



# Case Study

## Pennsylvania Aggregates and Concrete Association



### QUICKVIEW

- The project featured tilt-up concrete construction, as well as, pervious and roller compacted concrete pavements.

**CONCRETE PRODUCER**  
Conewago Enterprises, Inc.

**PLACEMENT CONTRACTOR**  
Conewago Enterprises, Inc.

**LOCATION**  
Lewisberry, PA

## Liberty Property Trust Project Features Several Different Concrete Techniques

### THE SITUATION

When the executives of Liberty Property Trust decided to build a distribution center on a piece of property that they owned in Lewisberry, Pennsylvania, they knew just who to call—Hanover-based Conewago Enterprises, Inc., who had recently built the 705,000 sq. ft. building next door. “We have experience in tilt-up design, which is what they wanted for the project,” explains Don Smith, president of the design/build and general construction contractor.

The choice of contractor turned out to be a smart decision for Liberty Property Trust. Using four different concrete construction techniques, Conewago was able, not only to

construct the distribution center that its client wanted, but also to make use of some valuable land that would have otherwise been unavailable because of water quality restrictions.

### THE SOLUTION

The building itself is a 550-foot by 1450-foot structure that rises about 45 feet at its peak. Work started in the fall of 2005, with Conewago laying the foundations in February 2006. The floor of the building was a traditional concrete floor slab, requiring about 17,000 cubic yards of concrete, and the walls were a tilt-up design that used 4,000 cubic yards. (The company brought in its own portable concrete plant to produce all the types of concrete needed for the job.)

For the parking areas, Conewago suggested that the owner consider roller compacted concrete as an alternative to asphalt. “We started using roller compacted three or four years ago,” says Smith. And when Liberty Property Trust wanted to expand their truck parking areas but were over the limit on how much land they could cover on the site, Conewago recommended another innovative product - pervious roller compacted concrete. “As long as they used pervious, the township would allow them to pave this additional area.”

“Liberty looks for ways to be environmentally friendly whenever we can,” adds Troy Briggs, director of leasing and development at Liberty.

**“Liberty looks for ways to be environmentally friendly whenever we can. The advantages of using pervious were two-fold. It was the right thing to do from an environmental standpoint, and it helped with the coverage of pervious versus impervious coverage on the site.”**

- Troy Biggs,  
Director of Leasing and Land Development, Liberty Property Trust



### THE SOLUTION (CONTINUED)

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### More Art Than Science

Placing pervious roller compacted concrete - or any type of roller compacted concrete - is a very different process than placing a slab, says Smith. “Roller compacted concrete has a low slump and we place it with a special machine paver that is similar to a black top paver,” he continues. “Then, we roll it with black top rollers. It doesn’t look anything like normal concrete when it goes down.” Conewago uses an ABG European style paver and Ingersoll Rand rollers for this work.

“We developed our own methods on how to put it down, mostly through trial and error,” he admits. “It has a lot to do with having the right moisture content and the timing has to be just perfect. If you have too much water in the mix, you can’t get on it with a roller; it won’t run through the paver correctly; if it’s too dry, you won’t get the strength. It’s more an art than a science.”

### Concrete: The Right Choice

Conewago completed the distribution center in September 2006. “Construction went very well, and I certainly think we’ll find a tenant for the building in the very near future,” comments Briggs. “From our perspective and what we’re seeing right now, we’re very happy with how the parking lot looks, and if the wear and tear is there, then we’ve hit a home run.

“And from a marketing perspective, I think the concrete is a great tool. If you think about asphalt, it can become soft with a bunch of tractor trailers sitting there under load. And, you have to reseal asphalt to keep it looking good. The concrete should hold up longer than asphalt and if it does, there are long term benefits, not only for Liberty, but for the customer. It will cut down on operating expenses to maintain the parking lot.”

“For heavy duty pavement sections, concrete is stronger and typically would require less depth,” adds Smith. “With the price of asphalt today, concrete is less expensive at the same depth, if it’s placed in an economical manner - and that means roller compacted concrete. It’s a very viable product, and the permeable roller compacted concrete has the added benefit of saving storm water and helping to improve water quality.”



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