

IPRO 358 -- Green Leaf Park, a Near Zero Energy Community



Green Leaf Park is a neighborhood with a community focus.

Landscape Features

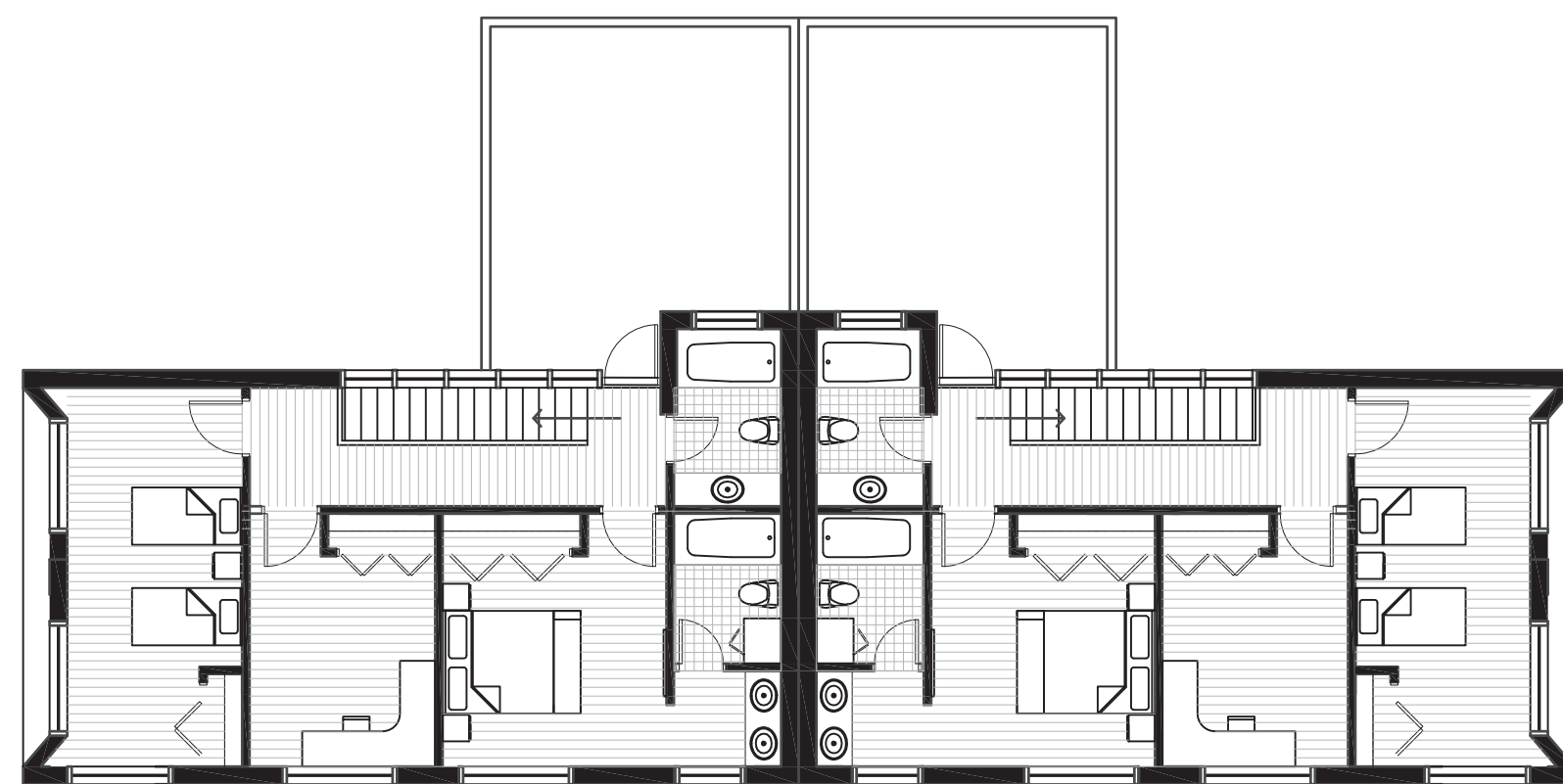
- Community park
- Pond
- Playground
- Walking path
- Shared garden
- Pavilion
- Rear porches for every unit
- Fencing for security

Housing Features

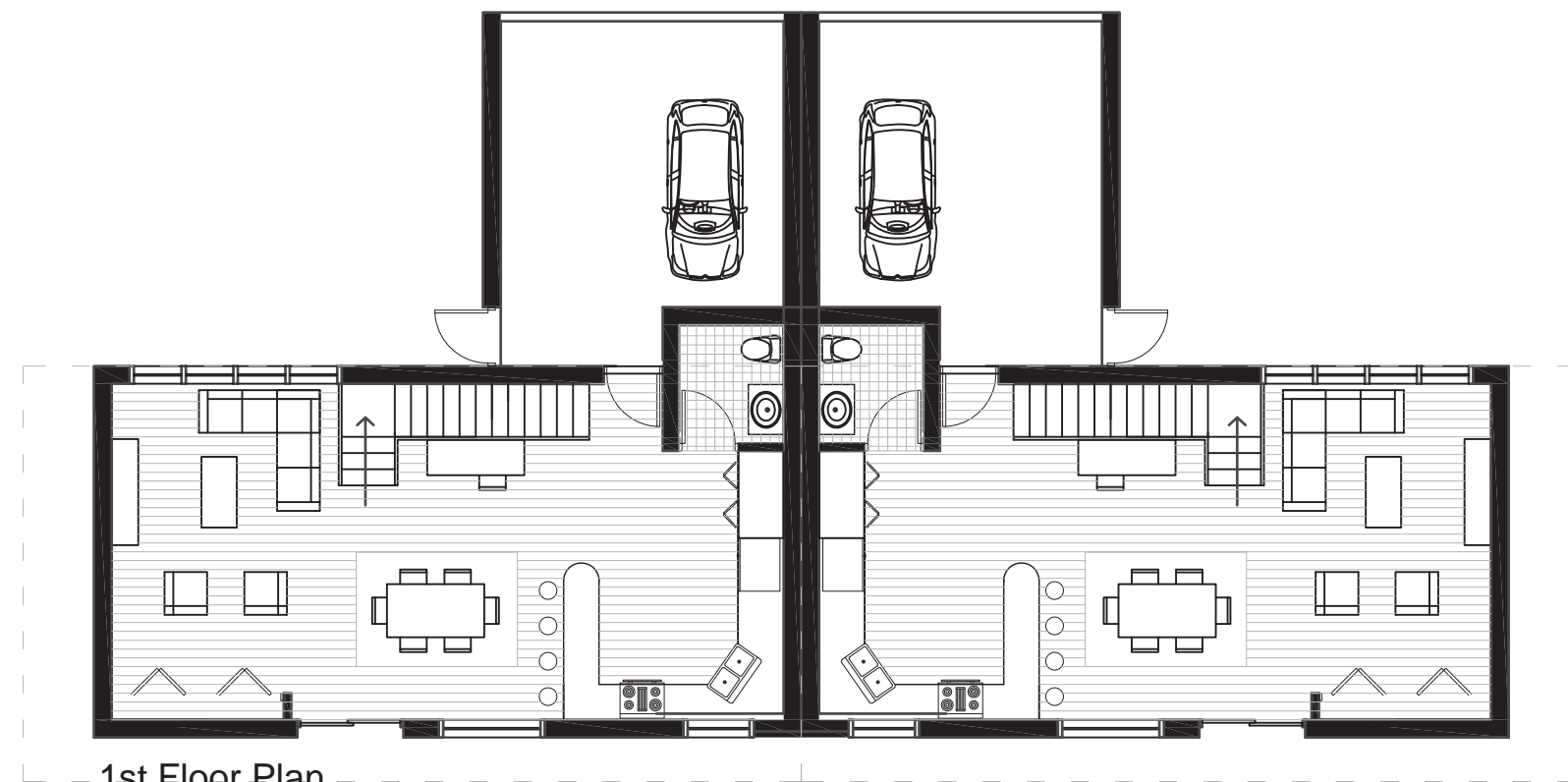
- Near zero energy bills
- 3 bedroom, 3 bath units
- 2 car garages
- Over 2,000 sq ft
- Open plan living space
- Abundant natural light
- Elegant interiors
- Private laundry in each unit



Interior



2nd Floor Plan



1st Floor Plan



Basement Plan



Our Target Market

Largely small families or expecting couples
Looking for bigger houses and more rooms
3 bed-room houses are the most popular

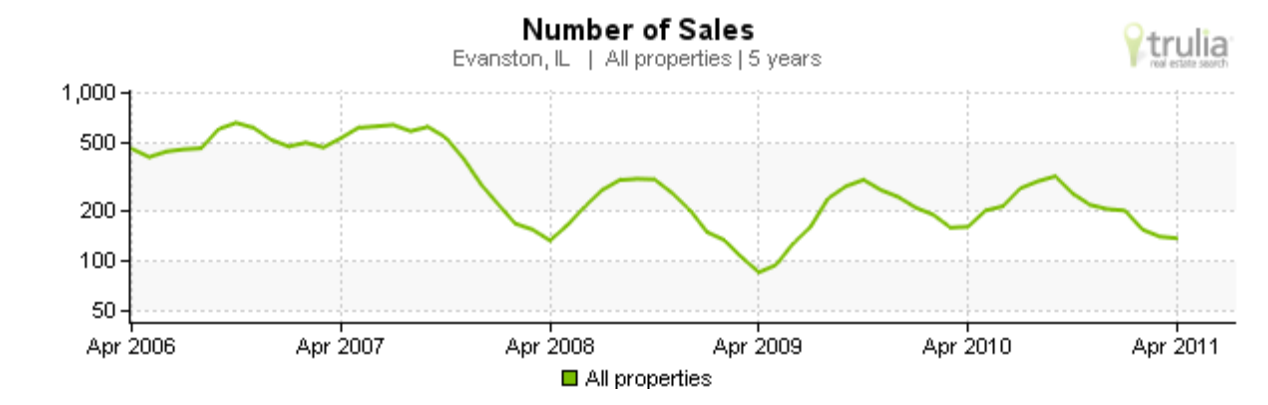
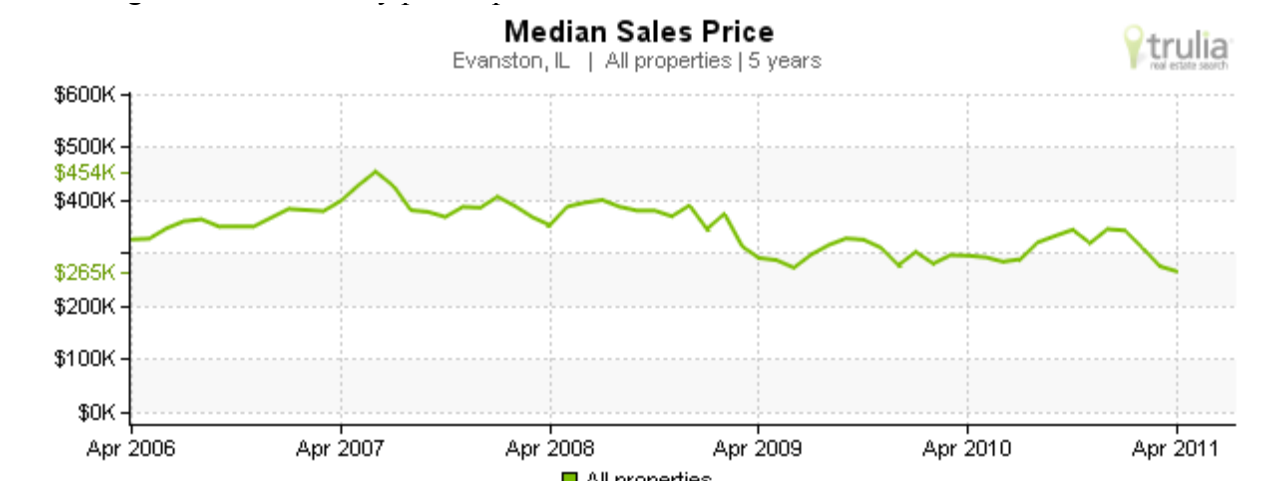
Survey

We fielded a survey in Evanston area

- Garage
- Central park
- Garden
- Size and number of rooms
- Home Control System

Industry Information

Housing market is currently poor – price sensitive consumers
Although price sensitive, consumers are still willing to pay considerable money for these kinds of houses
Average listing price of a 3 bed-room house in Evanston: \$428,768



Energy Use

Average annual energy use: 47,600 kWh
Prototype annual use: 11,330 kWh
Energy saved: 36270 kWh or \$3990/year @ \$0.11/kWh

Systems

Each component of the structure is chosen to reduce the energy usage.

- The 2x6" advanced framing allows for extra insulation.
- The double-paned low-e windows allow sunlight but limit heat transfer.
- The air supply is tightly controlled through an Energy Recovery Ventilator.
- The geothermal system is very efficient and can be used for both heating and cooling.
- Hot water comes from the geothermal and solar hot water heaters.
- Electricity is kept low by using efficient lighting and appliances.
- All energy usage is controlled by a home automation system that can give instantaneous feedback.

