

# Masonry Day



Sponsored by the International Masonry Institute  
& BAC MI Local 1 and Local 9

## WHO SHOULD ATTEND

Structural or Civil Engineers, Architects, Construction Managers, Signatory Contractors and others interested in learning more about structural masonry.

## DATE / TIME / LOCATION

October 1, 2009  
8:00 am – 4:45 pm  
Washtenaw Community College  
Morris Lawrence Building  
4800 E. Huron River Drive  
Ann Arbor, MI 48106

For a map of campus, please see:  
<http://www.wccnet.edu/about-us/visiting/>

## INTRODUCTION

Don't miss the opportunity to participate in the masonry education event of the year! Join colleagues from all aspects of the masonry industry: engineers, architects, construction managers and mason contractors at Washtenaw Community College on October 1.

All of the sessions are open to anyone who wishes to attend, however we have developed specific course offerings to more closely meet the needs of specific groups, engineers, architects and contractors. For engineers we have **Bentley Hands-on Training** for those who have yet to work with the RAM Advanse (*now RAM Elements*) software, or those folks who may have already trained once but would like to go through the class again. Also, primarily directed at engineers are a couple of new classes, **Structural Masonry Lintels Design** will cover all aspects of lintel design including instructions and demonstrations for using either RAM Elements or the Structural Masonry Software from NCMA. **Strength Design for Masonry** will focus on Chapter 3 of the MSJC masonry code and the benefits of this design method.

**Tips for Cost Effective Methods to Maximize Masonry's Structural Potential** will highlight some cost-saving ideas to consider when designing structural masonry. And finally for structural masonry is **Special Inspection for Structural Masonry**.

**LEED Version 3.0, Masonry for Sustainability and Quality Assurance for Sustainable and Energy Efficient Masonry** will be offered. Additional courses for all include: **Grouting and Reinforcement, Cold Weather Protection, Wall Bracing and Movement Control and Flashing**. In addition, **Masonry Engineering for Contractors** will help to explain engineering principles without the numbers.

**Terra Clad™** a new product introduced by Boston Valley Terracotta and is a track-mounted rain screen cladding system which will be introduced by BVT staff. There are several buildings in Michigan featuring this exciting new material from Boston Valley and other manufactures as well. The presentation will cover all aspects of this new cladding and a demonstration panel will be on-site.

For folks interested in restoration we will have a formal lecture based presentation on **Historic Mortars and Natural Cements** and a follow-up session featuring demonstrations and hands-on opportunities. In addition, Boston Valley will host a class showing the art and science of reproducing historic terracotta building elements, **Traditional Terra Cotta**.

See the attached sheet for course descriptions. Choose the classes that best suit your needs and fax the form back to the IMI office! If you have questions contact the IMI at 734-944-7766 or email Pete Loughney at [ploughney@imiweb.org](mailto:ploughney@imiweb.org).

## CONTINUING EDUCATIONAL CREDITS

Credit is available for Contractor College, AIA CES Credit, and Engineer CEU. For credits per session, see Course Descriptions.



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**REGISTRATION FORM** - Please indicate if you are registering as a(n)  Architect  Engineer  Signatory Contractor  Construction Manager

Name \_\_\_\_\_ Company \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ Email: \_\_\_\_\_

To register please remit **\$50** per attendee payable to the International Masonry Institute and mail to the address below. You may fax (734-944-0515) or email ([jwilke@imiweb.org](mailto:jwilke@imiweb.org)) your registration and then send the check.  
**Registration Fee may be paid by using a credit card. Please complete the following information.**

VISA  MasterCard  Discover Name as appears on card: \_\_\_\_\_  
Card #: \_\_\_\_\_ Expiration Date: \_\_\_\_\_ Signature: \_\_\_\_\_

**PLEASE FILL OUT REGISTRATION FORM AND CLASS SELECTIONS ON NEXT PAGE AND SEND OR FAX TO:**  
**International Masonry Institute –Michigan Area Office**  
**100 E. Michigan Ave., Suite 208, Saline, MI 48176**  
**FAX (734) 944-0515 QUESTIONS? Call (734) 944-7766**

# Masonry Day

## **SCHEDULE**

PLEASE MAKE A SELECTION of one class per heading of which sessions you would like to attend in the Morning, MidMorning, Afternoon, and Late Afternoon. Please note that the Bentley training sessions are available as a morning or afternoon course. If you are interested in attending the Bentley training sessions, please take that into consideration while planning your other classes.

### **Registration and Coffee**

7:30 am – 8:00 am

Lobby

### **Plenary Session/Welcome**

8:00 am – 8:30 am

Towsley Auditorium

### **Break**

8:30 am - 8:40 am

### **Morning Sessions (choose 1)**

8:40 am – 10:10 AM

- |                          |                                                  |                    |
|--------------------------|--------------------------------------------------|--------------------|
| <input type="checkbox"/> | Structural Masonry Lintel Design                 | ML103              |
| <input type="checkbox"/> | LEED Version 3.0, Masonry for Sustainability     | Towsley Auditorium |
| <input type="checkbox"/> | Historic Mortars and Natural Cement Presentation | ML101              |
| <input type="checkbox"/> | Wall Bracing                                     | ML105              |

### **Break**

10:10 – 10:20 am

### **MidMorning Sessions (choose 1)**

10:20 am – 11:50 am

- |                          |                                                                            |                    |
|--------------------------|----------------------------------------------------------------------------|--------------------|
| <input type="checkbox"/> | Tips for Cost Effective Methods to Maximize Masonry's Structural Potential | ML103              |
| <input type="checkbox"/> | QA for Sustainable and Energy Efficient Masonry                            | Towsley Auditorium |
| <input type="checkbox"/> | TerraClad & Demonstrations                                                 | ML101              |
| <input type="checkbox"/> | Movement Control & Flashing                                                | ML105              |

### **Lunch / Lobby**

12:00 – 1:00 pm

Lunch in the Lobby

### **Afternoon Sessions (choose 1)**

1:00 pm – 2:30 pm

- |                          |                                         |                    |
|--------------------------|-----------------------------------------|--------------------|
| <input type="checkbox"/> | Strength Design for Masonry             | ML103              |
| <input type="checkbox"/> | Traditional Terra Cotta                 | Towsley Auditorium |
| <input type="checkbox"/> | Masonry Engineering for Contractors     | ML101              |
| <input type="checkbox"/> | Grouting for Reinforced Masonry Systems | ML105              |

### **Break**

2:30 – 2:40 pm

### **Late Afternoon Sessions (choose 1)**

2:40 – 4:10 pm

- |                          |                                                   |                 |
|--------------------------|---------------------------------------------------|-----------------|
| <input type="checkbox"/> | Special Inspection for Structural Masonry         | ML103           |
| <input type="checkbox"/> | Historic Mortars and Natural Cement Demonstration | Auditorium/Tent |
| <input type="checkbox"/> | Cold Weather Protection                           | ML105           |

### **BENTLEY SESSIONS** Please check both boxes if you wish to register for the Bentley Training Sessions.

8:30 am – Noon

- |                          |                                                                        |       |
|--------------------------|------------------------------------------------------------------------|-------|
| <input type="checkbox"/> | Bentley & Masonry – Engineering Software Series (1 <sup>st</sup> Half) | ML128 |
|--------------------------|------------------------------------------------------------------------|-------|

### **Lunch / Lobby**

12:00 – 1:00 pm

Lunch in the Lobby

1:00 pm – 4:30 pm

- |                          |                                                                        |       |
|--------------------------|------------------------------------------------------------------------|-------|
| <input type="checkbox"/> | Bentley & Masonry – Engineering Software Series (2 <sup>nd</sup> Half) | ML128 |
|--------------------------|------------------------------------------------------------------------|-------|

# Masonry Day

## **COURSE DESCRIPTIONS**

**Bentley & Masonry – Engineering software seminar series:** *Including software for engineering “Hybrid” structures of reinforced masonry infill and structural steel frames.* A seminar series is in the works to educate engineers on the new structural software system to design “hybrid” structures -- reinforced masonry infill in a structural steel frame engineered as an integrated system. Options for using the software for all masonry structures will also be demonstrated. Attendees do not have to have knowledge of Bentley products as the sessions will be lecture and demonstration based, not hands on. More information on the seminars will be available from IMI ([www.imiweb.org](http://www.imiweb.org)) and NCMA ([www.ncma.org](http://www.ncma.org))

**Instructor: Samuel Rubenzer, SE, MBA**

**Quality Assurance for Sustainable and Energy Efficient Masonry:** This program will use the systematic quality assurance methods to provide a process for ensuring design and construction practices for sustainable, high performing, and energy efficient masonry buildings. Focus will be placed on how many systems, specifically cavity wall construction, can meet and often surpass current energy efficiency practices and sustainable requirements. Cavity wall construction, detailing, and proper component understanding will be reviewed in terms of how to achieve improved energy efficiency. Specification language will be addressed relative to improving bidding and workforce performance results. This seminar will also look at opportunities for using masonry in LEED projects including corresponding design synergies where masonry solutions can provide maximum sustainable benefits. **Instructor: Maria A. Viteri, AIA, LEED AP**

**LEED Version 3.0, Masonry for Sustainability:** Masonry materials provide aesthetic and performance value, and play an important role in impacting up to 53 LEED-NC points. This seminar will identify specific contributions that masonry makes in the LEED-NC areas of Sustainable Sites, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality and Innovation and Design. **Instructor: Maria Viteri, AIA LEED AP**

**Grout for Reinforced Masonry Systems:** The presentation will cover all aspects of grouting and reinforcing masonry. We will examine current building code requirements for grouting and reinforcing masonry as well as typical specification requirements and ASTM standards.

**Instructors: Peter Loughney and Tom Nagy**

**Structural Masonry Lintel Design:** This session will focus primarily on the in-plane design of masonry lintels including load distribution around openings. Out of the plane considerations will also be addressed. Allowable Stress Design (ASD) and Strength Design (SD) methods will be presented. Various design aids and software methods will be presented and discussed through illustrative examples.

**Instructor: Scott Walkowicz, P.E., NCEES**

**Tips for Cost Effective Methods to Maximize Masonry’s Structural Potential** This presentation will cover many effective methods to maximize masonry structural potential while holding down cost. Examples from the masonry code, ASTM documents and masonry projects will be used to illustrate specific tips. Participants will receive a handout from the presentation. **Instructor: Diane Throop, P.E., FASTM, FTMS**

**Strength Design for Masonry:** This session will focus on the strength design requirements of Chapter 3 of the 2005 and 2008 versions of the Building Code Requirements for Masonry Structures, known as TMS 402/ACI 503/ASCE 5. Reinforced masonry design by the strength method will be presented beginning with background and basic information and concluding with design examples. Modifications to the MSJC code by the IBC and differences between the 2005 and 2008 MSJC will be highlighted. **Instructor: Scott Walkowicz, P.E., NCEES**

**Special Inspection for Structural Masonry:** A review of the special inspection requirements for structural masonry as covered in the Michigan Building Code. Both empirically designed and engineered structures are discussed. A listing of what needs to be inspected for both levels 1 and 2, and periodic versus continuous inspections will also be presented. **Instructor: Dan Zechmeister, P.E.**

**Traditional Terra Cotta:** This session will cover a brief history of terracotta manufacture and applications. In addition, the presenter will show how new replica pieces are manufactured to exact requirements to replace missing or damaged elements of historic facades.

**Instructor: Sherry Carter, AIA**

**Historic Mortars and Natural Cement Presentation:** Confused about the various materials used in repointing mortars for historic buildings? This session will explain these materials and their differences, review the periods of time when each type was used, and outline best practices for using historically accurate natural cement materials. **Instructor: Mike Edison**

**Historic Mortars and Natural Cement Demonstration:** This session will provide an opportunity to see and work with historic mortar materials, including natural cement and several forms of lime. Participants will gain a better understanding of how these materials work and feel, and how to avoid common errors in mortar proportioning. **Instructor: Mike Edison**

**TerraClad & Demonstrations:** This session will introduce an exciting new terra cotta application. Track mounted terra cotta rainscreen walls have begun to appear on buildings all over the country. This presentation will cover the principles of design and application of this new cladding system. A demonstration panel will be onsite. **Instructor: Sherry Carter, AIA**

**Masonry Engineering for Contractors:** This class focuses on the best practice installation of movement control and flashing assemblies in contemporary masonry construction. This class will examine failure mechanisms, architectural details and the importance of proper specification and installation of assemblies. **Instructor: Diane Throop, P.E., FASTM, FTMS**

**Cold Weather Protection:** The presentation will cover the code requirements for protecting masonry during construction and grouting in winter conditions. Photos of examples from various jobsites will be used to illustrate practical approaches. Participants will receive a copy of the IMI Technology brief on Cold Weather Masonry. **Instructor: Pete Loughney**

**Wall Bracing:** The course will include explanations of wall bracing requirements and the roles and responsibilities of the various parties. Basic wall bracing design is covered with in class examples. Participants will receive a copy of “Standard Practice for Bracing Masonry Walls Under Construction”. **Instructor: Pete Loughney**

**Movement Control & Flashing:** This class focuses on the best practice installation of movement control and flashing assemblies in contemporary masonry construction. This class will examine failure mechanisms, architectural details and the importance of proper specification and installation of assemblies. **Instructor: Tom Nagy**

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## **SPEAKER Bio's**

**Sherry Carter, AIA** is a marketing specialist for Boston Valley Terra Cotta. She has extensive experience in both traditional terra cotta applications and terra cotta rain screen systems.

**Larry Darling, P.C., AIC** is the Director of Education at IMI. A former University Professor, Larry has over thirty years of experience in industrial, commercial and restoration project management. In addition to holding Masters Degrees in Construction Management and Historic Preservation, Larry has authored numerous papers and programs on such topics as Building Diagnostics and Condition Assessment, the Constructor as Building Pathologist, Terra Cotta Repair and Replacement and Field Management of Historic Restoration projects.

**Mike Edison** is founder and president of Edison Coatings, Inc., a manufacturer of masonry, stone and concrete restoration materials in Plainville, Connecticut. In the course of his 36-year chemical engineering career, Edison has created hundreds of material formulas for repair, repointing and coating of historic buildings. He is chairman of ASTM Task Group C1.10.04 on Natural Cement.

**Jason Hoover, SE** is a Regional Engineer for Bentley Systems, covering the Central US and Canada. He was previously a consulting engineer for 10 years, designing a wide variety of structures and performing forensic investigations. He is currently a licensed Structural Engineer in Illinois.

**Peter Loughney, CPC, AIC** is the Michigan Area Market Development Director for the International Masonry Institute. He holds a Masters' degree in Construction Management from Eastern Michigan University, where he taught Construction Management for 15 years prior to joining IMI. His construction industry experience includes nearly a dozen years in field supervision. Loughney currently serves on committees in the ASTM, and the MSJC. He is also chair of the Michigan Construction Roundtable and Professional Education Committee.

**Tom Nagy** is the Director of Market Development and Technical Services out of the Ohio Area Office of the International Masonry Institute. Nagy has a strong masonry background and has managed and supervised large construction projects in the Ohio Area prior to joining IMI. Nagy attended Kent State and Ohio Universities and his professional industry memberships include: The Construction Specifications Institute; The American Institute of Architects, Cleveland Chapter; The Masonry Society; and, Cleveland Engineering Society.

**Samuel Rubenzer, SE, MBA** is the manager for structural engineering training and services for The Bentley Structural Team and also works as a consultant for Bentley's professional services team. Rubenzer assists customers in learning the tools necessary to maximize the use of RAM and STAAD software in addition to helping them develop successful strategies for implementing software on their current projects. Rubenzer joined Bentley (RAM International) in 2005.

**Diane Throop, P.E., FASTM, FTMS** is the Director of Engineering for the International Masonry Institute. Throop has a Bachelor's degree in Civil Engineering and a Master's degree in Business Administration, both from the University of Toledo. Prior to her position with IMI, Throop had her own consulting firm specializing in masonry engineering and construction services. She is active in multiple construction industry technical committees and organizations, including the MSJC (Masonry Standards Joint Committee) where she is Chairwoman for the upcoming 2011 Masonry Standards.

**Maria Viteri, AIA LEED AP** is the Director of Program Development for the International Masonry Institute. She has over twenty years combined architectural design, construction administration and marketing experience within the construction industry. Her architectural design experience is primarily focused within the health care sector and includes international research in South America on the relationship between building materials and human health. Within IMI, Maria leads IMI's Green Strategy and serves as the program coordinator for IMI's Masonry Camp program. Maria is a current board member with the Sustainable Building Industry Council and maintains architectural registration in the state of Pennsylvania. Maria holds a Master of Architecture degree from Tulane University and a Master of Business Administration and Public & International Affairs from the University of Pittsburgh.

**Scott W. Walkowicz, P.E., NCEES** heads his own consulting firm, Walkowicz Consulting Engineers, and is a former Principal with a multi-discipline firm located in Lansing, Michigan. Scott holds a B.S. in Architecture degree as well as B.S. and M.S. degrees in Civil/Structural Engineering. He is the Secretary/Treasurer for The Masonry Society and chairs the Shear Subcommittee for the MSJC (Masonry Standards Joint Committee). He is registered in multiple states and has designed buildings across the country and in several foreign countries including many with unusual or creative uses of structural masonry.

**Dan Zechmeister, P.E.** has been the Executive Director of Masonry Institute of Michigan since 1990 and been with the Institute since 1986. A graduate of Wayne State University with a Bachelor of Science Degree in Civil Engineering, he is a registered Professional Engineer in the State of Michigan.