

March / April 2004

The Green Mountain Civil Report

Newsletter of the Vermont Section of the American Society of Civil Engineers
Website <http://sections.asce.org/vermont>

2003/04 Meeting Schedule

Three meetings remain in the 2003/04 year.

March 24, 2004, Burlington

Speaker: Chad Allen, Soil Nail Walls

April 28, 2004, (Tentative)

Norwich & VTC Senior Project Presentations

May 19, 2004, Meeting & Field Trip

Chittenden County Solid Waste District

March Meeting Agenda

Schedule: Social Hour 5:00 to 6:00 pm
Dinner: 6:00 pm
Dessert and Speaker: 7: 30 pm
Cost: Members: \$28
Students: \$22

Food: Mexican Fiesta Buffet -- Mixed Green Salad with dressings, Sliced fresh seasonal fruit display, Fajita Bar: Grilled Lime Marinated Chicken Breast with Grilled Marinated skirt steak with sautéed onions and bell peppers, lettuce, cheese, sour cream, tortillas and shells, assorted Dessert bars, homemade cookies, and brownies, bottled water, Coffee, Tea, Decaf, Milk or soda. There will be a cash bar from 5 to 8 pm.

RSVP to: Chantal Beliveau by March 20, 2004.

chantalb@engineeringventures.com

Directions: From I-89 take exit 14E. Go east on Williston Road. The Clarion hotel is on the right.

SPEAKER: CHAD A. ALLEN

Mr. Allen is the Transportation Project Manager for District 5 in Colchester, VT where he coordinates a wide variety of maintenance projects. Previously, he was a geotechnical engineer with the Vermont Agency of Transportation from 1997 through Spring 2002 during

which he designed and supervised construction of the Agency's first soil nail wall in Moretown, VT. In addition to his other duties, Chad chairs the Agency's Integral Abutment Committee through which he is overseeing current research efforts evaluating the performance of jointless bridges. Chad is also an active participant on the Agency's Stormwater Workgroup and the Regional (MS4s in Chittenden County) Stormwater Education Program. Chad also serves on the Board of Directors for the Vermont Society of Engineers. Chad joined VTrans in 1990 as a highway technician upon graduation from VTC. In 1996, Chad obtained his BSCE from the University of Vermont (UVM) and his MSCE from UVM in 2001. Chad lives in South Burlington with his wife and son.

TOPIC: SOIL NAIL WALL DESIGN,
CONSTRUCTION, AND LESSONS LEARNED

The Vermont Agency of Transportation, VTrans, constructed its first soil nail wall in the summer of 2001 along VT 100B in the town of Moretown, approximately 10 miles north of the capital city of Montpelier. Soil nailing is the placement of closely spaced steel reinforcing bars, or nails, to strengthen the existing ground conditions utilizing top down construction methods. The use of this technology has increased in the northeastern region of the United States due in part to the successes experienced in the western and southern regions of the country. Gradually, regional geotechnical and structural engineers have developed an acceptance of this technology, which can be traced partly to their increased familiarity with ground reinforcement concepts and techniques.

The discussion will focus on the design elements, construction methods and practices and several lessons learned. Mr. Allen will provide a general overview of soil nailing as well as an introduction to the subsurface soils, the testing procedures for the various materials during design as well as during construction. He will continue discussing the construction methods and practices utilized to build the wall. In addition, he will talk about some of the unique challenges encountered at this site and what successes or failures were realized while overcoming these challenges.

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Vermont ASCE 2004 Life Members

"Achieving Life Membership in ASCE requires a career of service to ASCE and the Civil Engineering profession. A member who has reached the age of 65, paid dues in any membership grade for a number of years such that when added to their age equals or exceeds 95, and has paid dues for 20 years, shall qualify for Life Membership."

~Curtis Nunley, Director Member Processing & Retention

The following Section members have been named life members:

William L. Knight
Merrill A. Mundell, Jr.
Richard N. Downer
Lawrence N. Chetti

Thank you for your years of service!

Update on Policy 465

As part of the on-going implementation of ASCE Policy Statement 465, the Body of Knowledge (BOK) Committee was formed by ASCE's Committee on the Academic Prerequisites for Professional Practice (CAP³). The BOK Committee's charge includes defining the "Body of Knowledge needed to enter the practice of civil engineering at the professional level (licensure) in the 21st Century."

The Committee's final report was released at a press conference held at the National Academy of Engineering on February 25, 2004. This final report is available for review and/or download, from the Society's Website (see below). The Executive Summary, as well as the full report, is provided.

<http://www.asce.org/professional/educ/bodyofknowledge.cfm>

Parents Want Their Kids to be Engineers

Those of you who were at the Engineers Banquet heard a portion of this article regarding engineering and parent's career hopes for their children. Here is the source article. Reprinted here from the ASHEA web site.

"Parents Want Their Kids to be Engineers"

In a Harris Interactive™ survey conducted on behalf of the American Association of Engineering Societies (AAES) with a grant from the United Engineering Foundation, engineering receives a higher rating from adults, whether or not they were parents, as a career choice for their children than either accounting or the ministry. When asked to use scale of one through ten to represent extremely displeased to extremely pleased if their child were to enter a particular profession, both accounting and the ministry receive high marks, with accounting receiving an overall rating of eight and the ministry a seven. Engineering and science, on the other hand, both receive ratings of nine out of ten.

The survey was released in conjunction with National Engineers Week, February 22-28, dedicated to increasing public awareness and appreciation of engineering; co-chairs for 2004 are The Institute of Electrical and Electronics Engineers (IEEE) / IEEE-USA and the Fluor Corporation.

Ratings for engineering as a profession are consistent across all groups, regardless of respondents' familiarity with or interest level in engineering, gender, age, or level of education.

When asked to explain why they'd be pleased if their child went into engineering, to "make a positive contribution to society" is cited as often as to "earn a good salary." Other reasons given include the ability to do "interesting work" and the profession's prestige.

The survey reveals slight differences for why adults would be pleased depending on the child's gender. When discussing sons, 31 percent appreciate the ability to earn a good salary and 29 percent like that they can make a

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positive societal contribution. By contrast, 25 percent pick positive contributions to society as the prime reason they would be pleased if their daughters chose engineering, followed closely by good salary at 24 percent.

Perhaps another contributing factor is the high esteem with which the engineering profession is held among Americans. According to the survey, more than three out of four respondents, 77 percent, say engineers are largely responsible for a high standard of living. As compared to scientists, engineers are thought to create strong economic growth (69% vs. 25%), preserve national security (59% vs. 29%) and make strong leaders (56% vs. 32%).

Despite the positive views, and the fact that the survey finds that, on average, Americans are personally acquainted with six engineers, just one-third (33%) of those polled feel very or fairly well informed about engineers and engineering and only slightly more, four out of ten (40%), are interested in learning about engineers and engineering.

Still, 95 percent agree that engineers use old and new knowledge to solve practical problems and are involved in diverse fields and occupations. The vast majority recognizes the contributions of engineers to almost all aspects of life. When asked about engineers' level of involvement in transportation, for example, 98 percent of respondents acknowledge the contribution of engineers in building automobiles, airplanes, highways, bridges and tunnels. Ninety-five percent believe engineers are involved with spacecraft, electronics, and air conditioning and refrigeration.

When asked to describe what first comes to mind when they hear the word "engineer," respondents say an engineer "builds/constructs/makes (38%), "designs/draws/plans (19%)" and does "mechanic/mechanical work (9%)."

Commenting on the survey, H Henry J. Hatch, P.E., Chair of the AAES Committee on the Public Awareness of Engineering (COPAE), notes that the positive public perception of engineers accurately reflects the important role the profession plays in all levels of society. "Engineering touches every part of our lives in a wide variety of ways," said Hatch. "These survey results are a strong indication that the vast majority of people support

our work and our goals and offer a powerful endorsement of the profession."

The survey found that the most common source of information about engineers is from television news, cable and local. Those better informed and having a higher interest in the profession are more likely than those who are not to get that information through the Internet. The Internet is a more common news source for those who are informed about engineers (24% vs. 10% who are not informed), interested in engineering (21% vs. 9% who are not interested) and who know at least one engineer (17% vs. 3% for those who do not know any engineers).

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New England Younger Members Event!

A New England Younger Member Event is currently being planned. Please visit the Maine chapter of the ASCE for the latest updates.

<http://www.maineasce.org/>

Update Your Contact Information

The Vermont Section of ASCE depends on its membership to update their member information with ASCE National. Shawn Patenaude, our secretary, has access to the ASCE member database for Vermont, from which he is able to compile our electronic newsletter distribution list. Members who wish to be included in the electronic newsletter distribution, but who do not want to give their e-mail address to ASCE National or members who would like to receive a paper copy of the newsletter by mail should contact Shawn; see address in footer.

Call for Practitioner Advisors

Our search continues for two Volunteers to be Practitioner Advisors to the VTC Student Section. Practitioner advisors attend one or two student section meetings annually and are available to answer questions from the student sections regarding professional issues.

Message from the Editor

The Green Mountain Civil Report is the newsletter of the Vermont Section of the American Society of Civil Engineers. This newsletter intends to keep you up-to-date on the activities of civil engineers around our state.

Did you or your firm recently complete an interesting project that others would enjoy reading about? Does your firm have an engineering position open? Are you an ASCE member looking for a new position? Do you know of an upcoming engineering seminar or conference? If so, please send in a brief note to the Green Mountain Civil Engineering Report.

Please feel free to contact us with your announcements. We will work hard to get them included in the newsletter. The newsletter is typically distributed via email, however if you would like a hard copy or if you are not receiving the E-Newsletter and would like to please contact Shawn Patenaude (Secretary and Newsletter Editor) at SPatenaude@DuBois-King.com or any of the officers listed below

2003/04 ASCE Vermont Section Officers

Past President: David Mitchell, P.E. [ⓧ](#)

President: Lynnette Whitney, E.I. [ⓧ](#)

President Elect: Vacant

Treasurer: Chantal Beliveau, P.E.
[\(ChantalB@EngineeringVentures.com\)](mailto:ChantalB@EngineeringVentures.com)

Secretary: Shawn Patenaude, E.I.

[ⓧ](#)

Director: Sherward Farnsworth, P.E.
[\(Sherward.Farnsworth@state.vt.us\)](mailto:Sherward.Farnsworth@state.vt.us)

Director: Jean-Guy Beliveau, P.E. [ⓧ](#)

Younger Member Representative: Stephanie Zehler, E.I. [\(szehler@dufresne-henry.com\)](mailto:szehler@dufresne-henry.com)