

Summer 2011

## The Green Line

Energy Efficient and Environmental Building News  
Calgary Based - Alberta Focused



The residential construction industry is changing at a fast pace these days. Developments are quick to arise and difficult to keep up with. To help, we offer this quarterly bulletin to notify those interested and keep us all in the loop and a part of the discussion. 4 Elements is committed to helping builders reach proven higher levels of performance and environmental certification through all main green building programs.

- LEED Canada for Homes Provider and Faculty
- EnerGuide Rating System Certified Energy Advisors
- R2000 Plan Evaluators and Instructors
- Passive House Consultation and Modelling

Regardless of your starting point or shade we want to help guide projects, builders and our industry to better built and more sustainable practices. Our goal is to improve our environment, our community and the growing green economy. Feedback, news and links are greatly appreciated.

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Hello,

Summer is finally here! A busy spring has our office and the industry in full swing with exciting projects starting up, in the ground and finishing up.

I am really excited by the launch of our new quarterly event, Green Building and Beer Night. I often say the best place for many of the green building debates is in a good pub, discussed over a pint. Here is your chance - short, informative and a great chance to socialize and network with our vibrant green building leaders.

Take a break, catch up on what is new, and think ahead to the exciting developments in our province and our industry.

Thank you,

Tyler Hermanson  
- Director, Sr. Consultant  
4 Elements Integrated Design Ltd.

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### Upcoming: Green Building and Beer Night

A casual, educational event to get project teams together to swap experience and get direct updates from 4 Elements, your LEED Canada for Homes

Provider for Southern Alberta.

Agenda:

- Introduction: LEED Canada for Homes - a 15 minute introduction to the program for those new.
- Main Event Topic - "Passing the thermal Bypass inspection" - 45 min.
- General Discussion - Bring your questions, your experiences and your best debate.

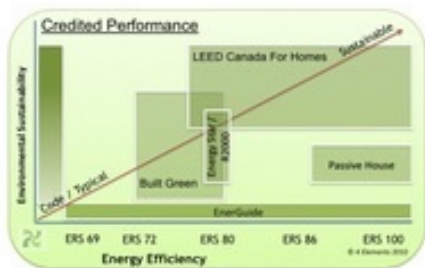
Come join the 4E team for a break, a beer and some snacks. Open to the all members of the green building industry.

RSVP is encouraged, but not required.

Location: Jamison's Pub - Brentwood.  
Time: June 16th 2011 - 4:30pm till 6:30

## New Resources: Road Map to Green Building

4 Elements has just completed its long overdue comparison report on the main green building certifications currently in play in Canada. This short report summarizes the discussions from our popular seminar, "Road map to Green Building" and now includes the Passive House program.



Learn how each program compare and find the best fit with your projects based on our experience:

- EnerGuide,
- Built Green
- Energy Star
- R2000
- LEED Canada for Homes
- Passive House

Without a certification, all you have is an opinion on how energy efficient or sustainable your project is. Opinions don't count for much since we all have one. Certification brings in an accountable, third party to assess, rate and compare a home's performance against a measurable standard.

Please check out the PDF from our web page and pass this information on to as many as possible.

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We are always happy to sit down with builders and clients to review a upcoming project and help find the best fit to get you started. Let us know if you have an interested group that would like a 1 hour seminar or lunch and learn. This can be a great lead off presentation builders or contractors, a community or a municipality engaged with green building certifications.

## The Take Away Thought:

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Every quarter we will try to leave you with something interesting, relevant and applicable. This quarter: Solar Angles, simplified.

With homes becoming more and more energy efficient, passive solar heating makes up a larger portion of a home's energy profile. Every home has a degree of solar gains; the trick becomes maximizing gains and limiting summer over heating.

This can quickly become daunting as complex tables of azimuths and zenith by latitude look more like latin than something comprehensible.

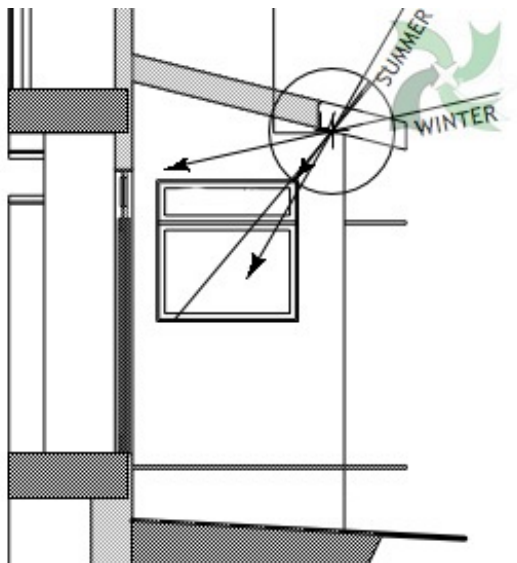
### The Take Away: Solar Angles Simplified

Winter Solar slope is 3 in 12

Summer Solar Slope is 23 in 12

If you have a 24" overhang you winter shadow line would be 6" below the level of the eave and you should try to keep the top of the window at that level for maximum winter gains.

In summer, you would have a shadow line 46" below your eave line, and would try to keep you window sills above this level to provide full shading in June. Or even better take the August slope of 15 in 12, typically Alberta's hottest month, and keep the window sill 30" from the eave to minimize cooling need.



In this Edmonton custom home design project, we planned a larger deck roof to fully shade the large french doors and provided 70% shading in August.



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