

# Specifier

Series 39, Edition 5, January 2012

**Content Co-ordinator: Steve loannides** 

**Editor: Lori Brooks** 

# 2011

September 13

**Union Station Revitalization Project** 

October 4

**Ontario Painting Contractors** 

Association

November 28

**ULC Facility Tour** 

December 6

CSC/Ontario Glass & Metal Association Joint Meeting

# 2012

# **January 10**

Wind Uplift Resistance

February 7

**Economic Outlook** 

February 24

4th Annual Curling Bonspiel

March 5

No Frills Trade Show

April 3

**Zinc Panels** 

May 1

Retaining Walls/ACM

August

**Annual Golf Tournament** 

CSC (Construction Specifications Canada) is a non-profit association committed to the ongoing development and delivery of quality education programs, publications and services for the betterment of the construction community.

# **DINNER MEETING NOTICE**

date: Tuesday, January 10, 2012 (Deadline to register: Noon on January 5)

topic: WIND-ROOF CALCULATOR ON THE INTERNET

Wind-RCI demonstrates how one can correlate wind loads with system resistance. RCI professionals are encouraged to bring their laptop with wireless connection. (See page 5 for more details.)

**speaker:** Dr. Bas Baskaran, Group Leader and Senior Research Officer

National Research Council/Institute for Research in Construction

**location:** Toronto Skating Curling and Cricket Club

141 Wilson Ave., Toronto (1 block east of Avenue Rd.)

time: 17:15 Cocktails

18:00 Dinner

19:00 Presentation

**cost:** \$40 members

\$50 non-members

\$55 at the door (cash or cheque only)

\$200 for booklet of six dinner tickets (members only)

**reserve:** Click here to reserve online or visit www.csctoronto.ca for more

information. Ouestions? Contact Donna Fournier at 1-888-494-9350.

**info:** Chris Hunter, CTR, RRO 416-930-8766

# in this issue:

message from the chair2	ULC facility tour
message from the second vice-chair $\ldots 3$	december dinner meeting highlights14
january dinner meeting notice 5	site conditions article
update from the past chair7	climate change story18
membership update 8	curling bonspiel registration
engineering officer's update9	no frills trade show registration24
newsletter editor's message10	january sponsors' advertising26
professional development officer's update . 11	grand valley meeting notice30
architectural officer's article12	2011/2012 executive committee34

# Price Shopping... What's the Solution?

Everyone who has completed the CSC course "Principles of Construction Documentation" knows very well the correct and proper bidding process for



**Steve Gusterson** Chair

the various types of construction project contracts. Whether the project is a design build or stipulated sum contract, the sub-contractor bidding process is pretty much the same. The sub-contractors prepare estimates, submit them to the bidding contractors and the bidding contractors ac-

cept the lowest, valid bids. The lowest, valid bid of the bidding contractors is reviewed and accepted by the consultants and the owners; the lowest contractor is awarded the project and subsequently awards all of the sub-contracts to the sub-contractors whose low and valid bids were carried by the contractor and were instrumental in the contractor's success of project award.

Bear with me while I wipe the tears of laughter from my eyes...

I've been speaking over the past few months with a colleague in Edmonton where the industry has been experiencing "price shopping." Just in case the reader isn't familiar with the practice, simply put; price shopping is when the successful contractor takes the lowest sub-contractor's bid and, after he/she has secured the contract, makes enquiries to other subs, whether they were part of the original bidding process or not, to find a better price. In the same vein, subtrades can be forced into "reverse auctioning," dropping their prices to match real or imaginary competitor's pricing.

Apparently this is not as commonplace in Edmonton as it is in southern Ontario and the Edmonton Construction Association published a bulletin (#95) with a documented instance of price shopping, decrying the practice and encouraging members to participate in the Canadian Construction Association code of ethics, which would not permit price shopping. The

irony is that a plethora of unethical general contractors in Ontario would most certainly sign this code of ethics having no intention of ever changing their method of doing business. Price shopping in the construction industry is becoming a standard method of business and the only entity that benefits is the unethical (as determined by the CCA code of ethics) general contractor.

As I write this article, I can immediately think of two major instances that occurred within the past 30 days. A prominent Western Canadian general contractor recently awarded a substantial sub-contract to a sub-contractor that had not participated in the original pricing for the project. In the GTA, after negotiating for months with several subs, all whom were told they were going to be awarded the contract, the GC, a very well known local general contractor, awarded the sub-contract amounting to millions of dollars to a sub-contractor that had not initially participated in pricing but "offered" a substantially reduced, and possibly subsidized, price. To make the pill even harder to swallow, since the sub-contractor is from

Cont'd on Page 9



# Roger Ali, CTR

Fireproofing Sales Specialist

420 Tapscott Road, Unit 5 Scarborough, Ontario M1B 1Y4 Email: rali@adfire.com Tel: (416) 292-2361 Fax: (416) 298-5887 Cell: (416) 820-8305

### Steve Gusterson, CTR

Manager, Pre-Construction Design Services s.gusterson@alumicor.com

t 416.745.4222 ext 238 tf 1.877.258.6426 f 416.745.7759 c416.456.1321

www.alumicor.com



290 Humberline Dr, Toronto, ON M9W 5S2

# Youth Movement or Godfather Syndrome

For a succession plan to be successful, there needs to be an equilibrium of mentorship and apprentices. True "in-house" succession can prove to be difficult to achieve if not set in place years or even decades in advance, therefore constant planning for progression is required to ensure evolution is accomplished.

Pupils require time to be trained in a position or role, allowing for practical knowledge and experience to be passed down from an individual who has gained this knowledge through involvement in or exposure to that particular skill set.

There is a ratio between youth volunteer members and experienced mentors that needs to be understood because negative effects can be observed when too much of one side is represented. For example, when inexperienced individuals are able to make decisions without leadership there tends to an output of "radical ideas," which could lead an organization down the wrong path. Also, when seasoned individuals are able to hold executive positions for too long, a "Godfather Syndrome" is developed, creating a strong will against change, causing new ideas to fall upon deaf ears.



American Specialties, Inc. ASI Storage Solutions, Inc. Global Partitions Watrous, Inc. www.asiwatrous.com

Steven C. Ioannides, B.Eng., CTR, LEED AP

Architectural Representive steve@asiwatrous.com

### **Karen Sinclair**

Architectural Sales Co-ordinator ksinclair@asiwatrous.com

#### Luc Aube

Vice-President and General Manager laube@asiwatrous.com

Telephone: 905-420-5542 Fax: 905-420-9988

1738 Orangebrook Court Pickering, Ontario L1W 3G8

So what is "succession planning?" Wikipedia defines succession planning in organizations as "identifying and developing individuals to succeed to senior posi-

tions in government, business, organizations, etc."

I guess my reason for writing this article stems from a recent event that took place on the 2014 "Joint" Conference Committee, where a very dedicated and committed individual, who happened to be under the age of 30, was removed from the Technical Committee



Mark Clemmensen
Second Vice-Chair

Chair position, an appointment that had been approved by the Committee over a year earlier.

This individual was not removed because they were not performing up to task (actually, they had already scheduled and held three technical committee meetings well over three years in advance, and had multiple discussions with local CSI Chapters to see what issues they are facing and to see if topics related to Canada and the U.S. could be determined, offering opportunities for local CSI members to join our conference as attendees). Nevertheless, this position was "reallocated" to a senior member of CSC just two weeks ago, with no apparent reason other than "they have been there before".

Could this experience and guidance not be provided in a different way? What would the difference be if an "experienced" individual is appointed as a committee member, to offer assistance, advise and mentor the officer currently in this position? I don't see any difference except that there is no recognition or spotlight offered to an individual in a mentorship position. I mean just mentoring the new individual, so that they will be able to provide the same mentoring to a less experienced individual when their opportunity to mentor comes around. Instead we see politics and possibly friendships prevail over growth and mentoring in our organiza-

Cont'd on Page 4

# **Youth Movement**

Cont'd from Page 3

tion. The same organization that markets their core beliefs as "Professionalism, Teamwork, Openness and Innovation" (taken right from the CSC Website under the "About Us" tab).

When does the time come when young professionals get the same opportunities granted to individuals who have already held these positions in the past? Didn't they have to start somewhere? Let's look at this in terms of an example that most Canadians will understand, like that of the National Hockey League (NHL). The Edmonton Oilers have a wealth of talented youth and like CSC, they understand that there needs to be some supporting cast that has experience in the big league to ensure that their youth learn how to react in and deal with high-pressure situations correctly. The Oilers recently decided to bring back team hero Ryan Smyth to help mentor and guide newcomers Jordan Eberle, Ryan Nugent-Hopkins and Taylor Hall. Did they make him the captain? No. He was brought back in a mentorship role and has done a great job at that, helping push this young team into playoff contention once again.

So my point is, why hold back young professionals from stepping up and showing the organization what they can do? Why have the same core group of leaders take the spotlight and the credit for the hard work of others when they should be there to mentor those same young individuals in the background, while continuing to work hard for the organization?

I believe that it is time that we, as an national organization made up of a mixture of young professionals and seasoned veterans, stand up and say that we do have talented individuals who are 25, 30, 35 years old and they deserve a chance at the spotlight. A chance to understand the inner workings of CSC and what the association stands for.

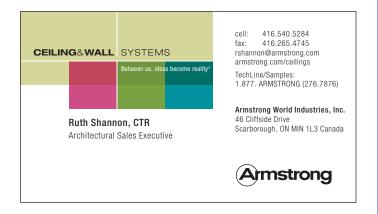
Maybe then the youth will attend our meetings. Maybe then the youth will want to get involved and volunteer in our organization.

Maybe then the term "Old Boys Club" will be lifted off of CSC and we will need a stadium to hold our annual conference!

What I am most disappointed about as I write this article (which I'm sure will cause ripples in our organization and backlash from our senior members), is that five years ago I stood up in the AGM at the Halifax conference and asked what CSC was doing about youth in our organization. I promise you that over five years later I have only personally seen about five youth members volunteer for the Toronto Chapter. This is not to say that other Chapters have not had better success, because I know that they have, but if the current "youth movement" trend continues to proceed along this path... I guess I don't have to tell you what the outcome will be.

I recall that in one of my annual reviews a number of years back that one of my reviewers commented that "I try to run before I can walk." After six years, I see why that is. It's because I never had the mentorship I needed to learn to walk, therefore I taught myself how to run, and I'm doing a fine job at it!

I'm 29 years old. I currently hold volunteer positions on three different CSC committees, with a possible fourth coming, and I AM (the future of) CSC.





Breathable wall & roof membranes

www.srpcanada.ca

Michael Pace, c.E.T.,BSSO michael@buildingresource.ca

Joseph Amodeo, MBA, P.Eng. joseph@buildingresource.ca

Maureen Ballentine maureen@buildingresource.ca

Tel/Fax: 416 410 4055

# January 10, 2012 Dinner Meeting

# WIND-ROOF CALCULATOR ON THE INTERNET (WIND-RCI)

# Feel the wind on your laptop

This presentation qualifies for self-directed OAA credits.

Wind effect on roofs is a complex phenomenon and one of the common factors in roofing failures. Recently, RICOWI wind investigations also confirmed this and challenged designers for proper roof wind design tools. Based on a recent grant from RCI foundation, National Research Council of Canada developed a web-based calculator, which can eliminate possible misinterpretations of code language. It is named Wind-RCI (Wind-Roof Calculator on Internet).

During this presentation, RCI professionals are encouraged bring their laptop with wireless connection. Hands-on calculations and theory behind the procedures will be discussed. Calculation of the roof cover wind uplift design loads involve several parameters such as roof structure, slope, wind speed, building height, roof areas, building terrain, building type and building openings. Wind-RCI demonstrates how one can correlate the wind loads with the system resistance. Based on the members' input, Wind-RCI can be linked with RCI-Mercury such that it can be available for everyone.



**Bruce Hudson**Program Committee Officer



**Chris Hunter** Program Committee Officer

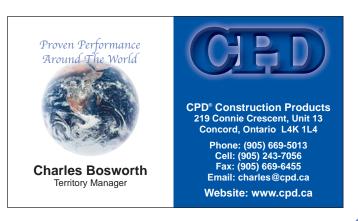
# SPEAKER:

## Dr. Bas Baskaran, Group Leader and Senior Research Officer, NRC/IRC

Dr. Baskaran is a Group Leader and Senior Research Officer at the National Research Council of Canada, Institute for Research in Construction (NRC/IRC). He has been immersed for 20 years in researching the wind effects on building envelopes through wind tunnel

experiments and computer modelling. He also acts as adjunct professor at the University of Ottawa. He is a member of ASCE, SPRI RICOWI, ICBEST and CIB technical committees. His work in the area of wind engineering and building envelopes has received national and international recognition. He has an outstanding research record with more than 150 publications in refereed journals and conference proceedings. Dr. Baskaran received his master's degree in engineering and Ph.D from Concordia University, Montreal. Both research topics focused on the wind effects on buildings and earned best dissertation award from the Canadian Society of Civil engineers.





# 2011-2012 Dinner Meeting Sponsors

Date	Sponsors					
September 2011	Flextile Ltd.		Vintage Brick Ltd.		Exterior Technologies Group	
October 2011	Vintage Brick Ltd.		Boston Valley/ETG			
December 2011	Alumicor Ltd.		ASI Watrous, Inc.		Alpolic/ETG	
January 2012	Kalzip/ETG	01	wens Corning	Atlas Roofing		Firestone Building Products
February 2012	Exterior Technologies Gr	oup	Kingspan Insulated Panels		He	nry Company Canada Inc.
April 2012	Vintage Brick Ltd.		Altro Floor and Wall Systems		Thames Valley Brick & Tile	
May 2012	W.R. Meadows		Vintage Brick Ltd.		available	

# 2011-2012 Door Prize Sponsors

Date	Sponsors					
September 2011	Reed Construction	Data	Chicago N	letallic	ı	Flextile Ltd.
October 2011	Reed Construction	Data	Chicago N	letallic	А	lumicor Ltd.
December 2011	Reed Construction	Data	Chicago N	letallic	A	lumicor Ltd.
January 2012	Reed Construction	Data	Chicago N	letallic	Fireston	e Building Products
February 2012	Reed Construction	Data	Chicago N	letallic	Fireston	e Building Products
April 2012	Reed Const. Data	Chic	ago Metallic	Fireston	e Bldg.	Thames Valley
May 2012	Reed Construction Data		Chicago N	letallic	Fireston	e Building Products

# Dinner meeting sponsorships available

Become a dinner meeting sponsor for only \$195, which includes a table-top display prior to dinner, one free dinner ticket and a one-page marketing insert included in that month's *Specifier*.

Contact Russell Snow by email at rsnow@wrmeadows.com to arrange your sponsorship.



Architectural Woodwork Standards – 1st Edition – 2009 – now available

Adopted and published jointly as the successor replacement and latest edition of:

AWI/AWMAC Quality Standards Illustrated (QSI) and WI's Manual of Millwork (MM)

# **Guarantee and Inspection Service**

Select this service to ensure standards are adhered to and that the owner is getting what is specified

For further information, please contact:

AWMAC – Ontario Chapter www.awmacontario.com



### DUOCHEM INCORPORATED

154 Norfinch Drive, Unit 5 North York, Ontario M3N 1X6 Tel: (416) 665-5885 Fax: (416) 665-6335

> Tom Grella (Ext. 239) Nellie Vila (Ext. 205) Richard Gobbatto (Ext. 249)

- Parking garage membrane systems
  - Epoxy floor and wall finishes
    - Epoxy Terrazzo

Visit us at www.duochem.com

The Toronto Specifier





WATERPROOFING PRODUCTS

Maria Cosburn, CTR

TECHNICAL SALES REPRESENTATIVE

237 Norseman Street Etobicoke, ON M8Z 2R5 www.dre.ca Tel: 416-233-1603 Fax: 416-237-0577 Email: marla@dre.ca



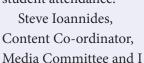


# A Day at the Fair

# 2011 George Brown College Association Fair

n November 16, 2011, George Brown College held its annual Association Fair at their Casa Loma Campus.

While the parking, lunch, and administrative arrangements were impeccable, I was extremely impressed with the quality of the eight associations represented on that day and with student attendance.





**Isabelle Champagne**Past Chair

answered questions from architectural, HVAC and construction management students. Apart from a handful of students who picked up our literature without comment, we hand delivered close to 80 membership kits and discussed at length the benefits of joining CSC. Steve commented that the turnout this year was much more significant compared to last year. Students who dropped by our booth were a mix of first-, second- and third-year students, with a good contingency of mature students on their way to a second career.

Finally, we discussed the possibility of the CSC providing a focused presentation to the architectural department, and to the student body at large during the next semester. Our contacts are Kiaohai (Kevin) Lin, Career Services, Student Affairs; Krisztina Arany, Acting Manager, Industry Liaison Office for the Centre for Construction and Engineering Technologies; and Marlene Slopack, Coordinator and Professor of Architectural Technology, School of Architectural Studies.

# I AM CSC!

If you are reading this article then you are probably a member of CSC involved with one of the chapters



**Stacey Bogdonaw** Membership Officer

across Canada and proud of it! I am asking each member to "SHARE THE EXPERICNCE" with a colleague and/ or peer. Tell them why you became a CSC member and how membership benefits you! The most effective way to get people involved is a direct one-on-one approach.

Five reasons why one should join CSC:

- 1. Networking opportunities at chapter meetings, conferences, trade shows, fun night, etc.
- 2. CSC educational programs
- 3. Availability of Master Specifications, reference documents, etc.
- 4. Certification programs (enhance credibility)
- 5. Opportunity to attend dinner meetings that offer knowledgeable speakers, speaking on important current construction topics.

If you have a career in the construction industry, this is a great association that can offer excellent networking opportunities with industy leaders.

The CSC membership drive is currently underway until February 24, 2012. This is your chance to share your experience and be entered into a draw to win a great prize (see page 21 for details).

Please email me at sbogdanow@wrmeadows. com if you know of anyone that would be interested in receiving a CSC membership application!

# Welcome New CSC Members

Please welcome the following new members to the CSC Toronto Chapter:

Guiseppe Caravaggio
Golden Hammer Renovation

### **Gord Carr**

Kemper System Canada

Paul Johannesson
Henry Company Canada Inc.

Marco Merolle
Pinnacle Group Inc.

Don't forget to order your name tag for only \$12.00!



**Dinshaw Kanga** Membership Officer

# **Henry**.

PETER M. SAUNDERS, CSC, RRO
MANAGING DIRECTOR,
BUILDING SCIENCE & TECHNICAL SERVICES

Henry Company Canada Inc.
15 Wallsend Drive, Scarborough, ON M1E 3X6 Canada
Tel: 416-523-0596 Fax: 416-724-6818
Email: psaunders@henry.com Websites: www.henry.com www.bakor.com

## Insulated Panels

Cathal D'Arcy, B. Eng NATIONAL BUSINESS DEVELOPMENT MANAGER



Kingspan Insulated Panels Ltd. 12557 Coleraine Dr. Bolton, ON L7E 3B5 cell: 416-301-9470 cdarcy@kingspanpanels.com

## **Architectural Panels**



### DANIEL A. FOURNIER, T.P.

Business Development

C 514 467-4657 dfournier@norbecarchitectural.com

97, De Vaudreuil street Boucherville (Quebec) J4B 1K7

T 450 449-1499 \*250 | 1 877 667-2321 F 450 641-4657

# What's the Solution?

Cont'd from Page 2

off-shore, Canadian taxpayers will see virtually zero benefit in contributions to employment, income taxes, etc. Did I mention this particular project is taxpayer funded?

So what's the solution? If subs refused to bid GCs that participated in price shopping it would likely end this practice, but I'm not so naive to believe that trades will ever become organized enough to make this viable. How about some type of construction documentation? Unfortunately most construction contract documentation is written by contractors for contractors will little consideration for the sub-trades.

Frankly I don't see any major changes to the practice of price shopping in the near future. I was encouraged two years ago when I read a blog post by Geoff Smith, CEO of EllisDon (published in the December 2009 Specifier). EllisDon's "subcontractors' bill of rights" states that "Price shopping will be an employment termination event..." Unfortunately, EllisDon seems to be one of the very few builders that believe treating sub-trades with honesty and integrity makes good business sense.  $\mathcal{A}$ 



# **Update on Codes**

here is nothing new I can report to you right now other than as you saw in last month's Specifier, the National Energy Code for Building has been published and the Energy Code for Housing should

be out for public review in the spring. There is no definitive answer yet as to how the provinces and territories will handle the requirements — adopt, adapt or come out with their own.



**Bob Rymell Engineering Officer** 

Next year should also be interesting with regards to standards and in

particular those published by the Canadian General Standards Board (CGSB) in the past, in particular roofing and caulking. Whether the industry reverts to ASTM standards or revises those from CGSB, or whether a new body takes over remains to be seen. This issue is now coming to the forefront, with the more common design and usage of vegetative roofs.

I would like to wish everyone a safe and happy New Year!



**MARK YOUR CALENDARS!** 

**FEBRUARY 24, 2012:** CSC Toronto Chapter's 4th Annual Curling Bonspiel

See pages 20-21 for more details.

### **OWENS CORNING CANADA LP**

3450 MCNICOLL AVENUE SCARBOROUGH, ON M1V 1Z5

### TYLER SIMPSON, B.TECH. (CIVIL ENG.)

TECHNICAL REPRESENTATIVE, ONTARIO **BUILDING MATERIALS GROUP** 

905.664.7240 FAX: 905 664 8395 TOLL FREE: 800.933.9892 Tyler.Simpson@owenscorning.com www.owenscorning.ca



Consulting Engineers

R.L. (Renato) Veerasammy, P.Eng.

r.veerasammy@sympatico.ca

R.J. (Bob) Rymell, P.Eng. Bus: (705) 436-1392 r.rymell@sympatico.ca Fax: (705) 431-2988

# Share the Experience

I'm writing this month not as Newsletter Editor, but rather as a member of the CSC marketing committee. The committee was created following an association strategy development workshop that took place in 2009. Out of the workshop came plans to develop a blueprint



**Lori Brooks** Newsletter Editor

for marketing, with goals to increase membership, participation and sales.

You may remember completing a membership survey back then. Its findings were that the majority of members heard about CSC from a colleague (almost 60%). An even greater number joined for

the networking and self-improvement opportunities. Education and certification/registration programs were not far behind.

The marketing committee is composed of members from across the country. Last winter, committee chair Dennis Louten shared an idea with the committee that made perfect sense: Who better than the membership to market the association? Out of this idea came the "Share the Experience" campaign, with the tagline "I AM CSC."

Many of you who were in attendance at the conference earlier this year in Montreal will be familiar with the program. Stacey Bogdonaw also wrote about the program and the benefits of membership in this issue.

So how do you share the experience? Tell your clients and associates that you are a member of CSC and why. Encourage colleagues from other associations to join. Encourage fellow industry participants to join.

So what's in it for you? More members mean greater opportunities for networking, whether at chapter meetings, trade shows or conferences. More members mean more educational offerings, such as seminars, and courses, which further enhance your credibility. And potentially advance your career.

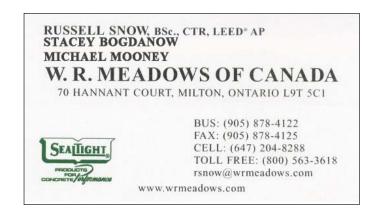
Marketing committee members have been tasked with delivering "Share the Experience" presentations

to each of the chapters. Toronto Chapter Director Steve LeBlanc is also a member of the committee. We are scheduled to deliver the presentation at the January dinner meeting. I hope you will attend.

With the CSC membership drive currently underway (see page 21), there's no better time to "Share your Experiences." To see some examples of how other members (many from our own chapter) describe their CSC experiences, visit the CSC Website at www.csc-dcc.ca to view the "I AM CSC" video. And remember, YOU ARE CSC!







# Winter Course Line-up



**Emily Chau**Professional Development
Officer

The Principles of Construction Documentation, Specifier 2 and Technical Representative courses have come to an end; congratulations to all the students for completing the course. For the winter term CSC is offering Construction Contract Administration, Specifier 1 and Technical Representa-

tive courses.

These courses will be presented provided they have full enrollment. For now the dates and locations listed below have been confirmed.

# **Construction Contract Administration**

The Construction Contract Administration (CCA) course is designed for those individuals involved in construction administration. This includes contract administrators, property managers, architects, engineers, interior designers, specification consultants, building authorities, and bonding and insurance agencies. The student will have successfully completed the Principles of Construction Documentation (PCD) course.

This program will be held at the Fairview Public Library, located at 35 Fairview Mall Drive. This course is scheduled to commence on Monday, January 9, 2012 and will run for 14 weeks ending on April 2, 2012.

# Specifier 1

Specifier 1 is an intermediate level course that will take the individual beyond the concepts previously introduced in the Principals of Construction Documentation (PCD) course. Although some of the same topics are included in this course, the depth of comprehension and explanation exceed that of the PCD course. The Specifier 1 course is a prerequisite for the Certified Specification Practitioner (CSP) designation from CSC. Success-

ful completion of the course may be credited toward the experience component requirements for the Registered Specification Writer (RSW) designation.

This program will be held at the Fairview Public Library, located at 35 Fairview Mall Drive. This course is scheduled to commence on Wednesday, January 11, 2012 and will run for 13 weeks ending on May 2, 2012.

# **Technical Representative**

The Technical Representative (TR) course will provide a better understanding of contract documents and bidding procedures, product representation, professionalism and ethics, and will provide a new depth of understanding and explanation of concepts beyond what was previously introduced in the PCD course. The course is designed for the individual involved in the supply section of the construction industry, such as manufacturer representatives, agents or distributors of products.

This course will be held at 120 Carlton Street, Toronto starting on Monday, January 9, 2012 and will run for 16 weeks ending on April 30, 2012.

# **Registration Information**

Course details, including location, costs and schedule of dates and times can be found on pages 28-29. Visit http://toronto.csc-dcc.ca/Education/
Education+in+Toronto for more information or to register. Register early to avoid disappointment.

Please remember that registration and payment must be received prior to the issuance of a text book. All cancellations must be in writing. All cancellations are subject to a cancellation fee of \$40.00. Cancellations one week prior to the start of the course will be refunded up to 50 per cent of the registration fee. Cancellations after the start of the course will not be refunded.

If you have any questions about the courses listed above, please contact Emily Chau, Professional Development Officer at 416-499-3181, ext 1155 or via email at echau@ morrisonhershfield.com.

# Are you Ready?

Since my return to the executive committee and my last article in October, I have had the opportunity to attend two meetings of the Building Advisory Council (BAC) as a member of the council and representative of the Association of Architectural Technologists of



**Brian Abbey** Architectural Officer

Ontario (AATO). Some very interesting items were discussed that need to be shared. The Ministry of Municipal Affairs and Housing (MMAH) Building Branch staff gave an update of their work over the past months, while BAC put forward a draft report of Building Innovation

and Interpretation to create a framework in support of regulatory consistency, efficiency and sustainability.

MMAH reported that because of the uncertainty of provincial elections a lot of decision making was put on the "back burner" that has, inevitably, created a delay in the release of the new 2012 Ontario Building Code (OBC); they advised that it could be ready by late 2012 but more likely, early 2013! It was emphasized that the items that have already be legislated, including the updates for Energy Efficiency in the Supplementary Standard SB-12 and Occupancy Permits for certain new Residential Buildings, will still come into effect as of January 1, 2012. Download 2012 Building Code Requirements for New Construction at www.oboa.on.ca/news/files/BuildingCodeInformation01-01-2012.pdf.

Another issue that has jumped to the forefront as an emergency issue on the MMAH agenda is the alarming number of "falling glass" incidents in the City of Toronto. They are already in the process of setting up an expert advisory panel to do a forensic assessment of the situation. The panel will advise on the updating of glass standards (current standards are over 20 years old), make recommendations on installation methods and work with the glass industry to develop new, safer product. MMAH advised that there will be an emergency amendment to the current OBC. This may also affect the

National Building Code (NBC) at the federal level because of the current harmonization of codes across the country. Other ongoing items that the MMAH is working on include a review and overhaul of the requirements for the issuance of Occupancy Permits and Professional Design as it relates to Parts 4 & 6 in Part 9 of the OBC.

BAC members showed very positive support for the draft report on potential measures to support building innovation and because of the broad scope of the report content, it was suggested that BAC develop an implementation strategy to deal with the material presented. This will include three strategic directions to modernize the system, respond to emerging needs, streamline controls, reduce the uncertainties in performance based approvals and improve standards of enforcement. They are:

- Provide better decision tools and more readily accessible interpretations and rulings;
- Increase private sector roles and responsibilities; and
- Streamline regulation and target public oversight more effectively.

This is a brief overview of the work that is being done by MMAH and BAC. I will report on the progress and implications in my future reports. However, if you have any questions or other topics that you would like me to research and report on, please feel free to call me at 416-932-3278 or email me at brian.abbey@adtekbuilding.com. In the meantime, I wish you and yours safe and happy holidays and a prosperous new year!

# **CONGRATULATIONS!**



Bruce Gillham CSC President

CSC Toronto chapter proudly recognizes one of its own, Bruce Gillham, CTR, CCCA, as CSC President for the 2011/2012 year.

Bruce can be reached at (905) 751-1023 or via e-mail at bjgillham@armstrong.com.

WE WISH YOU ALL THE BEST, BRUCE

# **ULC Facility Tour**

CSC Toronto Chapter members were invited by Underwriter's Laboratories of Canada to attend a tour of their facility on November 28. The event was sold out, with 60 Toronto Chapter members signing up to attend.

Attendees viewed a demonstration of combustibility in a 24' test chamber called a Steiner Tunnel. Acoustic performance and smoke detection chambers were also visited.



G. Abbas Nanji, M.S., P.Eng, Principal Engineer delivered a presentation on ULC Standards in the National Building Code of Canada (NBCC).





Underwriters Laboratories of Canada (ULC) is an independent product safety testing, certification and inspection organization. They have tested products for public safety for 90 years and are accredited by the Standards Council of Canada. Sixty CSC members attended two tours of the ULC test facilities in Scarborough, Ont.



Mr. Nanji's presentation graphically illustrated testing for fire detection, fire suppression, combustibility, flame spread and fire containment.



During the afternoon facility tour, Toronto Chapter members learned about some of the testing done at the ULC labs.

# **December Dinner Meeting**





David Wittenberg, Structural Designer, Halcrow Yolles (left) and David Thompson, Principal, Manager of Building Envelope Services, Halcrow Yolles spoke to a record crowd about the safe design and application of architectural glass at the bi-annual joint meeting of CSC and the Ontario Glass & Metal Association (OGMA) in December. (See the *Glass Canada* article on page 15.)

# **Door Prize Winners**



OGMA President Frank Fulton (left) of Sunview Patio Doors Ltd. presents Adtek's Brian Abbey with a door prize on behalf of OGMA.



Alumicor's Peter Bowden, CTR (right) presents his company's door prize to guest speaker David Thompson of Halcrow Yolles.



Jimmy Farrington, RSW (right) was the winner of the Reed Contstruction Data door prize, presented by RCD's Michael Monsma.



Elsa Cordero of NORR Limited is congratulated on winning the Chicago Metallic door prize by Toronto Chapter Chair Steve Gusterson, CTR.

# OGMA, CSC Discuss Safety Glass

by Patrick Flannery, Glass Canada

Dec. 7, 2011 - The Ontario Glass and Metal Association and Construction Specifications Canada discussed the hot topic of safety glass at their bi-annual joint meeting Dec. 6 at the Toronto Skating, Curling and Cricket Club. The record crowd of over 100 listened to a presentation by David Thompson and David Wittenberg of Halcrow Yolles before participating in a lively discussion of safety glass characteristics, building codes and engineering standards.

Alumicor's Steve Gusterson, chair of the CSC Toronto Chapter and director-at-large for OGMA, hosted the evening. Attendees enjoyed cocktails followed by an excellent buffet dinner in a cozy room with large windows overlooking young skaters on the club's ice surface.

Wittenberg started the educational component of the evening with a review of the various kinds of safety glass and their characteristics. Wittenberg is a structural designer who works in the Structural Glass and New Facade department of Halcrow Yolles. He has worked on such projects as a glass pedestrian bridge in the lobby of the Ritz Carleton hotel in Toronto, a glass pedestrian bridge and roof at The Core shopping centre in Calgary and The Ledge, an observation deck on the Willis Tower in Chicago. Wittenberg pointed to three common causes of failure in safety glass: improper support, poor interlayer materials and nickel sulfide inclusions. He made the important point that correct compression of glass is critical to its strength, and discussed the various factors engineers should take into account when designing overhead structures, balustrades and entrances from glass.

Next, Thompson discussed mitigating risk in glass construction. Thompson is a 34-year veteran of the construction industry starting in architectural design and moving to building envelope engineering. He oversaw construction of the Willis Tower observation boxes and has worked on glass building envelope projects on three continents. Thompson stressed that glass is an old and very desirable building material. He feels the greatest mistake building engineers make is to fail to consider

the post-breakage performance of their glass structures. While tempered glass may be the strongest kind of glass, heat-strengthened glass may be preferable in some applications because it tends to break into larger shards, which might retain some structural integrity and stay in place after breaking. He questioned whether single-pane tempered glass could even be properly called safety glass, saying he always used laminated and heat-soaked products when his projects called for tempered glass.

Thompson quashed the rumour that cheap Chinese glass with nickel-sulfide inclusions was responsible for the bad press glass construction has been getting in Toronto lately. He said he had seen "no evidence" that Chinese glass was involved in these problems, and noted that nickel sulfide is a rare problem, but one that can pop up anywhere, in any glass product of any price. He said that while heat soaking provides an extra degree of confidence, there is debate as to how effective it really is.

Finally, Thompson called for the glass and construction industries to become educated about glass and glass construction and adopt higher design standards to avoid becoming regulated by codes. "I'm concerned when I hear there are emergency standards meetings in Toronto," he said. "If we don't take the initiative as designers we will be left with glass in steel frames. Glass is a great building material and one we are only scratching the surface in developing."

In the subsequent discussion period the point was made that Canadian standards have lagged American standards significantly because Canadian standard-making is funded by taxpayers while American ASTM standards are developed by volunteers. The lower cost of U.S. standard development allows for more frequent updates. The ASTM standard was last updated in 2009, while the CSA standard was last updated in 1989.

This article was originally published in the December 2011 edition of the Glass Canada newsletter. Many thanks to Glass Canada for permission to reproduce. Visit Glass Canada online at www.glasscanadamag.com.

# Site Conditions Different than Bid Documents

By Bill Preston

You will find that the Site Conditions are different than the Bid Documents upon which you bid your stipulated work. You feel you're entitled to an extra, right? Not necessarily; it depends! What to do? Clearly, if your Contract Terms permit you to promptly give a Written Notice of a Claim for Extras and also entitle you to retain your right to have a dispute determined later, do so perfectly. Otherwise, read on. A recent Ontario case involving a Subcontract dispute which did not have these dispute/defer terms can help provide you with some answers.

In Asco Construction Ltd. v. Epoxy Solutions Inc., Epoxy was awarded the concrete floor topping repair Work for renovations to the Kingston Grand Theater. Epoxy' Bid Price was based upon both a sketch reporting the existing floor elevations as well as an Architect's detailed spec's of what finish Epoxy's Work had to achieve. The problem was with the elevations on the sketch; in places, they were out by as much as 2", and all of the discrepancies would reasonably increase Epoxy's costs by as much as 45%! Who bears the risk of sucking up these costs? Asco, the General Contractor, took two positions: Firstly, it weaselled by saying that if later it was determined Epoxy's costs increased, it would plead to the Owner's Consultant for payment of these costs; and secondly, that Epoxy had no claim for Extras because it ought to have known when it bid the job that the elevations on the sketch were approximate and thus Epoxy ought to have included this risk in its Bid Price. The Owner's position was simple: the Bid Documents required Asco, as the General Contractor, to do whatever elevation surveys were needed; while, the Court determined that Asco/Epoxy Subcontract Terms had not passed this obligation on down to Epoxy. Finally, Epoxy took the position that it could not have been aware that the sketch elevations were significantly different from the actual. But, unfortunately, Epoxy did not have in its Subcontract Terms the below usual terms found in the CCA/CCDC Standard forms:

- 8.1.3 If a dispute is not resolved promptly, the Contractor shall give instructions for the proper performance of the Work to prevent delays pending settlement of the dispute. The Subcontractor shall act immediately according to such instructions.
- 8.3.1 It is agreed that no act by either party shall be construed as a renunciation or waiver of any rights or recourses, provided the party has given the Notices in Writing required.

Thus, Epoxy refused to start its Work until Asco either prepared the floor surface to near the elevations on the sketch drawings, or agreed to pay an extra for Epoxy's increased costs. Asco did neither. Rather, it tried to persuade Epoxy to start its Work by using words (often heard on other construction projects) like:

"You must start... if later it is found that more costs are required, it will be dealt with at that time."

"I agree with you that there is not sufficient information supplied by the sketch; we will later refer the matter to the Consultant."

"You are one month behind schedule. Dumping this on us... being a month late... kind of unprofessional joke and if you do not meet and solve this with architect's approval... I will find a new subcontractor for the job. I have no more patience for you."

Eventually, Asco's weaselling did not entice Epoxy to start performance of its Work, and thus Asco terminated Epoxy and hired another for costs above Epoxy's Bid Price.

Asco sued Epoxy for both its additional costs as well as for impact costs which it incurred because Epoxy delayed the Project's completion. In turn, Epoxy counterclaimed for lost profits because Asco had wrongly terminated its Subcontract. Epoxy won hands-down!

Cont'd on Page 17

# **Site Conditions**

Cont'd from Page 16

Asco was denied its claim while Epoxy was awarded it lost profit on the basis that Asco wrongfully terminated the Subcontract! Here's the Judge's reasoning:

- 1. Where there is a Subcontract bid process, a Prime Contractor stands in the same position and has the same obligations toward a Subcontractor as apply to an Owner tendering the Prime Contract.
- 2. Thus, in the absence of a warning announcing the unreliability of the sketch, or a well drafted weasel clause in the Bid Documents, Asco has a duty to reasonably make available to Epoxy the actual floor elevations, or at least elevations sufficiently close as to permit Epoxy to do its Work without a Change Order.
- 3. And, if it is here, Epoxy before starting Work discovers that the elevations are so far off as to substantially change its costing and/or schedule, Epoxy must not start the Work because to do so is an acceptance of the surface without a change in either the price or schedule.
- 4. Rather, Epoxy must get a Change Order or a Change Directive; Judges won't require that the price of the Change Order be certain, because they will imply reasonable market value, but Asco must agree that Epoxy is entitled to an extra payment by it, not the Consultant nor the Owner for whom Asco does not have the authority to commit their credit.
- 5. And, in this case, Asco never agreed.
- 6. Thus, if the Subcontract had included the usual dispute/defer CCA/CCDC standard terms, Epoxy must perfectly give Asco a Written Notice and defer termination of its claim until later.
- 7. But here, because the Subcontract did not have these terms, Epoxy was in a tough spot; does it start

Work and hope that someone will later make a sympathetic extra payment?

- 8. Or, does it take the chance that later a Judge will decide either that:
  - 8.1 Epoxy ought to have known that the sketches elevations were only unreliable estimates which Epoxy should have either verified before bidding, or priced in its Bid Price; or,
  - 8.2 The elevation variances were not "substantial to a degree changing the character of Epoxy's Work"?
- 9. Here, the Court had no trouble finding:
  - 9.1 A two inch variance and a cost change of 45% is "substantial"; while,
  - 9.2 The Court did not expect Epoxy to be aware of this variance at the time of its take off because the actual floor surface was not viewable given the demolition debris and scaffolding covering the floor, and the fact that usually in the industry bidders do not invest in the costs of a elevation survey until they have been awarded the Work.
- 10. Thus, Epoxy was always entitled to access to the Project's Site once Asco brought the As-Built Floor Elevations close to those reported in the sketch which was part of the Bid Documents.
- 11. And, for this reason Asco's termination was wrongful, entitling Epoxy to lost profits and Court costs.

#### **CONCLUSION**

Here's what I take from this case:

12. The Bid Caller should make sure that its Bid Documents and the eventual Construction

Cont'd on Page 20

# Impact of Climate Change on the Building Envelope

By Petr Vegh, Ph.D., P.Eng., Greg Hildebrand, M.Sc. (Eng.), C.E.T. and Brian Burton

Introduction; this is the first part of the series of articles on the impact of climate change on the building envelope. This article provides some of the background regarding the topic and discusses some of the direct and indirect consequences that are occurring as a result of changes that are occurring in weather patterns. In future articles we will be discussing the steps that building owners and operators can take to mitigate the risk and impact in the future.

Most building scientists and engineers agree that any significant change in weather patterns will require us to modify the way we design, construct, manage and maintain buildings to a substantial degree.

There is also general agreement that we are beginning to see the impact of what is commonly referred to as climate change on existing buildings.

Many scientists are convinced that what appears to be a gradual warming of the earth's surface and atmosphere is a result of human activity and increasing urbanization around the globe. Many are also convinced this warming destabilizes weather patterns and increases the frequency and intensity of severe weather related events.

Whatever the reason may be for changing climate conditions we already know that the phenomenon is having an impacting on Canada's building stock and the occupants. We also know that the building envelope is particularly vulnerable to even minor changes in climactic conditions. (For example, a 25% increase in peak wind gusts would lead to 625% increase in building envelope damages.)

To meet the climate change challenge, Engineers Canada and its partners have established the Public Infrastructure Engineering Vulnerability Committee, which is co-funded by Natural Resources Canada and Engineers Canada. The initiative, which involves all three levels of government and non-governmental organizations, is looking systematically at infrastructure vulnerability to climate change from an engineering per-

spective. http://www.pievc.ca/e/index\_.cfm

The committee defines climate change is as: Any systematic change in the long-term statistics of climate elements (such as temperature, pressure, or winds) sustained over several decades or longer. Climate change may be due to natural external forcings, such as changes in solar emission or slow changes in the earth's orbital elements; natural internal processes of the climate system; or anthropogenic\* forcing.

(\*Human impact on the environment)

The first and foremost concern of course involves the health, safety, well-being and comfort of the occupants and at this stage it's very difficult to judge the potential impact.

However we do know that Canadians spend 90% of their time indoors and as one might expect, in addition to temperature extremes, occupants can be adversely affected by changes in humidity levels, air quality and by the presence of chemicals, insects and/or mould.

One serious concern involves the premature weathering or deterioration of building enclosure systems and the phenomenon is becoming the focus of a great deal of attention in many regions of Canada.

Rather than discussing what may be causing the alterations we are seeing in climate patterns in the following article, our aim is to focus on identifying the specific factors that are putting buildings and occupants at risk and what steps we might take to mitigate the impact.

For purposes of discussion we would separate what steps we might take for existing buildings from the factors that may affect new design and construction. In same manner we also distinguish between the direct and indirect effects of climate change may have on the building envelope.

# Weather vs. Climate

Weather is the daily and hourly change of the atmospheric condition, while "climate" is the state of the atmosphere over longer periods of time.

Cont'd on Page 19

# **Climate Change**

Cont'd from Page 18

For example, 2005 was the warmest year on record and coincided with the most active hurricane season since record keeping began. 2005 was also the costliest year ever for the insurance industry when it came to building failures and claims for damages.

Cities with their high density of property, people, and services make urban areas particularly vulnerable when extreme weather or natural disasters strike or when weather patterns are altered.

# Direct Impact of Climate Change on Building Performance

Obviously when it comes to existing buildings the age of the structure, the materials used in his construction and type of building envelope system can influence the structure's ability to resist the forces of climate change.

For example a 50-year-old masonry building constructed using a "face sealed" cladding system will, in most cases, have very little capacity to resist the impact of climate change from what we have observed.

The environmental factors that have a direct impact on the building envelope include;

- A shift in type, form, pattern, and intensity of precipitation, including an increase in the frequency of instances of freeze-thaw cycling, melting permafrost, freezing rain and rain on snow.
   (Shifts in precipitation patterns can also increase the number of times the components may experience wetting and drying as well as increased frost penetration.)
- Shifts in the peaks and frequency of high humidity levels.
- Changes in seasonal range of temperatures combined with increased frequency and longevity of heat waves or cold snaps.
- Increased frequency & intensity of wind events.

These thermal agents can lead to changes the dimensions of materials, leading to cracking and fissuring in

polymer-based materials such as vinyl cladding, window frames, sealants and gaskets. Similarly, thermal stresses in the form of freeze-thaw cycles can lead to premature aging of porous materials such as stone, masonry and mortar.

Other environmental factors such as dust and smoke also have implications for buildings. In addition to the effects of UV radiation mechanical agents such as wind-driven dust or rain or rain loads themselves act as structural loads and can contribute to other weathering agents.

Biological agents carried by the atmosphere can result in fungi or moulds on surfaces while chemical agents in atmospheric moisture (e.g., rain or water vapour) or by direct deposition can lead to corrosion in metals or deterioration in concrete.

# Potential Impact Summary

Climate change has the potential to impact on buildings as a result of;

- Increasing health and safety risks for occupants.
- Reduction in the quality of the indoor.
- Premature deterioration and reduction of design safety factors.
- Reduced service life and functionality of components and systems.
- Increased risk for catastrophic failure.
- Increased repair, maintenance, reserve fund and energy costs.
- Increase in service disruptions and emergencies.
- Increased liability.

Some of these potential impacts such as increases in energy, maintenance, repair and eventually insurance costs can be viewed as indirect effects of climate change can.

Another indirect impact is related to the uncertainty caused by changing climactic conditions that is undermining the meteorological data used to design buildings and infrastructure.

Cont'd on Page 20

# **Climate Change**

Cont'd from Page 19

# **Summary**

When it comes to existing buildings the most expeditious manner to respond would be in undertaking a formal literature review that would enable us to assessing the risk for all occupancy types and substantially increasing the funding, research and general attention given to the topic.

This effort would also assist in determining what standards may be required to address mitigating the impact on existing buildings and to determine what policies, codes and/or standards need to be modified or created.

Building scientists are already developing strategies that will enable structures to resist the effects of climate change. Engineers are taking a similar approach with regard to infrastructure components such as roads, bridges, electrical distribution systems and the water distribution/marine infrastructure.

Taken as a whole these apparent changes in our external and built environments will represent a huge challenge for the people who deal with these components of modern buildings — architects, engineers, technologists and building scientists.

Our next article will deal with some of the steps that building owners and operators can take to minimize or eliminate the effects of climate change on the performance of the building enclosure.

### About the Authors:

Petr Vegh, Ph.D., P.Eng. the Head: Structural Group of exp. Petr is also is a Member of the Executive Council International Association for Shell Structures (IASS) Association and a Reviewer of the International Journal of the IASS. Petr can be reached at Petr.Vegh@exp.com.

Greg Hildebrand, C.E.T., M.Sc. (Eng) is the Head, Façade Engineering Group, Building Engineering Team and is Chair of the CAN/CSA A440 task group. Greg can be reached at greg.hildebrand@exp.com.

Brian Burton is an R& D specialist for exp as is a certified CGSB/ICPI Construction Inspector. brian. burton@exp.com or visit www.exp.com. •

# **Site Conditions**

Cont'd from Page 17

Documents call for pretty much the same Work, and that any difference can be solved by a no credit Site Instruction.

- 13. The Bid Caller has a duty to disclose all known material circumstances or to clearly warn the Bidder to investigate and take the risks.
- 14. While, the Bidder should exhaust its opportunity to investigate and seek clarifications or addenda so as to be able to reasonably take off a Bid Price from the Bid Documents.
- 15. And, the Bidder should assure that the spec'd Contract B (the Construction Contract) has the usual CCDC/CCA dispute and deferral terms so that it can start and complete what the Bid Caller wants, while continuing to be entitled to a fair award on its Extras claims.
- 16. Otherwise, if the Construction Contract spec'd in the Bid Documents does not have these usual terms, the Bidder runs the risk of having to refuse to work and later having to pay the extra expenses of a competitor to do its Work because it was unable to satisfy the Judge that there was a substantial difference between the Bid Documents and the Construction Documents to the degree causing "a change to the very character of the Bidder's Work." ◆



Milenko Varjacic and Stephanie Fargas of the Toronto Chapter rub shoulders with Mike Holmes at Construct Canada in December.



31 October 2011

### Dear Valued Member:

The benefits of CSC Membership are extensive and should appeal to a wide audience ranging from the young emerging professional to the seasoned construction veteran. Networking opportunities, Education and Professional Development, Quality Documents, Publications, Construction Canada Magazine, Group Insurance and the Annual National Conference head the list. Our challenge is to make potential candidates aware of these benefits and to promote our Organization within the construction community and beyond. Sharing your own personal CSC testimonial with these people is a simple gesture that could prove to be the most effective form of promotion.

I would like to take a moment to remind members of the "Associate Member" membership category created in 2009. This was done to recognize the challenges of our emerging professionals, and this category helps address those needs for the first two years of their CSC Membership. Please take a moment to identify a friend, colleague or industry member who would benefit from the Associate Membership category and personally invite them to join CSC.

This year's New Membership Drive starts November 1, 2011 and will continue until February 24, 2012. Each CSC Sponsoring Member will be entitled to one ballot for each new member that they sponsor, which will be entered into a Prize Draw scheduled to coincide with the March 2012 Board of Directors meeting. Prizes will be awarded as follows:

- 1<sup>st</sup> Prize: an Apple 64 GB iPad with WiFi+3G or other equivalent prize of similar value 2<sup>nd</sup> to 5<sup>th</sup> Prizes: an Apple 32 GB iPod touch or other equivalent prize of similar value

Winners will be notified following the Board of Directors meeting, with an announcement to the membership within a reasonable time period after the recipients have been notified. Only one prize will be awarded to any individual; however, the more new memberships obtained means the greater the chance of any individual's ballot being drawn.

Membership packages should be available from your local Chapter and a downloadable Membership Application Form is available at www.csc-dcc.ca under the Membership/Membership Application Tab in French or English.

"I am CSC"

Yours sincerely,

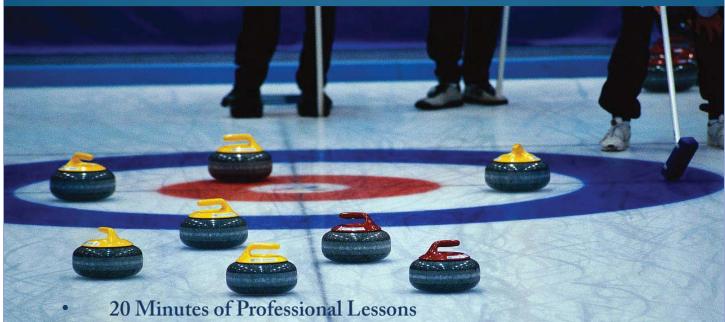
Peter S. Emmett, CCCA 4<sup>th</sup> Vice President

Membership, Communications and Chapter Development





# Friday, February 24, 2012. 4<sup>th</sup> ANNUAL CURLING BONSPIEL



- Six ends of Curling
- Must wear Sports Attire
- Bring Curling Shoes or Clean Running Shoes (No Leather Soles)
- Bring your Curling Broom if you have one
- Business Casual Dinner (no jeans/running shoes)
- Famous Roast Beef Dinner (please advise of dietary constraints)

Location: Toronto Cricket, Skating & Curling Club
141 Wilson Avenue, Toronto, ON. M5M 3A3
Curling & Dinner: \$80.00 per person (incl. HST & gratuities)

Curling: 2-4 pm – Cocktails (Cash Bar) 4-5 pm – Dinner 5-8 pm





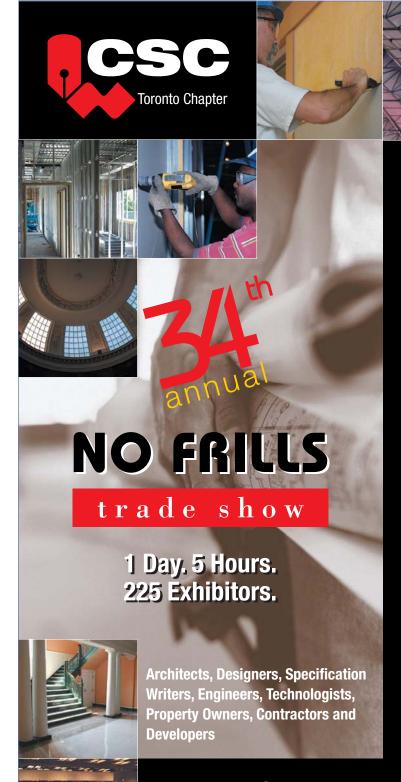
# Friday, February 24, 2012. 4<sup>th</sup> ANNUAL CURLING BONSPIEL

# **Event Registration**

Name:	Email:				
Company Name:					
Address:					
City:	Province:	Postal Code:			
Tel:	Fax:	Cell:			
	ADDITION	AL GUESTS			
Name :	Name :_				
Name :	Ar	re your guests part of your team: Yes/No.			
	PAYMENT INF	ORMATION*			
Payment method: V	isa: Cheque: S	Sponsorship Voucher:			
• Registration and payr	nent by VISA is only thru' o	ur website payment service at www.csctoronto.ca			
• Registration and payn	nent by Sponsorship; please	send this form to the address below			
• Registration and payment by cheque; please send this form and payment to the address below					
GOLD, PLATINUM AN	ND DIAMOND CHAPTER	SPONSORS HAVE TWO FREE TICKETS TO			
THIS EVENT. NO ADJUSTMENTS OR REFUNDS WILL BE ISSUED FOR NON-USE					
	FINAL B	ILLING			
I am magistaring.					
		aature:			
Total Amount Due: \$	(A receipt will be	issued) Date:			
		apter; P.O.Box 349. Pontypool, ON. L0A 1K0. r@csctoronto.ca - www.csctoronto.ca			

Curling & Dinner \$80.00 per person (includes HST & gratuities)

\*cancellation fee of \$10.00 p/p applies



If you want to stay up-to-date in the Building Construction Industry

# You Cannot Afford to Miss This Show!

# Monday, March 5, 2012 1:15 pm to 6:00 pm

- Constitution Hall Metro Toronto Convention Centre (North Building)
- 255 Front Street West, Lower Level, Room 105

# YOU KNOW THE SHOW.

- Get comprehensive construction-related information
- Network with industry professionals
- See 225 exhibits

# BE THE FIRST TO GET THE LATEST

- Receive a valuable tool a trade show booklet which cross-references exhibitors and their products
- Keep informed with the latest technologies and products that will impact your project

Visit our website for more details: www.csctradeshow.com

THE BEST ONE DAY SHOW

IN THE CONSTRUCTION INDUSTRY!



# **TRADE SHOW 2012**

Monday, March 5, 2012

# Registration Form and Invoice

elephone number and name of person in you	ll company name, address, ur organization who will	Date Stamp	
co-ordinate your participation.			
Organization			Registration #
Address			
City	Postal Code		
Telephone No. Fax No.		E-Mail Address	
Contact Person			
Don't be late! gistration Deadline J. 2012	ndicate type of table ar	nd number (maximur	m of 2)
gistration Doubles February 1, 2012	able type is on a paid fi	•	•
		CSC Memb	er Non-Member
1 2 Aisle Table(s)		\$750.00 e	a. \$1030.00 ea
1 2 Wall Tables(s)		\$900.00 e	a. \$1180.00 ea
1 2 Wall Tables(s) with El	ectrical Service	\$1000.00	ea. \$1280.00 ea
Guest Speaker Lunc	heon \$475.00 Table of	f.8	5.00 per person
		Δ χψο	0.00 per perderi
Wine Sponsor	\$300.00		
Wine Sponsor		of exhibitor ADD - 1	
Cancellation Policy: A \$100 administration charge	e will be deducted from all refunds o		
cancellation Policy: A \$100 administration charge egistration fees on receipt of an exhibitor's reques	e will be deducted from all refunds o t for cancellation. Cancellation requ		
Cancellation Policy: A \$100 administration charge egistration fees on receipt of an exhibitor's reques	e will be deducted from all refunds o t for cancellation. Cancellation requ	ests that are	
Cancellation Policy: A \$100 administration charge egistration fees on receipt of an exhibitor's reques	e will be deducted from all refunds of the cancellation. Cancellation required and the cancellation had be refunded.  Mail registration form  Toronto Chapter Tra	n with cheque to: ade Show	
Cancellation Policy: A \$100 administration charge egistration fees on receipt of an exhibitor's reques eceived by our office later than Friday, December	e will be deducted from all refunds on the cancellation. Cancellation required a control of the cancellation for the cancel of t	n with cheque to: ade Show P.O. Box 349	
Cancellation Policy: A \$100 administration charge egistration fees on receipt of an exhibitor's reques ecceived by our office later than Friday, December	e will be deducted from all refunds of the cancellation. Cancellation required, 2011 will not be refunded.  Mail registration form  Toronto Chapter Tra 131 Corbett Drive,	n with cheque to: ade Show P.O. Box 349 A 1K0	
Cancellation Policy: A \$100 administration charge registration fees on receipt of an exhibitor's reques received by our office later than Friday, December	e will be deducted from all refunds of the cancellation. Cancellation required, 2, 2011 will not be refunded.  Mail registration form  Toronto Chapter Tra 131 Corbett Drive, Pontypool, ON LO, Toll Free/Fax: 1-888	n with cheque to: ade Show P.O. Box 349 A 1K0 B-494-9350 ment by cheque payal	TOTAL: \$



# Ironically, these blueprints couldn't be greener.



We know that architecture is about so much more than designing a better home. It's about

designing a better planet. That's why we created EcoTouch™ PINK™ FIBERGLAS® Insulation. It's made from natural® materials, it's formaldehyde-free and it's guaranteed to provide the same thermal performance that Canadians have counted on for decades. For an insulation product that's durable and dependable, think PINK™. It's the best way to go green.



### Why choose EcoTouch™ PINK™ Insulation?

- Designed by a leader in energy efficiency
- Made from 73%\* recycled content
   3rd party SCS certified
- Made with 99% natural\*\* materials
- GREENGUARD Indoor Air Quality Certified<sup>SM</sup> and formaldehyde-free
- Durable & dependable
- Helps your project meet LEED® Certification

# I-800-GET-PINK® or visit www.owenscorning.ca







# GYPSUM ON A ROOF IS JUST DEAD WEIGHT

Insulate and Protect with High Strength Polyiso Cover Board from Atlas.



A revolution in commercial roof protection, ACFoam®-HS CoverBoard offers the strength required to resist damage from foot traffic and heavy roof loads, keeping the insulation secure beneath the roofing membrane.

- Lighter Weight
- Higher R-value
- Faster Installation
- Use in virtually any application

INSTALL THE NEW ACFOAM®-HS COVERBOARD ON YOUR NEXT JOB!

For system compatibility and FM approval ratings visit us at: www.AtlasRoofing.com



# **CSC Course Descriptions and Registration Information**

# Specifier 1

The Specifier 1 course is an intermediate level course that will take the individual beyond the concepts previously introduced in the PCD course. Although some of the same topics are included in this course, the depth of comprehension and explanation exceed that of the PCD course. The Specifier 1 course is a prerequisite for the Certified Specification Practitioner (CSP) designation. Successful completion of the course may be credited toward the experience component requirements for the Registered Specification Writer (RSW) designation.

The course is designed for the individual involved with the preparation of the project manual /specification

Specifier 1 and Specifier 2 can be taken in any order. Students must have completed the PCD course to take Specifier 1 or Specifier 2.

### **Course Outline:**

- Industry Participants and Documents Review
- The Specifier and Contract Administration
- Regulatory Requirements and Master Specifications
- · Specification Production
- Specifier as a Research and Information Resource
- Information Storage and Retrieval
- Short Form Specifications and Check lists
- Preliminary Project Descriptions and Outline Specifications
- Contract Documents and Contractual Issues
- Selecting Building Materials

# **Specifier 1 Course Information**

Course begins: Wednesday, January 11, 2012

From 6:00 p.m. to 8:15 p.m. and will run for 13 weeks

(ending May 2, 2012)

**Location:** Fairview Public Library

35 Fairview Mall Dr., Room A, 4th Flr., Toronto **Cost** (includes all course materials and taxes):

CSC members: \$500.00 (incl. \$57.52 HST) Non-members: \$550.00 (incl. \$63.27 HST) Sign up before Friday, December 23, 2011.

# Construction Contract Administrator (CCA)

Contract administration involves making decisions and the timely flow of information and decisions to enable project completion as required by the contract documents, including review and observation of the construction project. This is important to the Owner and Consultant not only to determine that the work is proceeding in conformity with the contract documents, but also because it allows a final opportunity to detect any inaccuracies, ambiguities or inconsistencies in the design.

The objective of the CCA program is to improve construction contract administration by providing education related to the administration and enforcement of contract requirements during the construction phase of the project.

This advanced level course will take the individual beyond the concepts previously introduced in the PCD course. Although some of the same topics are included in this course, the depth of understanding and explanation exceed that of the PCD course.

The course is designed for those individuals involved in construction administration, including Contract Administrators, Property Managers, Architects, Engineers, Interior Designers, Specification Consultants, Building Authorities, and Bonding and Insurance Agencies.

This course is a requirement for the Certified Construction Contract Administrator (CCCA) designation.

#### **Course Outline:**

- Construction Industry participants
- Bidding Requirements and Process
- Alternatives and Substitutions
- Standards and Regulatory Influences
- Site Activities
- Execution of the Work
- Certificate of Payment
- Changes in the Work
- Dispute Resolution

Cont'd on Page 29

# CSC Course Descriptions and Registration Information (cont'd)

### Cont'd from Page 28

- Construction Insurance
- · Construction Surety Bonds
- Guaranties and Warranties
- Project Submittal
- Field Services and Quality Control
- Clerk of the Works
- Contract Close-Out
- Commissioning
- Definitions and Resources

## **CCA Course Information**

### Course begins: Monday, January 9, 2012

From 6:00 p.m. to 8:15 p.m. and will run for 14 weeks (ending April 2, 2012)

### **Location:** Fairview Public Library

35 Fairview Mall Dr., Room A, 4th Flr., Toronto **Cost** (includes all course materials and taxes): CSC members: \$500.00 (incl. \$57.52 HST) Non-members: \$550.00 (incl. \$63.27 HST) Sign up before Friday, December 23, 2011.

# Technical Representative (TR)

The Technical Representative (TR) course will provide a better understanding of contract documents and bidding procedures, product representation, professionalism and ethics, and will provide a new depth of understanding and explanation of concepts beyond what was previously introduced in the PCD course.

The course is designed for the individual involved in the supply section of the construction industry. This includes the manufacturer representative, agent or distributor. The student must have successfully completed the Principles of Construction Documentation (PCD) course.

This advanced-level course will take the individual beyond the concepts previously introduced in the PCD course. Although some of the same topics are included in this course, the depth of understanding and explanation exceed that of the PCD course. This course is the final step of the education component needed for the Certified Technical Representative (CTR) designation.

### **Course Outline:**

- The Project Manual and Drawings
- The Technical Representative and Consultants
- Construction Product Selection Process
- Materials Selection and Substitutions
- Construction Product Representation
- Effective Technical Assistance
- Information Management and Product Literature
- Product Presentation Techniques
- Contract Liability and Warranties
- Bonds and Insurance
- Material and Product Standards
- Workmanship, Quality, Codes and Standards
- Liens and Liens Legislation
- Contract Administration and Field Services

### TR Course Information

### Date begins: Monday, January 9, 2012

From 6:00 p.m. to 8:30 p.m. and will run for 16 weeks (ending April 30, 2012)

### Location:

120 Carlton St., Room 5, Toronto

**Cost** (includes all course materials and taxes):

CSC members: \$500.00 (incl. \$57.52 HST) Non-members: \$550.00 (incl. \$63.27 HST) Sign up before Friday, December 23, 2011.

If you have any questions about the courses listed above, please contact Emily Chau, Professional Development Officer at 416-499-3181, ext 1155 or via email at echau@morrisonhershfield.com. Visit http://toronto.csc-dcc.ca/Education/Education+in+Toronto/ to register.



# Construction Specifications Canada Grand Valley Chapter

# Meeting Notice - Lunch Seminar

Painting 101 – Painting with Low VOC's
With Guest Speakers Steven Duncan-SDP Renovations,
Rick Williams-Sherwin Williams, and Murray HeywoodHeywood Innovative Solutions

Stephen Duncan of SDP Renovations has been in the painting and finishing industry since 1990. Focus is primarily in the architectural coatings market place. Clients range from residential, commercial, and institutional.

Rick Williams is a Corrosion Specification Specialist with Sherwin-Williams. Rick has 42 years in the industry with 20 years with Sherwin-Williams. Rick is a NACE Certified Coating Inspector and a SSPC Protective Coating Specialist.

Heywood Innovative Solutions (**HIS**) was established in April 2010 by Murray Heywood. Murray has over 30 years of experience in the paint and coating industry in all key roles including contractor/applicator, sales representative, Industrial Coating Specialist, NACE Level 3 Certified Coating Inspector and technical advisor for several major coating manufacturers. He formed Heywood Innovative Solutions (**HIS**) as a logical progression to his career in order to focus more directly on providing effective solutions and for his Clients.

### Replacing Traditional Solvent Based Paint with Water Based Alternatives

We will provide a brief overview of the Canadian Federal Regulation; discuss its impact on your business and the changes you need to make. We will look at the different coatings available, their relative performance and how to select the right one for your project. Change can be a good thing if done properly!

# Alkyds and Conventional Latex versus New Water Based Acrylic, Epoxy and Urethane Technology

Focus will be on common architectural projects and substrates including, gypsum board, masonry block, metal doors and frames, and wood trim. How to choose and specify a paint system for the project requirements will be discussed, highlighting the pros and cons for each system. We will look at common errors and how to correct or avoid them.

When: January 18, 2012 Time: 11:30 – 1:30

Where: Grand Valley Construction Association

25 Sheldon Drive Cambridge, ON

\$20 Members \* \$25 Non-Members
Payment by Cash or Cheque at the Door \* Make Cheques Payable to CSC
Grand Valley Chapter
RSVP Jane Fish – No later than November 21st, 2011
jane.fish@melloul.com

# Save the Date

February 2012 – Flooring Details March 21 – Security Systems April - ICF (Insulated Concrete Forms)

### **Grand Valley Executive**

David Boyle, CTR W.R. Meadows Chapter Director & President

Mary Kay Bailey, CTR
Forbo Flooring
Treasurer

Andrew Michaud Garland Canada Marketing Officer

Cathie Schneider, CTR Stonequest Secretary

Colin Goheen, CTR
Battlefield Equipment
Marketing Officer

**Gregg Jackson**Armstrong
Membership Officer

Jane Fish, CCCA Melloul-Blamey Construction Inc.

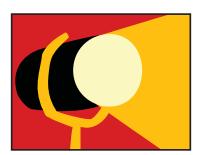
John G. Smith Dryvit Systems Canada

Mel Lavoie, CCCA
Waterloo Region District School
Board
Membership Officer

Paul Gerber MMMC Inc. Architects Specifications/Architect Liaison

> CSC Website http://csc-dcc.ca





# Put the spotlight on you!

Advertising in the *Toronto* Specifier offers the benefit of distribution to a minimum of 700 members every month for 10 issues (September 2011 to June/July 2012). The issue preceding the No Frills Trade Show is forwarded to the four other Ontario CSC chapters in addition to our regular e-mail distribution. The cost for the advertisement is as follows:

Single ad \$300.00 + \$39.00 HST = \$339.00

Double ad \$520.00 + \$67.60 HST = \$587.60

To returning advertisers, we would like to express our thanks for your support and we look forward to your continued sponsorship. Advertisers must be a member of CSC with a maximum of one (1) name per single business card ad and three (3) names per double business card ad.

# take the spotlight

# CSC Business Card Advertising

Reserve an ad space in the Toronto Specifier newsletter for the 2011/2012 season

Single ad  $\emptyset$  \$300.00  $\pm$  \$30.00 HST - \$339.00

# For more information, please contact:

Steve loannides, Media Committee Chair at (647) 231-5542
To reserve your spot, complete and fax this form to
Donna Fournier at (888) 494-9350

HST #R1069700973

# MAKE CHEQUE PAYABLE TO CSC TORONTO CHAPTER

Mail payment to P.O. Box 349, Pontypool, ON LOA 1KO

# CSC TORONTO CHAPTER SPONSORSHIP PACKAGES

## Dinner Sponsorship \$195

- One complimentary dinner ticket
- A table top display before and after dinner
- A three minute PowerPoint presentation that will loop throughout dinner
- A one-page electronic advertisement that is included in the previous month's Specifier
- Advanced notification of your display dates in the Specifier
   Choice of monthly dinner sponsorship is on a first-come, first-served basis



# Bronze Sponsorship \$400

- One Dinner Sponsorship
- Single Business Card ad placed in the Specifier for 10 issues (one name only/\$50 charge for changing the card during the print run)
  - Cost of package if purchased individually: \$515

## Silver Sponsorship \$650

- One Dinner Sponsorship
- Double Business Card ad placed in the Specifier for 10 issues (three names maximum on business card/\$50 charge for changing the card during the print run)
- Company name and logo posted on CSC Toronto Chapter website (July to June) *Cost of package if purchased individually: \$745*

## Gold Sponsorship \$1,450

- Bronze Sponsorship Benefits, as well as the following:
- Registration for CSC No Frills Trade Show (aisle table)
- Two tickets to CSC Social Event (Curling Bonspiel or Fun Night)
- Website Package, which includes: Company name and/or logo recognition on the Toronto Chapter website
- Hot link to your home page, or page link provided to us
- Will run for 12 months (July to June)

  Cost of package if purchased individually: \$1,920

### Platinum Sponsorship \$2,050

- Bronze Sponsorship Benefits, as well as the following:
- Registration for CSC No Frills Trade Show (Wall Table, no electricity)
- Website Package, which includes: Company name and/or logo recognition on the Toronto Chapter website
- · Hot link to their home page, or page link provided to us
- Will run for 12 months (July to June)
- Golf Day Package (includes four tickets for golf and dinner) Cost of package if purchased individually: \$2,615

### Diamond Sponsorship \$2,830

- Platinum Sponsorship Benefits, as well as the following:
- Upgrade to Wall Table with electricity at CSC No Frills Trade Show
- CSC No Frills Luncheon Table (eight tickets)
- CSC No Frills Luncheon Wine Sponsorship
- Plaque presented to sponsor at upcoming dinner meeting recognizing Diamond Sponsorship. *Cost of package if purchased individually:* \$3,690

Construction Specifications Canada | Toronto Chapter P.O Box 349, 131 Corbett Drive | Pontypool | Ontario | LOA 1K0 | Telephone/Facsimile: 1-888-494-9350 web: www.csctoronto.ca

# CSC TORONTO CHAPTER – ANNUAL SPONSORSHIP APPLICATION



## Please complete the form below:

Company name:	
Contact person:	
Company address:	
Phone:	Fax:
Email:	
Please select sponsorship level:	
Dinner Sponsorship (\$172.57 + \$22.43 HST = \$195)	Gold Sponsorship (\$1,450 + \$188.50 HST = \$1,638.50)
Bronze Sponsorship (\$400 + \$52 HST = \$452)	Platinum Sponsorship (\$2,050 + \$266.50 HST = \$2,316.50)
Silver Sponsorship (\$650 + \$84.50 HST = \$734.50)	Diamond Sponsorship (\$2,830 + \$367.90 HST = \$3,197.90)
Payment method:	
Cheque only (enclose with application)	
Please make cheques payable to: CSC Toronto Chap	ter
Mail the completed form together with payment t	o:
CSC Toronto Chapter P.O. Box 349 131 Corbett Drive Pontypool, ON LOA 1K0	
For more information, contact Russell Snow at rsnow 1-888-494-9350.	@wrmeadows.com or call Donna Fournier at
Note:	

Sponsorship is applicable from September 1, 2011 to August 31, 2012.

Sponsors are to provide business card ad.

Silver sponsors are to provide company logo for posting on the CSC website.

Gold and higher level sponsors are to provide company logo and link to company website.

HST# 106970973RT

# 2011/2012 Executive Committee

# **Chapter Chair**

Steve Gusterson, CTR Alumicor Limited tel: (416) 745-4222 | fax: (416) 745-7759 e-mail: s.gusterson@alumicor.com

### **First Vice-Chair**

Russell Snow, B.Sc., CTR, CSP, LEED AP W.R. Meadows of Canada tel: (905) 878-4122 | fax: (905) 878-4125 e-mail: rsnow@wrmeadows.com

### **Second Vice-Chair**

Mark Clemmensen, B.Arch, RSW, LEED AP Petroff Partnership Architects tel: (905) 754-3314 | fax: (905) 470-2500 e-mail: mclemmensen@petroff.com

### **Chapter Director**

Steve LeBlanc, CTR
CGI Contract Glaziers
tel: (416) 659-6018 | fax: (519) 946-3509
e-mail: sleblanc@contractglaziers.com

### **Past Chair**

Isabelle Champagne, CTR Chicago Metallic tel: (647) 269-8580 e-mail: champagnei@chicagometallic.com

### **Treasurer**

Paraic Lally Roxul Inc. tel: (905) 875-9331 e-mail: paraic.lally@roxul.com

### **Secretary**

Donna Fournier CSC Toronto Chapter tel: (888) 494-9350 | fax: (888) 494-9350 e-mail: djfournier@csctoronto.ca

### **Architectural Officer**

Brian Abbey, MAATO, BSSO, A.Sc.T, BCQ Adtek Building Consultants tel: (416) 932-3278 | fax: (416) 932-1393 e-mail: brian.abbey@adtekbuilding.com

### **Contractor/Trade Officer**

Vacant

### **Engineering Officer**

Bob Rymell, P.Eng. RBS Consulting Engineers tel: (705) 436-1392 | fax: (705) 431-2988 e-mail: r.rymell@rbsengineering.ca

# **Interior Design Officer**

Susan Tienhaara, ARIDO, IDC, NCIDQ cert. BCQ IBI Group tel: (416) 596-1930, ext 1216 | fax: (416) 596-0644 e-mail: stienhaara@ibigroup.com

# **Manufacturer/Supplier Officer**

Vacant

## **Membership Committee Officers**

Stacey Bogdanow
W.R. Meadows of Canada
tel: (905) 878-4122 | fax: (905) 878-4125
e-mail: sbogdanow@wrmeadows.com
Dinshaw Kanga, FCSC

tel: (416) 229-2317 | fax: (416) 229-4111 e-mail: dkanga@gmail.com

### **Media Committee Officers**

## **Committee Chair/Content Co-ordinator**

Steve loannides, B.Eng., CTR, LEED AP ASI Watrous, Inc. tel: (905) 420-5542 | fax: (905) 420-9988 e-mail: steve@asiwatrous.com

### **Newsletter Editor**

Lori Brooks tel: (905) 550-0455 e-mail: lori.brooks@rogers.com

#### **Website Editor**

Mark Clemmensen, B.Arch, RSW, LEED AP Petroff Partnership Architects tel: (905) 754-3314 | fax: (905) 470-2500 e-mail: mclemmensen@petroff.com

## **Marketing Officer**

Russell Snow, B.Sc., CTR, CSP, LEED AP W.R. Meadows of Canada tel: (905) 878-4122 | fax: (905) 878-4125 e-mail: rsnow@wrmeadows.com

### **Professional Development Officer**

Emily Chau
Morrison Hershfield Limited
tel: (416) 499-3181, ext 1155
fax: (416) 499-9658
e-mail: echau@morrisonhershfield.com

# **Program Committee Officers**

Bruce Hudson, CTR
Sika Canada Inc.
tel: (905) 795-3177 | fax: (905) 795-3192
e-mail: hudson.bruce@ca.sika.com
Chris Hunter, CTR, RRO

Firestone Building Products tel: (888) 292-6265, ext 77680

fax: (877) 666-3022

e-mail: hunterchris@firestonebp.ca

### **Specifications Officer**

Matthew Roberts, MAATO, RSW, CSI, CDT, ASSOC. AIA B+H Architects tel: (416) 596-2299 | fax: (416) 586-0599 e-mail: matt.roberts@bharchitects.com

### **Student Officer**

Peter Wong, RSW, CCCA, LEED AP PADA Specifications Inc. tel: (905) 471-2928 e-mail: peter.wong@padaspecs.ca

### **Trade Show Chair**

**Bob Mercer** 

CGC Inc. tel: (905) 803-5614 | fax: (905) 803-4356 e-mail: bmercer@cgcinc.com

The Toronto Specifier is published by the Toronto Chapter of CSC (Construction Specifications Canada). Copyright © 2012 Construction Specifications Canada. All rights reserved.

CSC is a non-profit association committed to the ongoing development and delivery of quality education programs, publications and services for the betterment of the construction community.

Disclaimer: The opinions and comments expressed by the authors do not necessarily reflect the official views of Construction Specifications Canada. Also, appearance of advertisements and product or service information does not constitute an endorsement of products or services featured.