifteen foot sink hole. In addition to continuing to supply a source of water for the community by protecting the adjacent reservoir, the new structure was planned to assist in flood control for the area. The Dam walls were raised three feet to increase the spillway capacity. This project represents the third largest Roller Compacted Concrete (RCC) project in the United States consisting of 360,000 CY of RCC and spanning 2,000 feet long and 180 feet tall.

The Penn Forest Dam has won three awards:

- ★ **National Grand Award**
American Consulting Engineers Council
- ★ **Honor Award for Water Resources**
Consulting Engineers Council of Pennsylvania
- ★ **National Rehabilitation Project of the Year Award**
Association of State Dam Safety Officials



Scope of Work

- Constructed two concrete plants and a conveyor system on site to produce the roller compacted concrete, composed of a blend of both coarse and fine aggregate, cement, fly ash, and water.
- Operated the plants six days per week, using two shifts, and producing approximately 4,000 CY of RCC per day, or 600 tons per hour.
- Constructed the Dam walls - more than 2,000 precast panels, each measuring six feet high, 16 feet wide and four inches thick, were used to line the sides of the Dam.
- Placed RCC in layers across the width of the Dam, leveled RCC with a bull dozer and compacted with a roller.
- Grouted the RCC in order to eliminate cracks or gaps in the surface, thereby eliminating the possibility of seepage.