

# The New American Home 2013

## Environmental Performance Profile



*Photo courtesy of Timberlake Cabinetry*

***THE NEW AMERICAN HOME***, a demonstration home that debuted at the International Builders' Show, showcases "Builders' Best Practices," concepts, materials, designs, and construction techniques that can be replicated – in whole or in part – in housing built any place, in any price range. Its mission is to show that housing performance can be incorporated into the most simple or most complex homes, and that it's at least equally as important as aesthetics. Incorporating features that improve energy efficiency, indoor environmental quality, safety, comfort, accessibility, and market value are paramount to ***THE NEW AMERICAN HOME*** program. A comprehensive listing of the partners and products used in the project can be found online – [www.tnah.com](http://www.tnah.com).



This brochure provides an Environmental Performance Profile of TNAH. Its high performing design is extensive and comprehensive, as documented through the numerous third-party performance ratings the home has achieved — see complete list to the right.

### Key Energy Features

TNAH achieves a very high level of energy efficiency. The home is expected to consume 67 percent less energy than a standard home. At this level of efficiency, the home is designed to provide \$4,225 in annual energy savings. The most noteworthy features include the air tightness of its thermal shell and the use of solar energy for space conditioning and hot water production. Under blower door testing, the thermal shell achieves 0.2 natural ACH, an amount that is considered very airtight. Spray foam insulation was used on the underside of the roof deck, as well as around any penetrations, and framing to prevent air leakage.

The home uses solar energy to power a portion of its electrical systems, space conditioning and hot water systems. The 14KW Photovoltaic (PV) system provides approximately 58 percent of the annual energy needs for the home. Overall, the home uses approximately 67 percent less energy for heating and 83 percent less energy for cooling compared to a similar home in the same climate zone. The solar thermal system includes an 80-gallon storage tank for domestic hot water. Supplemental water heating is provided by a natural gas-fueled tankless water heater.

### Performance Ratings

- National Green Building Standard “Emerald” certification
- USGBC LEED-H “Platinum” certification

### Lot Design

- Shared utility trenches, pervious surfaces, indigenous planting

### Resource Efficiency

- Additional green practices to account for large house
- Advanced framing, interior coverings and fenestration framing not requiring finishing, stacked stories, roof overhangs, built in recycling, construction waste recycled, certified wood, engineered wood products, >50% recycle content, indigenous materials, ISO14001 registered materials

### Energy Efficiency

- Overall, the home uses approximately 67% less energy for heating and 83% less energy for cooling compared to a similar home in the same climate zone.
- Exterior walls insulated concrete form R-26 and R-30
- Fully air-sealed and insulated attic
- Windows and doors with low-e coating and argon gas filled (SHGC 0.17, U-value 0.34)
- Extended roof overhangs to aid in protecting the home from the harsh Nevada sun
- Energy Star rated roof coating to limit solar gains
- Light colored exterior wall finish
- Air tightness 0.2 natural air change per hour
- Two Nextaire gas-engine heat pump/mini-split COP1.5 systems
- One heat pump operates from 700 Watts of electricity from a dedicated PV system
- Two-stage compressor technology in the outdoor heat pump units increases efficiency, enhances dehumidification,



Photo courtesy of Timberlake Cabinetry

and reduces the typical noise level of the A/C unit

- All ductwork is sealed for air tightness
- HVAC system located entirely within conditioned space
- Solar hot water
- 100% of all interior and exterior lamps are energy-efficient LED lighting, compact fluorescent lamps (CFLs), and linear fluorescent lamps (LFLs)
- ENERGY STAR®-rated appliances, including dishwasher, refrigerator, freezer, and clothes washer
- 14KW Solar Photovoltaic (PV) system

### Water Efficiency

- EPA Water Sense fixtures
- Low-volume irrigation, drip, bubblers drip emitters
- Soil moisture controlled irrigation
- Potable water filtration
- 1250 gallon cistern for rainwater capture for irrigation

### Indoor Environmental Quality

- Energy recovery ventilator (ERV) to limits moisture gains in summer and recover heat in the winter
- Ultra-violet light air treatment system improves indoor air quality
- Direct vent water heater
- Low and non-emitting products
- Air sealed and ventilated garage
- Central vacuum system
- CO alarm monitor installed
- Kitchen range exhaust to exterior
- Timer control on low sone bath fans
- Minimum MERV13 air filtration

### Operation

- Homeowner's manual – including maintenance, equipment manuals, renewable energy options from utility, native landscaping and organic pest control options, termite inspection checklist



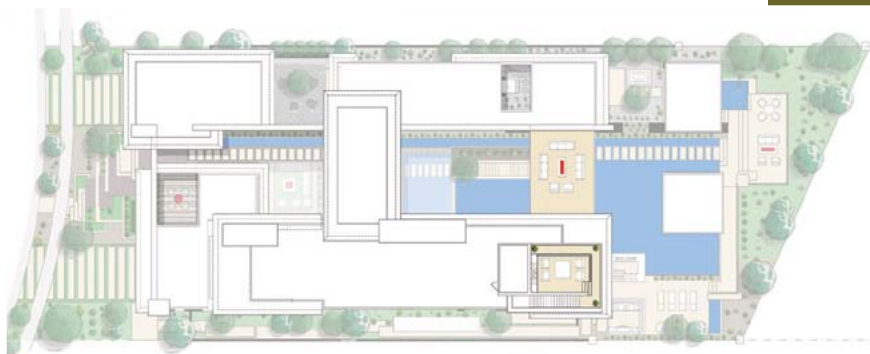
BASEMENT



FIRST FLOOR



SECOND FLOOR



SKY DECK





## DESIGN BUILD TEAM

### Builder

#### **Blue Heron, Inc.**

6835 South Eastern Ave  
Suite #110  
Las Vegas, NV 89119  
Tel: 702-256-8866  
Web: [www.blueheronlv.com](http://www.blueheronlv.com)

### Architect

#### **Architecture by Michael A. Gardner**

Architect – AIA, NCARB  
Email: [mgardner@blueheron.com](mailto:mgardner@blueheron.com)  
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### Construction

Tyler Jones, Principal  
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### Interior Design

Lyndsay Janssen, Sr. Interior Designer  
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## Green Build Consultant/Verifier

#### **Two Trails, Inc.**

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Sarasota, FL 3423  
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Tel: 941-776-8680  
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## Energy Consultant & National Green Building Standard Certification

#### **NAHB Research Center**

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## NAHB New American Home

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