

BETTER

# Builder

MAGAZINE

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## Rosehaven Homes

**Building Luxury Design and  
Performance in Kleinburg**



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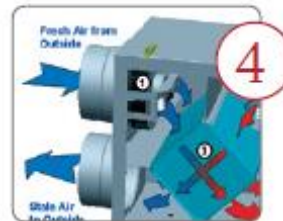
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ALEX NEWMAN

## IDP in Renovation:

### A NEW APPROACH

Contractor Sandra Baldwin didn't start out this renovation project thinking it would be an integrated design process (IDP). It evolved that way, because it made the most sense.

Her clients, a newly married couple living in Leaside, first approached her because of her specialization in second story additions, and her familiarity with sustainability and energy efficiency. The woman, a chemical engineer, also had a good grasp of sustainable building practices. Even so, IDP was a relatively new concept for both her, and Baldwin.

Why it works – not just on this particular project but on any project – is because everyone involved, from trades and designer, to contractor and client, works as a team. Communication, therefore, is key – it ensures the team sees the whole house as a system, understands the project's scope, and is equipped to tackle problems before they happen.

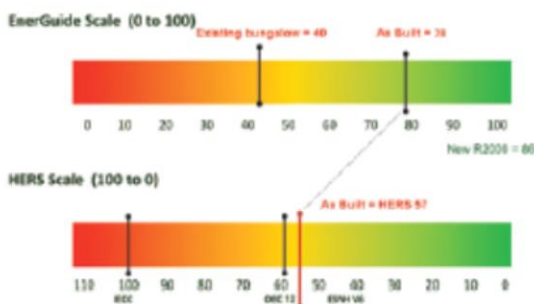
Or as Baldwin puts it, kind of like the right hand knowing what the left is doing. When everyone involved knows what's going on, she explains, that impacts the way the project is done, which ultimately benefits the overall structure of the home.

This process also permitted significant innovations. Baldwin, for example, changed her mind on the heating system, switching from low to high velocity, when an IDP consultant suggested substituting regular joists with open web joists. These would accommodate the smaller ductwork of the high velocity system within the wall cavity, in turn eliminating the need for unsightly bulkheads in the open concept main floor. Since this system also had insulated ducts – unlike regular



HIGH VELOCITY DUCTWORK IN OPEN WEB JOISTS VIRTUALLY ELIMINATES BULKHEADS\*

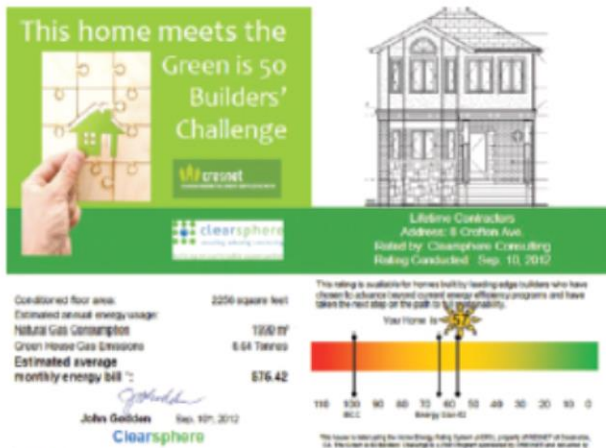
### ENERGUIDE VS HERS RATINGS



sheet metal ducts – there would be less heat loss. A direct current (DC) motor meant about 80% less electricity consumption, and it generates continuous air circulation so interior air quality is improved.

Had the framer, heating and air installer, and designer not been in close communication, those changes wouldn't have happened. And with the help of an IDP consultant, Baldwin was able to show the customer the benefits of specific systems, and how they could improve overall energy efficiency. "Nobody thinks the client is interested," Baldwin says, "but whenever we do broach this subject, we have great results. Clients are very open to the IDP approach, and to expanding their product and materials package/collection."

# BUILDER NEWS



The integrated design process helped in other ways, too, Baldwin says. For example, the client envisioned large skylights, but thanks to the input of others, it was decided to diminish the skylight size, still getting fantastic light but also achieving better efficiency. "It's a science to figure out the right balance between plenty of light and greater energy efficiency," she adds.

It was also decided to incorporate a drainwater heat recovery system that uses the warm waste water from sinks and showers, to help preheat water entering the hot water tank, thereby reducing energy consumption.

The best part of the integrated design process, Baldwin says, is that the client is involved in every decision, from how to increase basement insulation, to using Henry Blueskin air and vapour barrier to improve window and door seals openings, and what to recycle. Existing solid wood doors, brass hardware and stained glass windows were kept -- as much for character as for green reasons.

IDP above all creates effective "reachable" goals. The HERS index was used to objectively measure reduced loads and increase performance.

What began with an energy audit has ended with a post renovation audit. Last year's energy "report card" revealed that the 80-year-old house had approximately nine air changes per hour -- meaning it was pretty leaky. Now, a year later, Baldwin reports that the "fantastic living space with its new second story and reconfigured main floor, has just 3.78 air changes an hour. (A new home is about 3.6 air changes per hour.) It's a performance report that has a renovated existing home performing better than a new build. I am ecstatic to deliver that for the clients, but also really proud of my team of trades for doing it."



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