As we head into another year, I’d like to share my wishes of a happy holiday season and hopes for a prosperous year to come. It has certainly been a difficult couple of years and while there are mixed thoughts on where the economy is headed, I’m hopeful that we’ll see some life soon.

The NY Chapter board has spent a lot of effort focusing on programs for the coming year. As you can see in our enclosed event calendar, we have already secured our schedule through June. Our speakers will include high level officials from the Metropolitan Transportation Authority (MTA), Long Island Railroad (LIRR), the New York City Department of Design and Construction (NYC DDC) and the New York City Department of Buildings (NYC DOB). We are also in the process of arranging a site visit to the World Trade Center in May. An invitation with program details will be sent to our membership once it has been finalized.

This June will mark our second annual scholarship and awards dinner. As has been our tradition, we will award two graduating high school students scholarships toward their college careers in engineering. In the next month or two, we will be soliciting nominations for excellence in engineering in the New York City area. At our June dinner, we will then announce the recipients of our Young Engineer of the Year, Government Engineer of the Year and Engineer of the Year awards, as well our Engineer Project of the Year award. We encourage everyone to submit for these awards as it is an opportunity to be recognized for achievements in our field over the year.

As I often do in closing my message, I would like to encourage your involvement in our chapter. We have been successful in bringing more people on our board and getting more input from our members. Feel free to contact me if you are interested in being involved in our board or our meetings as well as if you are interested in volunteering.

Again, best wishes for the holidays and the new year.

Erich R. Arcement, P.E., PTOE
UPCOMING EVENT

ENGINEERS WEEK CELEBRATION

Sponsored by:
THE METROPOLITAN ENGINEERING SOCIETIES COUNCIL

Date:
Thursday, February 17, 2011

Time:
5:30 PM Registration
6:00 PM Light Buffet
7:00 to 9:00 PM

Program:

Where:
Polytechnic Institute of NYU
Dibner Library (enter from Main Campus)
Brooklyn, NY 11201

Keynote Speaker: QUENTIN BRATHWAITE
Assistant Director of Construction
Port Authority of New York & New Jersey

Subject: Update of Challenges Faced in the Rebuilding of the WTC Transportation Hub

Proclamation & Award:
The Mayor’s Proclamation on Engineers Week will be presented

Cost:
$50.00 mailed reservations and check required by February 5, 2011
No “At Door” payment
1 PDH (expected) for this meeting

For additional information, contact Wasyl Kinach at info@mescnyc.org
Tel: (212) 669-2203

NOTICE: Licensure for Engineers

The deadline for submitting applications for the Principles and Practice of Engineering Examination - P.E. (Part B) for the October 2011 Exam is February 18, 2011
Law and Rule Enforcement in the Building’s Department

by Gerard Hillenbrand, P.E.

That was the very important and timely subject presented at the New York Chapter’s Technical Dinner Meeting at Connolly’s Restaurant on Wednesday, October 27th, 2010. The speaker for this special meeting was Eugene J. Corcoran, the NYC Department of Building’s Deputy Commissioner for regulatory policy and law enforcement. Professional Engineers attending this meeting qualified for one development hour of credit for continuing education requirements as mandated by the New York State Department of Education.

This meeting was chaired by Alfred H. Brand, PE, who welcomed the many attendees and briefly summarized our Chapter’s plans for meetings during the coming fall season, including our November 17th, 2010 program of 3-D Laser Scanning. Al Brand then proceeded to introduce our distinguished speaker to the assemblage. Mr. Corcoran has an extremely impressive career in law enforcement. Born and raised and educated in upstate New York, Mr. Corcoran joined the New York State Police in 1978 and served with distinction for 21 years, after which he joined the United States Marshal Service, and also graduated from the FBI Academy. He also served in the N.Y. City Police Department, and as Deputy Chief of Security for the M.T.A., where he coordinated the merger of the Metro-North and Long Island Railroad Police departments. He has worked for the NYC Department of Buildings for a little less than one year and finds his current position very time consuming and the most challenging in his extensive career in law enforcement.

Mr. Corcoran first summarized the work and responsibilities of the Buildings Department, which has a staff of 1,200 employees including technical, inspection, legal and administrative experts. This staff is responsible for regulating and enforcing the N.Y. City, N.Y. State, Federal Government and relevant international building and safety codes throughout the five boroughs of our City, which has a total of 975,000 structures including 300,000 aging buildings, many hi-rises and multiple demolition projects all occurring simultaneously. In addition, the Buildings Department must service its many customers, including homeowners, licensed professionals, plumbers, electricians and various contractors, and establish and maintain a working network among the Mayor’s office, the Municipal and Trade unions, homeowners, and construction associations. To gain an understanding of the complex nature of its mission, last year the Buildings Department issued 136,000 permits, 16,400 Professional Licenses, 10,000 Stop work orders, and 65,000 work violations, all resulting from the efforts of 412 permanent inspectors on its staff.

During the last several years the safety record at our City’s construction sites has fallen considerably due to a series of fatalities with crane operations and demolition of the Deutsche Bank Building at the southern end of Ground Zero, which is now reduced to five stories with completion scheduled by year’s end. During this time there were about 100 cases of major safety violations and ten of these cases involved cranes. These safety problems occurred simultaneously with a major expansion of large construction projects such as Atlantic Yards and Coney Island in Brooklyn, the Second Avenue Subway, Madison Square Garden and World Trade Center in Manhattan, and two new major league baseball stadiums in Queens and the Bronx.

The Buildings Department’s enforcement efforts may be categorized into four major parts:

- Formulating Regulatory Policy,
- Maintaining Engineering and Safety Standards,
- Monitoring Energy Generation and Construction, and
- Increasing Efficiency of Centralized Inspection Procedures.

This last part has been greatly enhanced by a conversion to electronic procedures. Each inspector is now equipped with a laptop computer with which they communicate with headquarters. An Emergency Construction Board has been established to aggressively publish Notices of Violations and expedite fine collection, as well as to formulate corrections to problems, hold Public Hearings, and to determine fair penalty payments, 80% of which are upheld upon appeal. Penalties have increased steadily during the past four years as well as the conviction rate for construction violations. Stop work orders may be issued for buildings worked on without the proper permits and/or without adherence to approved plans. Official letters may be issued to enforce compliance and violators can be referred to criminal court for legal sanctions. The Buildings Department issues about 600 declarations of energy violations per year as well as vacate orders for unsafe buildings, all of which are continually and closely monitored.

Licensed professionals are also subject to review by the Buildings Department which investigates and assesses damage in cases of collapse and may enforce penalties against culpable professional engineers for filing false or inadequate documents. Such penalties included revocation of Buildings Department filing privileges, disqualifying practice permits, temporary revocation of
license, and permanent stripping of an engineer’s license to practice engineering. The Buildings Department employs undercover agents for special monitoring of cases of illegal conversions and engineering and safety deficiencies.

The Buildings Department classifies structures according to height. Low rise buildings are those having six to nine stories, while high rise buildings are ten stories or more. All buildings must have an approved site safety plan and the Department recommends that all plan developers have special OSHA training. Safety specifications must cover roof, sidewalk, and adjacent traffic, and fall protection details. Crane regulations cover location, height, radius of sweep, and redundancy provisions for safety during height adjustments. Special safety provisions are also in place covering prefabricated components, concrete formwork and site scaffold installations. Similarly, safety regulations also cover excavations, foundation work and underpinning efforts. Safety violations, including Site Safety Plans that prove to be inoperable, result in Stop Work Orders causing very expensive stalled construction sites. Last year 670 sites had temporary work interruptions including the Madison Square Garden complex, Atlantic Yards in Brooklyn, Javits Center expansion, and new construction in Staten Island. Buildings Department engineers are assigned to supervise the remedies for these work stoppages.

In addition to its ongoing site inspection efforts, the Buildings Department staff continually monitors crane operations and regulations and, in close cooperation with Crane Operators Union Local 14, updates license requirements when needed. Also there are 58,000 operating elevators in N.Y. City and all are inspected and re-licensed for use annually. N.Y. City consumes 12% of all generated electrical power in the United States and the Buildings Department monitors and regulates all consumption in its buildings. There are 115,000 operating boilers in our City and 97,000 certifications for safe operations are required per year. About 1,500 newly installed boilers undergo their first certification tests each year. The New York City Construction Code and other Local Laws are continually enforced and input is sought from contractors and other interested parties concerning the need for technical revisions. Similarly, fire safety code requirements are enforced in conformity with Local Law 16. Special attention is paid to the condition of building facades and monitoring is ongoing.

The Buildings Department actively promotes its programs for energy sustainability with cool roofs installations. So far, one million square feet of such cool roofs are in place and the City’s goal is a 30% reduction in carbon energy consumption by the year 2030. The Buildings Department even has a program for introducing art work to beautify construction sites wherever practicable. The Buildings Department staff considers the efforts of Professional Engineers vital to the success of its construction industry. These registered professionals have a record of over 98% compliance with codes, regulations and standards and are to be congratulated for due diligence in performance of their public responsibilities.

The Question and Answer period was equally informative. Several guests noted that suggestions to the Buildings Department were often not acknowledged nor were requests for information via e-mail answered in a timely fashion. Mr. Corcoran promised to bring these concerns to the attention of the Commissioner and to lobby for improvements in this area. He also admitted that multiple building codes in effect were very complex and even the skills of Department personnel require continual training and updating and funding is available for these necessities. He also remarked favorably on the expertise of the Buildings Department Attorneys and stated that their knowledge of construction law was unsurpassed in his experience. Mr. Corcoran received a vigorous ovation as he concluded his presentation.

The Buildings Department also has teams monitoring energy operations, structural engineering and stability analysis, wind conditions, safety netting and a forensic engineering unit.

Special attention is paid to the problems affecting older buildings such as adjacent properties, blasting effects, and settlement conditions. Abnormal environmental conditions such as earthquakes, floods, hurricanes, etc are closely monitored. For example, the recent tornadoes which struck our City in October resulted in 64 buildings with structural problems and this may increase to as many as 150 as inspections continue. Consistent wind conditions 30 MPH or higher result in construction site shutdowns. The Department maintains an Emergency Response Team on duty 24/7 studying structural stability conditions, adherence to approved site plans, correct permit authorization and display, and compliance with Stop Work and Vacate orders. This team has second response priority in emergency following the police and fire departments.

This Technical Dinner Event was typical of the frequent meetings presented by the New York City Chapter. We encourage the continued participation of all our members in Chapter activities and programs. We look forward to greeting each of you at our future events.
The speaker at this meeting was Ken Stigner, PLS, from Stantec Consulting, and a pioneer in the use of High Definition Laser Scanning applications, and in particular, Laser Assisted Surveying Techniques. HDS scanner equipment features laser emitting camera-like devices (such as those produced by Leica) which receive and process reflected laser beams.

Generally, there are two types of scanners:

- Those emitting laser beams in the form of the familiar sine-wave representation for alternating electrical current and
- those emitting beams in the form of periodic impulses whose timing phase between pulses and time and length of beam flight may be varied to suit field conditions.

Both types are sensitive to target location and orientation, target distances, and interrupted signals due to interference noise from adjacent electrical equipment and existing site obstacles. Power requirements for scanner operations are uniformly high and careful calibration of these units are required before surveying begins.

Particular attention also must be paid to vibrations at the site, variable sun/shade conditions, different responses from highly and moderately reflective surfaces, and optimum placement of the scanning camera. Also special care must be taken to clean camera lenses and components; construction site dirt can affect performance as can the presence of vegetation at the site. Also, the camera field of view may be limited to relatively small spot sizes and inaccuracies at the edges of the resulting images have created problems. Best results are achieved by locating the targets at equal spacing from the camera and at equal increments across the field of view. Thus “scan density” also must be carefully controlled, as well as adjacent flat walls at the site which create unacceptable “range noise” for scan camera reception. These potential problems may be minimized by taking two consecutive scans at each and every target setting.

Mr. Stigner accompanied his presentation with an extremely impressive computerized series of slides illustrating the results of high definition laser scanning when employed in such applications as topographical mapping and three-dimensional modeling, as well as 3-D printing and prototyping. Also 3-D modeling can be used to generate very accurate 2-D site plans for actual construction. These procedures, resulting from as many as several thousand successive sectional scans throughout the site, produce very helpful images for project planning, engineering design efforts, and as a communications tool for clients, contractors, and at public planning meetings.

The slides included complex 3-D piping and chemical plant layouts, as well as railroad route and switching yard plans. Penn Station’s complex track plans were shown as well as development
of Columbia University and Battery Park City neighborhoods. Also shown was the results of scanning survey of the Broadway depression at 125th Street in Manhattan. Laser scanning was also used to document the scene at the East 51st Street crane collapse as well as a similar accident in Miami, Florida. Forensic scanning surveys such as these can also be used at complicated crime scenes and highway crashes. Stantec recently completed scanning of several significant buildings in Washington, DC, where complicated architectural details had to be preserved and reproduced.

As usual, the question and answer period was equally informative. Scanning instruments can cost as much as $100,000 with an additional $50,000 needed for the necessary software. Site scanning projects can be expensive and at times can only be justified for complex and extensive development sites, however, historic and traditional surveying techniques can still be used for smaller and simpler projects and can be very cost effective.

Once again, the subject matter presented at this Chapter Technical Meeting is typical of the cutting-edge and ground-breaking topics presented to our members. We look forward to greeting each of you at our subsequent programs.
A New Year: a new opportunity to land that job

As we begin a new year, it is a good idea to update your resume and interview skills as you prepare to apply for an engineering job. Whether you’ve just graduated and are searching for a full-time position, or are still in school and trying to land an internship, your resume and cover letter need to stand above all of the other applicants for the same position. This is especially true given our current economic climate when companies have cut their operating costs, reducing their number of positions, and only a small percentage of companies are actually hiring for new positions. Even though this may not be the most ideal climate for landing a new job, it is not impossible, so long as you take the time and effort to make yourself stand out among the other applicants. Most of these tips are fairly easy to do, and can make a difference in whether or not you are even considered for the position.

- Organize your resume and make it easy to read. The more difficult it is to read the resume, the more likely that it will be passed over by an employer.

- Your resume should focus on your strengths and skills. These are some of your strongest assets in your job search, and you should be advertising these points as much as possible. Don’t be afraid to leave some things out to increase focus on these important items.

- Have several people proofread your resume. There is never a reason for typo to appear on a resume, and will lower your chances of being called for an interview.

- Do some research on the company you are applying to. Knowing some of the projects that a company has worked on and being able to speak intelligently about them is sure to impress an employer.

- Be the answer to an employer’s needs. Tell your employer what your skill set is and what you are capable of in the interview. Focus on your ability to learn a new skill and perform it well. Having a previous example of learning a new skill-set to describe at the interview is a good idea.

- Follow up with a thank-you card within a day or two after an interview, while you are still fresh in your employer’s mind. Mention something that you spoke about in the interview.

These are some of the major, simple, things that you can do in your job search to help make yourself stand out from the pool of applicants. Take the time at the start of this new year to review and strengthen your resume and interview skills, and improve your chances of landing that new job.
Advertisements

We are now accepting advertisements for inclusion in our publication.

- **business card:** $100 per year
- **¼ page ad:** $200 per year
- **½ page ad:** $300 per year
- **full page:** $400 per year

Ads can be in black & white or color. Please provide the ad copy in pdf format. Ad copy should be provided via email by the 20th of the month for inclusion in the following month’s edition.

Please email ad copy to NY Notes Editor, Toby Hansson, P.E. at toby.hansson@stantec.com.

Ad content subject to Board approval. Proceeds from the advertisement help support our scholarship fund.

Payment should be mailed to our treasurer, Al Brand, P.E. at the following address:

Mueser Rutledge Con. Engrs.  
attn: Al Brand, P.E.  
14 Penn Plaza  
225 West 34th Street  2nd Floor  
New York, NY 10122-0002

*Check should be made payable to “NYSSPE New York Chapter”*

Sponsorship Opportunity for Monthly Dinner Meetings

Sponsorship opportunities for upcoming NYSSPE NY Chapter Monthly Dinner Meetings are currently available.

Sponsorship begins at $500.

**Benefits for Sponsor Company:**
- 5 tickets to the sponsored dinner meeting
- Signage at each table indicating sponsorship
- Announcement recognizing sponsor at the dinner meeting

Contribute Articles and Announcements for NY Notes

We welcome members to submit information for publication. Anyone interested in contributing can send the information via email to our editor, Toby Hansson, at toby.hansson@stantec.com or via mail at:

Stantec, 50 West 23rd Street, 8th floor, NY, NY 10010  
Attn: Toby Hansson

Stantec, founded in 1954, provides professional consulting services in planning, engineering, architecture, interior design, landscape architecture, surveying, environmental sciences, project management, and project economics for infrastructure and facilities projects.

For more information visit stantec.com.

One Team. Infinite Solutions.
He could head up highway design. Or program development or an environmental practice. For more than 75 years, DMJM Harris has brought together the most creative thinkers in every discipline. Our project managers build teams that know how to anticipate and address stakeholder issues, put together creative financial solutions and, of course, deliver sound and original engineering results.

No matter how large the project, we have the experience, the knowledge, the resources of AECOM and – most importantly – the people to get it done.

000-433-9001

DMJM HARRIS | AECOM

www.dmjmharris.com

He’ll probably be working for us in about 15 years.

Joseph P. Crosson, P.E.
Principal

304 Hudson Street
New York, NY 10013-1015
Tel: 212-233-2737
Fax: 212-406-1417
Cell: 917-894-8502
jcrosson@lpiny.com
www.lpiny.com

L P I
Est. 1885
Fitness-for-Service Assessment
Failure & Materials Evaluation
Nondestructive Engineering

Lucius Pitkin, Inc.
Reconstruction and Removal of Cobblestone on Tenth Avenue, Manhattan Construction Inspection - NYCDDC
Recipient of 2009 Gold Award for Engineering Excellence - ACEC NY
Recipient of 2009 Distinguished Award for Engineering Excellence - ACEC NJ

Construction Management
Construction Inspection
Geotechnical Engineering
Bridge Design / Inspection
Site / Civil Engineering
Design / Build
Highway Design
Traffic Engineering
Building & Facilities
Surveying Services
Landscape Architecture

Corporate Headquarters:
40 Wall Street, 11th Floor, New York, NY 10005
Phone: 212.747.1997; Fax: 212.747.1960
www.haks.net
New York Notes
November/December 2010
www.nychapter.org

Now accepting Registrations for the
Spring 2011 Sessions

NYC
March 25– New York City Building Code: Multi-Family/Mixed Use Building Design & Fire Protection Options**8 PDHs
April 5– Hot Topic: Focus on Professional Ethics
April 28– LEED Exam Preparation Course**8 PDHs (Different fee structure applies)
May 11– Failure Analysis
May 24– New York City Building Code: Multi-Family/Mixed Use Building Design & Fire Protection Options**8 PDHs

Albany
April 6– Hot Topic: Focus on Professional Ethics
April 28– Water-Based Fire Protection Systems in the New York State Fire Code

Buffalo
April 1– Stormwater Retrofit Planning & Design
May 10– Failure Analysis

Syracuse
April 12– 2010 New York State Codes – Significant Changes
April 26– Stormwater Retrofit Planning & Design

Find complete program descriptions at www.idpnewyork.com

$235/person/session before March 1
$285/person/session after March 1
(Lunch is included on site for all sessions)

Program Schedule for all locations
8:00am - 8:30am Registration & Continental Breakfast
8:30am Seminar Begins
12:00pm - 12:30pm Lunch onsite and included
12:30pm Seminar Reconvenes
4:00pm Seminar Concludes

7 full day programs
affordable continuing education
in 4 convenient locations.

each session is
worth 7 PDHs/LUs

** = 8 PDHs/LUs

Call idp today
for more information
or to register –
(315)682-1496
or visit our website,
www.idpnewyork.com

Call idp today
for more information
or to register –
(315)682-1496
or visit our website,
www.idpnewyork.com