



# Case Study

## Pennsylvania Aggregates and Concrete Association



### QUICKVIEW

**CONCRETE PRODUCER**  
Boger Concrete

**CONCRETE CONTRACTOR**  
Streamline Concrete Contractors

**LOCATION**  
Lebanon, PA

## ICFs - Keeping This Mixed-Use Development Green

### THE SITUATION

[Byler Holdings](#) LLC is a family business with operations in Pennsylvania, Maryland and Delaware. The company, headquartered in south Central Pennsylvania, is divided into four distinct business divisions: Materials, Recreation, Entertainment, and Real Estate Development.

One of their current projects, [North Cornwall Commons](#), is Lebanon County's only mixed-use development. It integrates vibrant retail businesses with a townhouse and apartment community, a master-planned commercial component and dining and lodging establishments. The project includes 160 townhomes, 220 apartments, a hotel, restaurants, and much more to come.

When the company was designing the apartment complex, they considered multiple building materials choices. After considering their options, the decision was to use [Insulated Concrete Forms](#) (ICF's).

### THE SOLUTION

ICFs are manufactured using 100% recycled materials. Incorporating them into the construction of any building creates an energy efficient wall system and ultimately, lower energy bills.

"When we were considering our options, we realized that using the ICFs allowed us to not only build structural wall, but also have a wall that was ready for drywall on the interior and any exterior finish as well" noted Wilbur McMichael, Byler Holdings Director of Construction.

The projects architect, Joe Turnowchyk, [Hex 9 Architects](#), Principal, stated that "ICFs help address recent code changes regarding building insulation requirements. With 2" of foam both inside and outside we easily meet them."

In addition, ICF buildings are quieter and offer tremendous fire protection. The chart on the following page, supplied by NuDura (the ICF used for this project), lists other key performance factors associated with constructing with ICFs.

## PROJECT PROFILE: Meshoppen Stone

COMFORT & QUIET	Nudura	WOOD FRAMES
Calculated R-Value	R-23.59 (RSI 4.16, U-Value 0.24)	R-11 to R-19 (RSI 1.94 - 3.35, U-Value 0.52 - 0.30)
Tested R-Value of Wall*	R-24.1 (RSI 4.25, U-Value 0.24)	R-15.2 (RSI 2.68 and U-Value 0.37)
Reduced Heating & Cooling Cost	Yes	No
Thermal Mass	Up to 75 lbs/sq.ft. (3.59kPa)	2 lbs/sq ft. (0.10 kPa)
Typical Air Leakage	1.11 ACH	3.36 ACH
Sound Dampening	Effective	Minimum

**“ICFs help address recent code changes regarding building insulation requirements. With 2” of foam both inside and outside we easily meet them.”**

– Joe Turnowchyk,  
Architect, Hex 9 Architects



### THE RESULT

North Cornwall Commons Apartments is considered a “green” facility. It will provide immense value to the owners, contractors, and its future tenants. When you combine all these features with the high cost of lumber, using ICF’s and Concrete Just Makes Cents!

To learn more about this project, please watch the [video](#) that was shot during a tour of the project.



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