



AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS INC.

LONDON CANADA CHAPTER #116

<http://LondonCanada.AshraeChapters.org>

Mon Sept 28/2009

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TOUR & TOPIC:

Natatorium Environmental Control

Mr PATRICK REYNOLDS

Vice President, PoolPak International
York, Pennsylvania

Meeting - Mon SEP 28/2009

TOUR

WESTERN STUDENT RECREATION CENTRE

4:45pm - meet at front lobby

UNIVERSITY OF WESTERN ONTARIO

parking has been arrange in the South Valley Lot
see the attached map
(enter off Philip Aziz Rd)

4:45 tour

6:15-Dinner(after tour)
Windermere Manor
Western Research Park

\$35.00 for London Chapter dues paid members
or \$175.00 for meal plan

\$10.00 for Students with valid student card

\$45.00 for others





President's Message:

Wow! What a summer to remember... We never did get the heat that we needed to make this a normal one... and the rainfall !!

As we enter the fall season, the ASHRAE London Chapter Executive is busy planning another program year consisting of guest speakers, technical tours, and events to bring your way.

We have a program plan in place for this year, and will be starting off the September meeting with a UWO – Sports & Recreation Complex Tour, followed by a presentation by an ASHRAE Distinguished Lecturer.

We will be changing our meeting location a few times during the year to add some change of scenery, and to provide a more balanced access to the meetings for the membership.

There have also been some changes to our Board of Governors this year – we have re-instituted a 2 year term for the main chairs of the executive – this helps to stabilize the process by giving additional time to the individuals as they move through the chairs, and also will provide additional time to groom new board members moving into the positions as they become available.

At the Windsor CRC, the Region II Executive passed a fee increase on to the individual chapters to increase the amount per member that we pay into the Regional Fund. We have also experienced an increase in the meal rates at the Lamplighter over last year, and we have been exploring alternative venues to see if we can hold the cost increases to a minimum. There will be an increase to the meal costs for members, non members, and also the meal plan this year – the meal plan is still the best deal if you attend most of the meetings.

We are planning to add a few additional technical tours and events this year, and would welcome suggestions & input from the membership for places or topics that would be of interest you all.

In closing, I look forward to seeing you all at the upcoming London ASHRAE Technical Tour and Chapter Meeting next week up at the UWO – with the meal and speaker being hosted at the Windermere Manor.

Eric Shaw

President - ASHRAE London Canada Chapter

ASHRAE Research

For the 2008-09 ASHRAE Research year, the local contribution grand total was \$11,476.00.

The total raise by Society was \$ 2,038,328

Thanks for everyone helping out in raising these funds for ASHRAE Research and I'd like to send a special thanks to Hugh Palser for looking after the golf hole sponsorships which raised over \$3,200. Great job!

Scott Edmunds

Research Promotion Chair - ASHRAE London Chapter



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Student Award

ASHRAE AWARD

The ASHRAE London Award is a semi-annually award given to the fourth year engineering student in the department of Mechanical and Materials Engineering at the University of Western Ontario (UWO), based on the candidate's marks in HVAC I and HVAC II courses. Moreover, the student must have a minimum Year Weighted Average of 70 percent and taken five full courses during the year.

This Year, the Spring/Summer ASHRAE award was granted to Mr. Mathew Heffernan. Mathew has achieved Dean's Honour List status each year, with cumulative average of almost 90%. His fourth year Mechanical Engineering Design was recognized and selected as the "BEST" design out of 30 projects. In addition to impressive educational accomplishments, Mathew was awarded



Dr. Susan Rodger Student Leadership award for his service and dedication to engineering students with the Leadership and Mentorship Program (LAMP) at UWO. Mathew Robotics Team was ranked 3rd in year 2006 & 1st in year 2007 during the University of Waterloo Autonomous Robot

Competition. Mathew was offered a 16 month internship with Research in Motion (RIM), where he worked as Engineering Project Manager. He was also granted the RIM Campus Ambassador position for UWO during his final engineering school year. Mathew is currently working for RIM as Quality Project Specialist, and he is looking for any HVAC and Biomedical Career opportunities in the future.

It was my honour, as the Student Activity Chair for the local ASHRAE chapter, to present this award to a highly educated and hard working young engineer, Mathew Heffernan. ASHRAE and the local chapter would like to wish you a bright and successful future.

Ibrahim M. Simhat

Student Chair - ASHRAE London Canada Chapter



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Speaker

PATRICK J. REYNOLDS

**Vice President, PoolPak International
York, Pennsylvania**

Patrick J. Reynolds founded PoolPak International in 1986, and is currently V.P., Sales, Marketing and Service. He received his Mechanical and Aerospace Engineering degree from the University of Delaware in 1967. He received the University of Delaware Mechanical Engineering Department's Distinguished Career award in 2005. He has been a member of ASHRAE since 1979.

Mr. Reynolds has given numerous talks domestically and internationally on all aspects of environmental control for indoor pools.

Prior to his working at PoolPak International, Mr. Reynolds was a Building Energy Management Venture Manager at York International Air Conditioning, York, PA; Senior Business Planner for Mechanical Technology Inc., Latham, N.Y.; Program Manager at the Energy Research and Development Administration and Department of Energy, Washington D.C.; and Project Manager, National Bureau of Standards (now called National Institute of Standards and Technology), Gaithersburg, MD.

In addition to his Mechanical and Aerospace Engineering degree, he did graduate studies in Materials Science at the University of Maryland and Business Administration at Union College, Schenectady, NY.

He is married with one daughter and lives in York, Pennsylvania.

Natatorium Environmental Control

This talk addresses how the HVAC system protects the structure and controls the environment of indoor swimming pools. Maintaining a proper pool environment involves numerous factors. They include controlling pool water chemistry, space temperature and humidity, pool water temperature, proper air distribution and following sound building construction practices for indoor pools.

This talk starts with a tutorial on proper pool water chemistry. It addresses how poor pool water chlorine chemistry and humidity causes high chloramine levels in the air causing destruction to the metallic materials in the pool room and HVAC equipment, structural damage to the building, premature failure of stainless steel materials through chlorine stress corrosion and respiratory issues with the natatorium occupants. Controlling pool water chloramine concentrations through traditional super chlorination chemistry techniques and with newer methods, such as ultra violet radiation, will be discussed.

The mechanics and economics of numerous methods to control pool room humidity and temperature will be presented. They include the simple dilution with outside air method, passive air-to-air heat recovery systems and mechanical heat recovery with space and pool water heating with recovered heat. This talk will look at the materials that have shown to be the most durable in this environment for HVAC equipment, as well as materials that do not stand up to the harsh pool room air.

In addition to selecting the proper mechanical equipment selection, this talk will address the proper way to distribute air in a pool room. Lastly, proper window construction, thermal breaks in window and door frames and the proper way to install vapor barriers in the natatorium walls will be described.

Next Meeting - Mon Oct 26/2009

Topic: LEED IS NOT COMMISSIONING
Speaker: William (Bill) McCartney, CPMP
Isotherm Engineering Ltd





ASHRAE London News

With another year of ASHRAE activities before us the ASHRAE London Chapter Board of Governors has met and approved our fiscal 2009/2010 plan.

Expected cost increases across have again put pressure on our existing financial model to maintain a balanced budget. To offset the cost increases and to bring our costs in line with other Region II chapters, the following changes have been accepted by the ASHRAE London Board of Governors for implementation in 2009/2010.

The ASHRAE monthly dinner rates will be raised:

- o Meal Plan will be \$175
- o Chapter Member meals will be \$35
- o Guest meals will be \$45
- o Students will be charged a discounted \$10/meal to attend student night

The ASHRAE London Chapter will continue to support community and school events that promote ASHRAE awareness including:
ASHRAE Award
ASHRAE Student Memberships for students wishing to join

The ASHRAE London Chapter will support two student nights to promote ASHRAE awareness to young Engineers & Technologists. Please feel free to contact me if you or your organization wishes to sponsor a student for the upcoming 2009/2010.

I am looking forward to another great year.

2009/2010 Financial Budget

BANK BALANCE, July 1 2009

\$ 17,641.48

Cash Inflows

ASHRAE Monthly Meeting Revenues	\$ 8,030.00
Golf Tournament Revenues	\$ 19,800.00
ASHRAE Membership Chapter Dues	\$ 3,000.00
Promotional Advertisements	\$ 1,100.00
Total income	\$ 31,930.00

Cash Outflows

ASHRAE & Community Involvement	
ASHRAE Award, University of Western Ontario	\$ 1,000.00
ASHRAE Student Sponsorship	\$ 1,232.00
ASHRAE & Community Involvement Total	\$ 2,232.00
ASHRAE Monthly Meeting Expense	\$ 8,470.88
CRC & ASHRAE Regional Expense	\$ 5,600.00
Golf Tournament Expense	\$13,726.11
ASHRAE Board of Government Functions	\$ 300.00
Miscellaneous Chapter/Region Expenses	\$ 1,788.00
Total Expenses	\$(32,116.99)

Budgeted Bank Balance, June 30 2010

\$17,454.50

Jack Maynard

Chapter Treasurer - ASHRAE London Canada Chapter

ASHRAE '10

If You Can't Stand the Heat...Manage the Humidity: ASHRAE Heads to Florida for 2010 Winter Conference

ASHRAE's 2010 Winter Conference will be held in Orlando, Fla., from Jan. 23-27, at the Rosen Shingle Creek hotel. The International Air-Conditioning, Heating, Refrigerating Expo, held in conjunction with the Conference, will run Jan. 25-27. The Expo will take place at the Orange County Convention Center, a short distance from the Conference headquarters hotel.

The technical program will feature more than 90 programs and 300 speakers addressing challenges and solutions to such industry issues as key ASHRAE standards' impact, humidity control applications, sustainable buildings' performance, energy conservation and alternative energy practices and professional skills improvement. The complete technical program will be posted online Sept. 30 at www.ashrae.org/orlando. Those who take advantage of the early-bird registration before Oct. 31 have the opportunity to save up to \$180. Complete information is available at www.ashrae.org/orlando.



Past Presidents Night

On Monday January 25th the London ASHRAE Chapter will celebrate our chapter by having our first ever "Past Presidents night"! We will be sending out invitations shortly to all our Past Presidents to invite them out to what we expect to be a great night. I may be calling on some of our ASHRAE members to get some contact information of some of Past Presidents, as I was not yet a twinkle in my Fathers eye in 1971!

Here is a list of our Past Presidents to date:

1971-72 Jack Vanstone	1991-92 Darryl Boyce
1972-73 Cliff Morrison	1992-93 Owen Glendon
1973-74 John Bisset	1993-94 Peter Ziebart
1974-75 Russ A. Gonder	1994-95 Kirk Flowers
1975-76 Jack Henderson	1995-96 Grant Hillard
1976-77 Wayne Barker	1996-97 Brenda Stonehouse
1977-78 John J. Payne	1997-98 Peter Golem
1978-79 Bill Mitchell	1998-99 Norm Clarke
1979-80 Chuck Sharpe	1999-0 Norm Clarke
1980-81 William Rutherford	2000-01 Dennis Dawe
1981-82 John J. Payne	2001-02 Daryl Somers
1982-83 Richard D. Palser	2002-03 Tom Pollard
1983-84 Walter Lucas	2003-04 Tom Pollard
1984-85 Ronald E. Granger	2004-05 Derek Vakaras
1985-86 Donald M. R. Johnson	2005-06 Joe Claessens
1986-87 John Kenney	2006-07 Scott Turner
1987-88 Peter Golem	2007-08 Scott Edmunds
1988-89 Charles Clemance	2008-09 Eric Shaw
1989-90 Greg James	2009-10 Eric Shaw
1990-91 Tom Drennan Jr.	

We will be sending out reminders in the up coming newsletters to remind everyone, please mark this date in you r calendar and we will look forward to seeing everyone in January.

Jason Vandenberghe

Vice President / CTTC Chair - ASHRAE London Canada Chapter

New ASHRAE Standard Guides Designers in Moisture Control Measures

Moisture and mold don't make the headlines the way they once did, but they are still problems in some structures. Guidance on how to best design buildings with adequate moisture control features is contained in a new standard from ASHRAE. ANSI/ASHRAE Standard 160, Criteria for Moisture Design Analysis in Buildings, formulates design assumptions for moisture design analysis and criteria for acceptable performance.

"If the designer elects to perform a design moisture analysis, the standard requires he or she to think about the interior conditions that will be maintained in the building and the effect that may have on building envelopes," Anton TenWolde, chair of the committee that wrote the standard, said. "The standard provides a methodology for the first time to make consistent design recommendations, such as the need, type and placement of vapor barriers in any climate."

The standard introduces criteria to handle rain, wind and other exterior moisture weather loads.

The cost of ANSI/ASHRAE Standard 160-2009, Criteria for Moisture-Control Design Analysis in Buildings, is \$39 (\$33, ASHRAE members). To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 404-321-5478, or visit www.ashrae.org/bookstore.

ASHRAE, founded in 1894, is an international organization of some 50,000 persons. ASHRAE fulfills its mission of advancing heating, ventilation, air conditioning and refrigeration to serve humanity and promote a sustainable world through research, standards writing, publishing and continuing education.



ASHRAE Operations and Performance Management Certification Available Worldwide

ASHRAE's Operations and Performance Management (OPMP) Certification program has joined the Society's two other existing certification offerings available at testing centers around the world.

ASHRAE member Jim Newman took the exam when it was first offered at ASHRAE's 2009 Winter Conference.

"I teach classes to facility engineers on proper operating and maintenance techniques," said Newman, ASHRAE certified OPMP, Newman Consulting Group, Bloomfield Hills, Mich. "This exam covered all the aspects of operations and maintenance that an engineer would need to know to properly perform not only O&M in a building, but also know what to do to be more effective. Receiving the OPMP designation shows that a person is truly proficient in his/her craft."

The web-based exam is offered at testing centers in more than 200 locations in almost 20 countries. In addition to the United States and Canada, the exam is now offered in countries such as Australia, China, Egypt, Guam, India, Japan, Jordan, Kuwait, Lebanon, Philippines, Puerto Rico, Qatar, Saudi Arabia, Singapore, South Africa, South Korea, Taiwan, the United Arab Emirates, and the United Kingdom. Applicants first apply for the examination through ASHRAE, and if they meet the certification qualifications, register for the examination at a testing center.

"ASHRAE's OPMP certification helps professionals attest that they are well prepared to manage and maintain buildings to fully achieve reliability and their potential energy savings," said Richard Rooley, chair of the committee who developed the exam. "These ASHRAE certified professionals will keep your building's design from fading from green to grey, ensuring the full potential of the energy conserving systems they manage."

Other ASHRAE certifications currently available at testing centers are Healthcare Facility Design Professional and High-Performance Building Design Professional Certification. ASHRAE's Commissioning Process Management Professional launches in June at the Society's 2009 Annual Conference in Louisville, Ky., and will be available at testing centers by the end of August.

Guidance on Sustainability Latest Addition to ASHRAE Handbook

ATLANTA – As economies transition from carbon-based to other forms of more sustainable energy, engineers are being challenged to meet an ever-increasing tide of regulation and demand.

To assist the building environment industry in meeting this challenge, guidance on designing for effective energy resource use is being emphasized in the newest edition of the ASHRAE Handbook.

The 2009 ASHRAE Handbook – Fundamentals, covers basic principles and provides essential data for HVAC&R design. In all, the Fundamentals volume includes more than 1,000 pages and 39 chapters on a variety of HVAC&R topics, covering general engineering information, basic materials, load and energy calculations and duct and pipe design.

The new chapter on sustainability defines this concept for HVAC&R and describes the principles, design considerations, and detailed evaluations needed in designing sustainable HVAC&R systems.

"HVAC&R engineering design on projects concerned with performance and sustainability requires understanding of more than just HVAC&R," said Dave Grumman, who oversaw writing of the chapter on behalf of ASHRAE's technical committee on building environmental impacts and sustainability. "Engineers must consider projected energy and water demands, storm water runoff generation, waste generation and air quality impacts. The guidance in this new chapter will assist engineers as they strive for overall sustainability in buildings."

The chapter covers characteristics of sustainability, factors impacting sustainability, primary HVAC&R considerations in sustainable design, factors driving sustainability into design practice and designing for effective energy resource use. Another change is addition of climate data for 5,564 stations on the CD accompanying the book, an increase of 1,142 stations compared to the 2005 Handbook on the CD accompanying the book. A subset of data for selected stations is included in the printed chapter, Climatic Design Information.

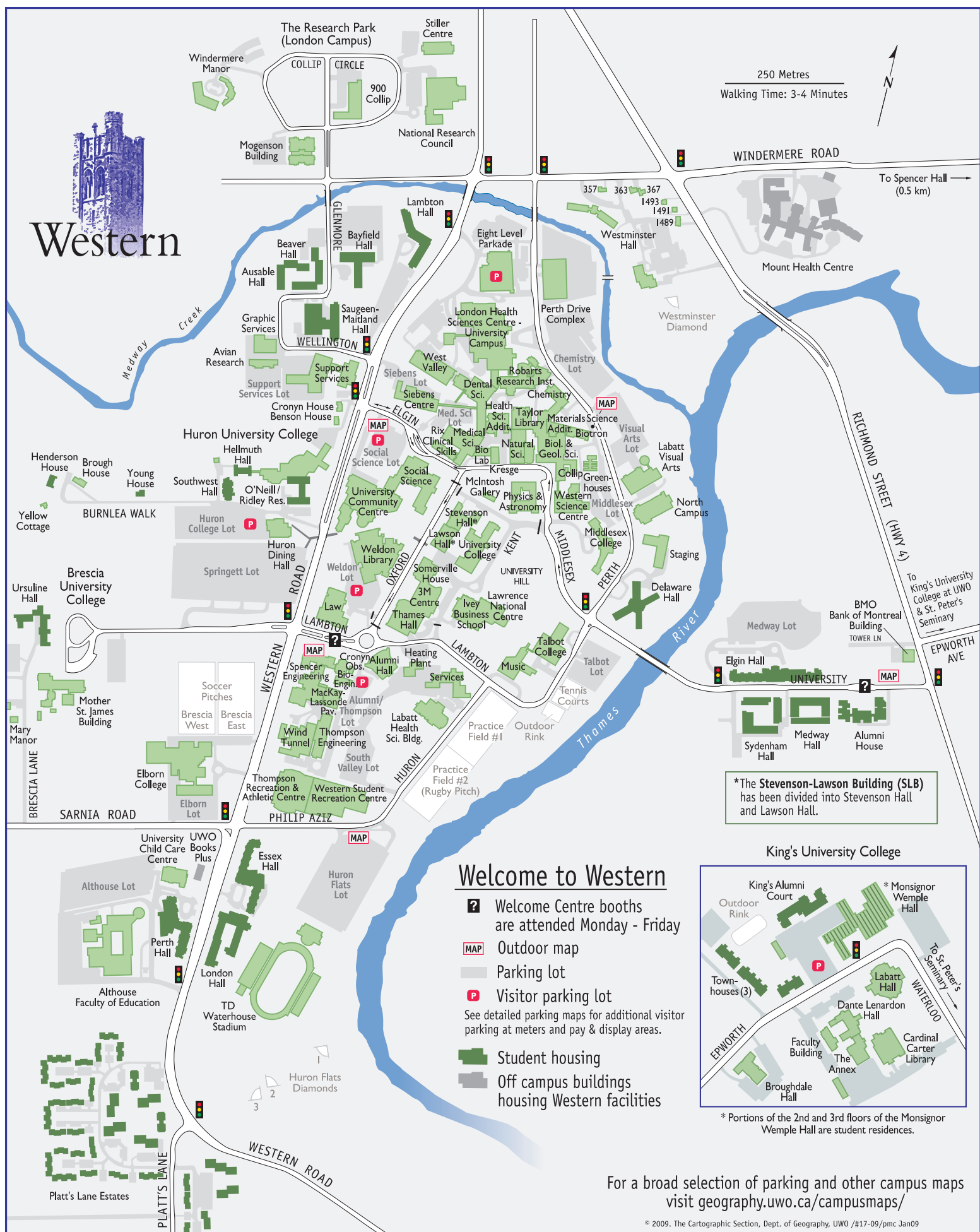
Other new information can be found in chapters titled Psychrometrics, Mass Transfer, Fundamentals of Control, Thermal Comfort, Indoor Environmental Health, Fenestration, Ventilation and Infiltration, Nonresidential Cooling and Heating Load Calculations, Space Air Diffusion, Duct Design, Insulation for Mechanical Systems, Airflow Around Buildings, Refrigerants, Thermophysical Properties of Refrigerants, and Measurement and Instruments.

The 2009 ASHRAE Handbook is published in two editions. One contains inch-pound (I-P) units of measurement, and the other contains the International System of Units (SI).

The cost of the 2009 ASHRAE Handbook – Fundamentals, which includes the CD is \$195, in I-P or SI. The 2009 ASHRAE Handbook CD, which contains both the I-P and SI editions, costs \$155. To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 404-321-5478, or visit at www.ashrae.org/bookstore.

ANSI/ASHRAE Standard 62.1-2007, Ventilation for Acceptable Indoor Air Quality

The proposed changes open for review in addendum r focus on the IAQ procedure, which is a performance-based approach to compliance with the standard, and allows for designers to adjust the ventilation requirements for a building or space based on performance factors which are unique to the building. These performance factors might include the use of low-emitting materials in the space or the known presence of a contaminant source. The first public review draft of Addendum r removed a method of complying with the IAQ procedure by designing the ventilation system in the same way as an existing successful building. Based on public review comments, this approach was put back into the standard, but with new restrictions. These include a requirement that a mass-balance analysis of the building's air quality be performed in every case. This will require that the designer identify contaminants of concern for every building or space where the IAQ procedure is used, along with associated concentration or exposure limits. To view a copy of the addenda open for public review, go to www.ashrae.org/publicreviews. Copies of public review drafts are only available during public review periods.



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