

HARD HAT NEWS



Lantern Hill Development

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More than a decade after making an offer on a prime plot of land in Doylestown Borough, PA, Granor Price Homes began work on a neotraditional development there in the winter of 2002. This mixed use of residences, offices and retail space has gone through a complex process to get to the building stage and has challenges yet to come.

One of the first obstacles faced by Granor Price and their engineers was the location of the Texas Eastern pipeline, which traverses the site. This WWII-era pipeline was originally built to transport petroleum from Texas oil fields to eastern ports to avoid shipping the oil through submarine-infested waters in the Gulf of Mexico and up the eastern seaboard.

After the war, Texas Eastern, which later merged with Duke Power to become Duke Energy, bought this pipeline and converted it to natural gas, making it the first pipeline to deliver natural gas to New York City. Today, the nearly 9,000-mile long line runs from Texas to New York, passing through Pennsylvania on its way.

Pipelines fall under strict federal guidelines, and Duke Energy has its own on-site inspectors who follow rigid prescriptions.

“You can’t even have trees planted on top of the pipeline,” says Phil Ehlinger, Doylestown Borough Assistant Manager and Zoning and Planning Director. “They fly over the line



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every day and will dispatch a ground team if they see work going on where they don't think it should be."

No structures are allowed to be built on top of the pipeline, only roadways, parking lots or open space is permitted. Concrete reinforcement was required over the areas where heavy equipment would need to move. All utility lines, including gas, electric, telephone and cable, must cross under the pipeline one time. To meet safety requirements, the utilities will be run through concrete-reinforced concrete conduits, side by side in a duct bank.

"We had to design around it," says Marshal Granor, partner in the Horsham, PA, firm. "They (Duke Energy) had their people out here to make sure we followed the rules."

"In order to maintain the pipeline and protect its integrity, we have to prohibit any permanent structures," explains Duke Energy spokeswoman Gretchen Krueger. "Roots can damage the coating and make it difficult to get into if repairs are needed. We work with individual landowners or developers to take whatever precautions may be needed early in the construction process."

Building around the pipeline was only one of the obstacles faced by Granor Price.

"We faced quite an engineering challenge here," says Granor, "For one, there is a large drop in elevation from the top of Broad Street to Veteran's Lane and homes are situated differently, requiring intricate engineering work on a house by house basis."

The homes are arranged communally, with front porches close to the sidewalk and rear alleys that lead to driveways and garages. The front of the homes are raised to align with the height at the back of the house, calling for massive movement of earth around the site.

"We have moved 7,500 cubic yards of dirt from the (retention) basin throughout the site where we needed fill to align the front and rear of homes," explains Mark Friedman, construction superintendent.

The 100-foot by 200-foot basin is 13 feet deep, a depth which has required the builder to drain water almost daily as they dig.

"We face pumping out the basin every day because of its depth, we keep getting water," adds Friedman. A retaining wall of keystone block and reinforced concrete will line the interior of the basin.

The nearly 18-acre site is situated on the corner of Broad Street and Veteran's Lane in this 2.2 square-mile Victorian-era county seat. The property is long and narrow, about 577 feet on its short end, with a drop in elevation of about 27 feet from the north end of the property to Veteran's Lane at the south.

Up until the late 1980s, the Cartex Corporation manufactured polyurethane seat cushions on this site. When a small amount of groundwater contamination was found there after the

factory was demolished, the former owner had the property cleaned through a state-mandated Act 2 cleanup. The site has been vacant ever since. In the mid-1990s, the area was given a clean bill of health by state inspectors.

Through numerous meetings between engineers and borough officials, a special zoning district was created from the former industrial area. Granor Price originally had presented a plan to the borough zoning board with double the number of homes, but after revising plans 16 times, the developer and the borough council came to agreement on this neotraditional community.

Explains the Borough's Ehlinger: "Granor Price originally proposed a TND – traditional neighborhood development – one that fits well into the existing fabric of Doylestown and was within a five-minute walking radius of two shopping areas. TNDs replicate pre-WWII small town developments, a pattern that was typical throughout the country then. After that time, the pattern was toward sprawling housing and compartmentalization with a reliance on cars."

Lantern Hill will contain 117 townhomes, twins and single-family homes, one three-story office building of about 60,000 square feet, and two smaller buildings with office and retail space. Residents will be able to walk easily to two shopping centers with grocery stores, video outlets, fast-food restaurants, drug stores, clothing shops and more.

Part of the new development lies in an area that is prone to flooding during periods of heavy rain. When Veteran's Lane was built, it was constructed close to the elevation of an adjacent stream, Cook's Run. According to Ehlinger, borough approval was in part based on Granor Price's agreement to improve the channel and roadway by raising the road's elevation.

Granor says a redesign of the lane, including "flattening out the road's hump" will take place later in the project.

Miller & Son Paving of Warminster, PA, performs mostly paving and excavation work, but also rents equipment. The 70-year old firm provided the loaders, dozers and more for the job, including a Terex TS14 Motor Scraper. Used for bulk excavation, the scraper's front and rear 340 hp engines enable about 15 cubic yards of dirt to be moved at a time, and was used here to move the dirt from the basin around the remainder of the site.

A Caterpillar 963B loader assisted the Terex in digging out the basin. The 6-cylinder Cat successfully dug out the specific smaller areas of the site. Miller also rented the builder a D8 Cat dozer to assist the Terex and help with dirt relocation.

The residential portion of the development is scheduled for completion in 2003 with the overall project to be finished the following year.

"We're all very happy with this unique and innovative zoning development for that site," adds Ehlinger.