

NEIGHBORHOOD RENEWAL  
PRESERVING HISTORY WHILE  
EMBRACING A GREENER FUTURE



A UNIQUE TWO HOME PROJECT IN ARLINGTON, VIRGINIA  
COMBINING HISTORIC PRESERVATION AND ECO-MODERN DESIGN.

**WHERE IT ALL STARTED:**

In 2005, Patty and Wyatt Shields purchased an old North Arlington (Westover) farmhouse targeted for tear down and redevelopment into two lots. Working with Arlington County government, the Shields developed a plan for a Unified Residential Development (URD) of the property that would preserve the farmhouse but still allow for a subdivision of the lot. In doing so, the Shields hoped to renovate and add to the farmhouse in a historically responsible way, while also building a contemporary green home next door – proving that we don't have to erase the past to pursue the future in Arlington.

Working in concert with County staff, the County Board, the Historical Affairs and Landmark Review Board (HALRB), and a terrific design team, the vision has become reality.

**THE FARMHOUSE:**



When the Shields bought it, the house was a small two-over-two style farmhouse with two small bedrooms, one bath, a small kitchen, living room and dining room. The expansion included a new master suite and a second bathroom upstairs along with a family room addition downstairs. The original lines of the two over two structure/design were preserved. The Shields used green building techniques including improved insulation, low voc paints and reclaimed flooring. Sold in November of 2008, the house is in the process of being designated historic by the County through the HALRB.

Original House: 1200 sq feet  
With addition: 2100 sq feet

## THE GREENHOUSE:

Working with accomplished environmental architects, Phil Kaplan and Jesse Thompson of Kaplan Thompson Architects in Portland, Maine, the Shields designed and built a cutting edge green home next door at 5803 North 16th Street.

The house is comprehensive in its approach to environmentally conscious design and construction. An Arlington Green Choice Home, the project is also being submitted for possible LEED Platinum accreditation under the USGBC's LEED for Homes Program. If platinum accreditation is granted, it will be the first such home in the Washington Metropolitan area.

### Basics:

4 Bedrooms w/loft	3750 sq ft finished space
4.5 baths	Expansive Roofdeck/greenroof
	1 block to Westover village

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## SOME OF THE GREEN FEATURES OF 5803 N 16TH STREET:

Integrated Design Team: LEED Accredited Consultants (Fore Solutions), LEED Accredited Architects (Kaplan Thompson Architects), Landscape Designer with experience in native and drought tolerant landscaping (Marty Hays).

House location: Infill development, convenient to mass transit and community services.

Sustainable Site during and after construction:

- Tree Preservation plan
- Minimized site disturbance and runoff during construction
- Drought tolerant landscaping
- Comprehensive runoff catchment system - green roof, cisterns, permeable surfaces

Water Efficiency:

- Rain water retention for irrigation
- Dual flush toilets
- Low flow lavatory and shower fixtures

Energy and Atmosphere:

- Exceeds Energy Star Home Specs
- SIPs panelized construction, EPS foam insulation throughout
- Geothermal Heating and Cooling, including supplemental hot water heating (Desuperheater)
- ERV
- Double glaze windows with additional reflective LOW-E coating -
- Nanogel filled curtain wall system to improve lighting while maintaining high insulation value
- Supplemental grid-tied solar power

Materials and Resources

- Structural Insulated Panels
- All joists precut - Framing plan
- All construction waste sorted and recycled (less than 20% of construction waste to landfill)

Indoor Air Quality

- At least 90% of building materials, glues and finishes were low or no VOC
- House equipped with Energy Recovery Ventilator - constant air exchange/filtration with fresh air.
- Carport instead of garage

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## OUR PRINCIPLE PARTNERS (WHO DID WHAT)

Builder/owner: Patty Shields d/b/a Metro Green  
Architects: Kaplan Thompson Architects - Portland, ME  
LEED Consultants: Fore Solutions - Portland, ME  
Landscape Designer: Marty Hays - Design Insite  
LEED Green Rater/Energy Star Rater- Lee O'Neal - CGE solutions  
SIPs manufacturer: Insulspan  
SIPs installer and Framer: Intellistructures  
Waste recycling - NOVA Waste  
Geothermal HVAC - Wittman Mechanical

Standing Seam Metal Roof - Pond Roofing  
Windows - Weathershield ZOE-Shield Low-E glass  
Nanogel filled Curtain Wall - Duogard  
Greenroof modules - Liveroof  
Solar panel supplier - Go Green Solar  
Green finishes supplier (paints, lights, etc) - Amicus Green  
Standards and Guidance -US Green Building Council

For more information on construction and green consulting services provided by Metro Green, please visit: [www.metrogreenhome.com](http://www.metrogreenhome.com)