



OCEAN COUNTY SOCIETY OF PROFESSIONAL ENGINEERS

A Chapter of the New Jersey Society of Professional Engineers

CHAPTER MEETING MINUTES Wednesday, March 30, 2011

PRESIDENT

John M. Mele, PE

The previous meeting was held at Il Giardino's in Forked River, NJ on Wednesday, March 30th, 2011.

VICE PRESIDENT

Richard M. Cestone, PE

ATTENDING OFFICERS:

TREASURER

Patrick B. Lynam, PE

John M. Mele, PE

President

SECRETARY

Matthew M. Lunemann, PE

Richard M. Cestone, PE

Vice President

PAST PRESIDENT

Mark E. Reme, PE

Patrick B. Lynam, PE

Treasurer

CHAPTER DIRECTOR

William P. Delisky, PE

Matthew M. Lunemann, PE

Secretary

William P. Delisky, PE

Director

REPORTS FROM OFFICERS & COMMITTEES

Treasurer's Report: A Treasurer's Report was presented and approved by the membership.

Secretary's Report: The minutes of the February 24th, 2011 meeting were presented and approved by the membership.

Director's Report: Director Delisky updated the Chapter on recent events as follows:

The New Jersey Society of Professional Engineers (NJSPE) has been talking about having a state-only (NJSPE-only) membership, where the NJSPE would take over the National Society of Professional Engineers (NSPE) for NJ and members will have the option to join only NJSPE or only NSPE or both. If members elect to be members of both NJSPE & NSPE in the future, funds will be directed to the state. Director Delisky noted past issues where NJSPE may possibly have not received all funds from the NSPE. NJSPE passed a motion to approve the state-only option for membership. A by-laws change will be needed to implement the change, and an email to vote is likely to go out to the members in the near future. No change will be made until 2012.

A change was made by the NJ State Board of Professional Engineers and Land Surveyors regarding the continuing education requirements for licensed PE's. Licensed PE's in NJ will now need 16 CPC credits by April 2012. The credit requirement is likely to be reviewed on an honor system. Several of the large societies (e.g. ASCE, ASME, NSPE, etc.) are going to the State Board to request that courses approved by societies be automatically approved by the State Board without the need for a state review. Nothing has yet been finalized at the State Board on the matter.

The "Raise the Bar" standard is currently being pushed by the American Society for Civil Engineers (ASCE). This standard would require an engineer to have a Bachelors of Science degree plus 30 credits of engineering work in order to qualify for the PE exam. NJSPE will be sending a letter to the State Board in favor of the raised standard. The change would apply for new engineers only and would not affect those who already have a PE license. Experience requirements would still be unchanged.

The NJSPE named their award winners for 2011, which included two OCSPE nominees. Congratulations to Maser Consulting for winning the Private Practice Professional Development Award and to Matt Lunemann for winning the Outstanding Young Professional Engineer Award. Tonight's presenter, VMC Group, will receive a letter of commendation from the NJSPE president but will not receive an award for a project of the year since that award no longer exists. However, it was noted that other avenues were available to receive an award.

After a presentation was given by Director Delisky regarding hosting a NJSPE conference, which OCSPE offered to take the lead on with state support, the NJSPE suggested that they would form a committee at their next meeting to discuss the possibility of holding a conference by their September or October meeting. Director Delisky stated that this essentially killed the idea. NJSPE suggested that OCSPE members interested in the conference idea could put it into place at their own cost. The cost came down to about \$25 per credit including breakfast, lunch, and two 2-hour open bars.

OLD BUSINESS

Letters were issued to Monmouth County Society of Professional Engineers (MCSPE) members inviting them to attend the May joint meeting. The implementation of this outreach was discussed and approved in January. A directory of MCSPE members had also been provided to January meeting attendees as previously discussed. President Mele reminded the membership that the outreach and directory were done with the intent of reviving the Monmouth County chapter. The officers expressed their thanks to John Keating for his help with the mass mailing to MCSPE members.

President Mele informed those present that all upcoming meetings had been finalized for the remainder of the year. The Ocean County Engineer, Frank Scarantino, will be presenting on April 28th. In May, Joseph M. Ettore, the Monmouth County Engineer, will be presenting on May 25th, and the June 8th meeting will be at Sea Oaks to award the scholarships to the winners and install officers.

NEW BUSINESS

President Mele confirmed that tonight's program was approved by the NJ State Board for 1 continuing professional competency (CPC) credit.

The OCSPE is still looking for officer nominations for the 2011-2012 term. If anyone is interested or if anyone would like to nominate someone, please contact one of the officers. Candidates may be self-nominated.

Minutes to the November meeting have been posted on the NJSPE website under the Ocean County chapter page. OCSPE will continue to have approved meeting minutes posted online. Secretary Lunemann will contact the NJSPE to have the January and February meeting minutes added as soon as possible.

Regarding the topic of the NJSPE conference, it was stated by the membership that the purpose of the conference was to strengthen the state society and that if the NJSPE was not

interested then there may not be a point in holding a conference. The idea was presented of holding a 2-day, 16-credit conference on our [OCSPE/MCSPE] own and taking the credit and profit from the event. Suggestions were also put forth to potentially hold courses for credit on Sunday and to show up in force at the May NJSPE board meeting to support the idea of the conference.

PROGRAM

Mr. Raj Prasad from the VMC Group gave a presentation entitled “Structural isolation of a new residential building: The State Renaissance Court, Brooklyn, NY”. The project involved the seismic isolation of a residential building with 158 units and around 20,000 ft² of living space. A subway running underneath the building caused further vibration and warranted the need for vibration isolation. The State Renaissance Court was abutted by buildings on three sides which further complicated the project.

The total isolated weight of the building was 28 million pounds with dead load deflection and live load + dead load deflection restrictions of 0.5 inches and 0.75 inches, respectively. A total of 270 steel spring vibration isolators were installed to absorb lateral forces with 120 seismic restraints to account for any uplift.

The project was the biggest project in VMC Group history and was the first residential building in New York City whose vertical support was provided by a subway structure. The building is unique in New York and the U.S. in that the building was constructed independently and isolated from the subway structure. Deep battered pile foundations and 140 augured vertical mini-piles were installed at the east and west locations at the rear of the building. The isolators transfer seismic lateral forces away from the subway structure to the pile foundations and isolate the building structure from the structure-borne subway vibrations. Just as earthquakes can cause vibrations to damage buildings, the same applies for vibrations from the subway. This structure was designed for both seismic and subway vibrations.

The isolators were designed so the building could slide one half inch before hitting the seismic restraints and become a more rigid structure. The 270 steel spring isolators sit on top of 26 concrete-encased steel girders or “load points” that are part of the subway structure, with the building resting on top of the isolators. The girders are reinforced with a concrete pedestal to provide a base for the isolators. The first-floor girders carry the entire load, thereby separating the first floor from the subway structure. The first floor was designed to allow relative displacement of up to one half-inch with the subway structure. The half-inch deflection requirement was only at the restraints at the top of the subway structure.

Seismic restraints were used to rigidly connect with the transfer platform in order to transfer the building’s lateral load to the deep foundation system while still allowing for vertical displacement. The restraints are secured to transfer girders and welded to an embedded plate in the pile cap.

98 percent of the building is supported by the 75-year old concrete frame subway structure, making the modeling of the building one of the most difficult structural engineering tasks. Several meetings were held with the New York City Transit Authority, which would not allow any lateral forces from wind or seismic loading to be transferred to the subway. As a result, the entire building was restrained for seismic and wind loads on one longitudinal side. The IBC2000 response spectra method was used for analysis of the building. Three-dimensional modeling of the building and foundation was performed for over 30 load combinations under static and dynamic conditions.

Following the modeling, the client selected a braced frame design over a moment frame design in order to save steel. Although the braced frame did not save much steel, it resulted in

a delay to the project of one year, since the moment frame needed to be converted into the braced frame, and did not save the amount of steel or money that the client thought. The moment frame is the best system for isolation, seismic, and wind loading.

ACKNOWLEDGMENTS

We extend our thanks to Mr. Raj Prasad for an exceptional presentation. We further extend our congratulations to Mr. Prasad for winning the 50/50 raffle. Raj won \$69, while a total of \$70 was added to the Alex Duque Scholarship account from this month's raffle.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Matt L.", with a long horizontal flourish extending to the right.

Matthew M. Lunemann, P.E.
Secretary