



TORONTO WEST HOUSE

April 2013

When we met our clients, they were ready to build a home that would meet their changing needs but be situated on the same property on which they raised their children. They had lived in their former 600 square foot bungalow for 15 years, and over those years they had experienced its aging and gradual structural decline. With their children now in their teens, they needed a home that would suit their growing space requirements and their varied lifestyles.

The couple had a number of overarching goals for their new home. They wanted it to be efficient, affordable, and a place that would serve well as their family home for a long time to come. Consequently, we aimed to maximize their budget and usable space, incorporate a diversity of uses, and engender a communal feel. They also specifically request lots more storage as the former house had only one closet!



FLOOR PLAN - LEVEL 1



At 19 feet wide, their new home is only 1 foot wider than the old house. The building's 40 foot length brings the overall footprint to what would still be considered a modest 760 square feet. The total living space comes to about 700 square feet per floor. Although this seems small by some standards for new homes today, we were able to be very smart and efficient with layout and programming, making the house extremely usable with a much larger feel that the numbers suggest.

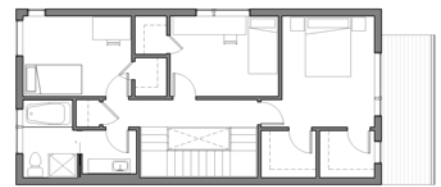
With a completely open ground floor plan, the home feels spacious and flowing. The entrance at the front is mirrored by an equivalent-sized back entry dubbed by our client as "The Landing Pad" for its drop-and-go design. Four sets of cubby shelves and hanging cupboard space make it easy for each family member to keep their things organized and with easy access. Off The Landing Pad is a main floor powder room.

A functional "spine" along the east wall provides connection across the main floor from front to back. The spine functions as kitchen, credenza, workspace, entertainment console, and storage. The vertical spine of the house is the staircase, which wraps around a piano on the ground floor, offering further space efficiency. This is a creative family, so it seemed fitting to have music act as the hub of their home.

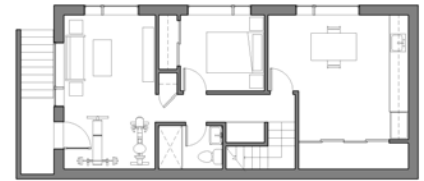
The second floor accommodates two bedrooms for the kids and a master bedroom with two walk-in closets. We designed this floor with one cleverly laid out family bathroom, which comprises two separate spaces – one for the sink and storage and another for toilet, bath and shower – making it easy for two people to use the space at the same time.

Another unique feature of the second floor is the adaptable walk-in closet in the master bedroom. Of the two walk-ins, one is currently shared for storing clothes and shoes, and the other – on the external wall – is being used as a small office space, complete with desk, shelving, lighting and a window overlooking the street. Today it's a unique, one-person workspace that can easily be converted to a second walk-in closet or small ensuite bathroom at any point in the future.

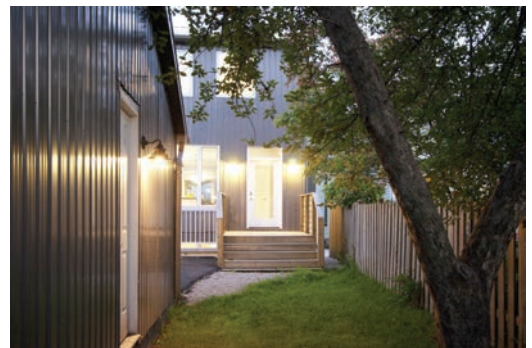
The basement is another exciting part of the house, with further adaptability incorporated into our design. At the bottom of the stairs is a laundry/mechanical room. The basement also accommodates a guest bedroom, a full bathroom and a family room with outdoor staircase to the driveway. The family room is roughed in for a kitchen so that in the future the basement can be converted to accommodate a



FLOOR PLAN - LEVEL 2



FLOOR PLAN - LEVEL 0



stand-alone, one-bedroom rental apartment with private entrance. The only work needed would be to build the kitchen and erect one wall to divide the owners' portion of the basement and the apartment.

The structure and envelope of the house was built using Structurally Insulated Panels (SIPs) above ground, and Insulated Concrete Forms (ICFs) for the basement foundation. The insulation value of the 6-inch SIPs is typically double that of a standard stud wall. The reduced heating and cooling loads created by the highly insulated building envelope enabled us to install a small mechanical system. The house is equipped with a compact, high-efficiency furnace and air conditioner linked to a forced air system. The roofing and siding are both steel, and the windows are triple-glazed, fiberglass units. Overall, the house stays cozy and warm in the winter, and cool enough in the summer to barely warrant any need for air-conditioning!

Throughout the entire design process, we strived to meet our clients' goal for affordability. We were able to deliver a completely new energy efficient home for the very reasonable budget of \$200 per square foot. Within the budget, we also replaced their detached garage, built a deck, finished the basement, and replaced the electrical, sewer and water lines.

We are very proud of this project, for its aesthetics, affordability and energy efficiency. The combination of the high-efficiency mechanical system and well-insulated building envelope has resulted in large energy savings for the family: the new house uses 16% less energy than the old house, even at twice the size!

For more information about our green home design approach, our passive housing design expertise, or any of our other projects, please visit our website at solares.ca!

