

FIRM project

Design/Build of Route 133, Section 1A— Hightstown Bypass

A high level of community involvement contributed to the success of the project. Goodkind & O'Dea addressed community issues by:

- Speeding design and construction to satisfy the community.
- Shifting the alignment as much as 30 feet away from existing residential developments.
- Reducing median width to move the roadway edge away from the adjacent community.
- Tailoring fencing and landscaping to match adjacent developments (fencing was coated green and not installed where noise walls were constructed, to maintain an open look).
- Adding noise walls and relocating them away from traditional right-of-way limits, thereby reducing perceived impacts.
- Developing noise wall architectural treatments, special form liners and colorization to provide a pleasing architectural presence.
- Transporting local community leaders to other existing noise wall locations (they subsequently chose the final materials and color to be used on the Hightstown Bypass).



By relieving overwhelming traffic volume through the heart of Hightstown's business district, the bypass enables the Borough to aggressively pursue its downtown revitalization program. Business owners are also happy that shoppers can park and safely cross streets.

The Hightstown Bypass was the New Jersey Department of Transportation's (NJDOT) first venture into design/build contracting. The 3.6-mile, four-lane roadway includes three grade-separated intersections, 13 bridges (six dual structures) and placement of 1.1 million cubic yards of embankment. It was completed two years ahead of schedule (30% reduction in contract completion time) at a savings of \$10 million (13% reduction from the original estimate of \$75 million) and has allowed NJDOT and its contractors to test new methods and acquire new skills and insights.

Goodkind & O'Dea was the lead design consultant on the project. Schiavone Construction Co. teamed with Goodkind & O'Dea, specialty geotechnical subconsultants Converse Environmental East and MBE firm Medina Consultants. Using a modified design/build contract procurement method, Schiavone and Goodkind & O'Dea utilized NJDOT-provided 30% preliminary plans to bid the project.

Significant innovative improvements (most of which had never been used in New Jersey) saved over \$3 million, including:

- Changing foundation support from driven piles to spread footings supporting T-wall precast abutment concrete wall units.
- Using T-wall units at abutments and wingwalls. This system used granular backfill, precast reinforced concrete panels with integral stem anchors to furnish a composite gravity substructure. Previously, this had only been utilized on a limited basis for wingwalls.
- Using integral bridges to eliminate deck joints, eliminate leakage to the substructure and provide a smoother ride. Backwalls were cast-in-place with precast, prestressed concrete girder diaphragms. Intermediate diaphragms used

galvanized steel members in lieu of cast-in-place concrete, saving time. They were attached to the girders using threaded inserts.

- Using precast concrete double span arches with precast wingwalls and headwalls, instead of a conventional bridge, to cross a waterway. To address environmental concerns and limit overall crossing length, double sinuous precast arches were designed and built.
- Using permanent steel-shell foundation elements to support concrete noise barriers and sign structures, speeding installation and reducing construction cost.
- Using prefabricated galvanized steel diaphragms in lieu of cast-in-place reinforced concrete diaphragms, reducing the number of diaphragms and shortening construction time.

This project was originally authorized in 1938 to remove extensive congestion from the historic center of Hightstown. Reborn by a non-partisan coalition of community and government leaders, it was subsequently designed and constructed in only 4 years. The community where the project is located was involved in selected design criteria and benefited from redesign efforts performed concurrently with actual construction.

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UPCOMING events

OCTOBER 4-6 North Atlantic Regional Conference
Philadelphia, PA
Info: Ed Gilvey 610-495-7192

OCTOBER 11 Board of Directors Meeting, 12 Noon

NOVEMBER 4 Gala Dinner Scholarship Fund Dinner Dance
Waldorf-Astoria Hotel
Info: Harvey Sands 212-736-4444

NOVEMBER 15 Luncheon Panel Meeting, 290 Broadway

FEBRUARY 21, '01 Board of Directors Meeting, 12 Noon

MARCH 7, '01 Evening Meeting, 5:30 PM

APRIL 18, '01 Board of Directors Meeting, 12 Noon

APRIL 25, '01 Evening Meeting, 5:30 PM

MAY 30, '01 Board of Directors Meeting, 12 Noon

JUNE 6, '01 Evening Meeting, 5:30 PM

JUNE 15, '01 Annual Harbor Inspection

Hope you enjoy this first edition of the Post's revised newsletter. In this and future issues we aim to highlight the activities of the Post's various members and committees— and for this we need your help. Please send us any material you wish to have published...

— PUBLICITY SUBCOMMITTEE

S A M E Story • page 6

DEDICATED TO THE NATIONAL DEFENSE

THE SOCIETY OF AMERICAN MILITARY ENGINEERS NEW YORK CITY POST

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NYC Post's

story

S A M E

THE SOCIETY OF AMERICAN MILITARY ENGINEERS



VOLUME ONE • SEPTEMBER 2000

SAME SCHOLARSHIP FUND

The SAME Scholarship Fund will again this year award in excess of 155 scholarships to deserving students in over 40 colleges and universities

Since the November 4th Dinner Dance is for the benefit of the Scholarship Fund, now is the time to consider making a contribution to this worthy cause.

throughout the U.S. These scholarships, in the amount of \$1,000 each, are given to students of engineering or a related discipline (architecture, computer science) who are U.S. citizens, chosen by their particular institution. As has been the custom in the recent past, several of these students and their guests from local schools are personally awarded the scholarships and beautifully engraved certificates at our annual Dinner Dance held each November. The remaining students are awarded their scholarships/certificates by their individual colleges.

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MEMBER profile

JOSEPH R. LORING, P.E.

- Chairman of the Board/CEO, Joseph R. Loring & Associates, Inc.
- Principal-in-Charge/Chief Electrical Engineer

Joe Loring believes that he has led a charmed existence. He enlisted in the Army in June 1944, at the age of 18, and was sent to the Infantry Replacement Training Center at Fort McLellan, Alabama where he completed basic training in December 1944. Instead of being sent overseas, he was one of a small group of soldiers with a college background selected to be transferred to Virginia Tech (VPI in those days) for special training. Upon completion of the training period he and several others were transferred to the Signal Corps in order to operate a top secret voice scrambling system located in the bowels of the



Joseph R. Loring, P.E.

Pentagon. He rose to the rank of Staff Sergeant and, after his discharge in June 1946, returned to Virginia Tech where he received a B.S. in Electrical Engineering in December 1947.

After relatively brief stints working for the New York City Board of Transportation, Ebasco Services and a

Continued on page # 3

SUBCOMMITTEE reports

SAME Young Member Committee

By K. Mohlenbrok



K. Mohlenbrok
-Committee Chair

The Young Member Committee sponsored a presentation by Stephen Frangos, Engineering Division Head of the Global Maritime and Transportation School at the U.S. Merchant Marine Academy. The presentation took place at the offices of STV on June 27, with refreshments provided courtesy of Frederic R. Harris. Mr. Frangos spoke about maritime and transportation educational programs available at the Global Maritime and Transportation School.

Our next scheduled event will be an outing to a golf driving range. All are welcome—see details below:

SAME Young Members Night at the Range
The Golf Club at Chelsea Piers
Wednesday, September 27 • 6:00 PM

- RSVP to Elaina Moy at Jacobs Sverdrup before September 22
Phone: 732-452-9200 or e-mail: MOYE@Sverdrup.com
- Rates are \$15 for 65 balls or \$20 for 87 balls

Refreshments afterwards at Chelsea Brewing Company

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FIRM project

Deep Draft Navigation Solutions for New York Harbor

By Thomas MacAllen, P.E., P.P.
and Thomas Shea

**Most of the channels serving
New York Harbor are now,
or are soon to be, federally
maintained navigation
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harbor as a system.**

URS was responsible for:

- Assisting in the preparation of mitigation plans and the EIS
- Attending various public meetings
- Performing the geotechnical design of several project elements
- Authoring the Main Report, the Formulation Appendix and the Project Management Plan

Thomas MacAllen is Vice President of Water Resources, URS Corporation and Thomas Shea is Project Planner, U.S. Army Corps of Engineers, New York District.



The work represents the District's most comprehensive study of the harbor.

URS Corporation, working as a subconsultant to the New York/New Jersey Harbor Partnership, a joint venture of Moffatt and Nichol Engineers and Lawler, Matusky and Skelly Engineers, has assisted the New York District Corps of Engineers in preparing a feasibility study for deep draft navigation solutions for New York Harbor. The work represents the District's most comprehensive study of the harbor.

Most of the channels serving New York Harbor are now, or are soon to be, federally maintained navigation channels. Previous navigation studies considered only individual channels, not the harbor as a system.

Working in cooperation with the adjoining states, the City of New York and the Port Authority of New York and New Jersey, the project team analyzed trade forecasts based on macroeconomics and the projection of future fleet characteristics. Project benefits were computed based on transportation cost savings associated with operating deeper, more cost-efficient vessels, and distributed across the harbor based on forecast berthing capacity, yard capacity and historical shipping practices.

The project team developed costs for 46, 48, 50 and 52-foot mean low water (MLW) channels, all divided into pathways leading from the open ocean to existing and proposed terminals. The pathways were evaluated individually and in combination with one another. Using equimarginal economic principles, the project team identified and recommended the National Economic Development (NED) plan. The NED is defined as the plan that provides the greatest quantity of benefits above cost when considered over the life of the project. A draft and final EIS were prepared, taking into account input from public meetings and the needs

of National Environmental Policy Act (NEPA) notifications.

URS was responsible for assisting in the preparation of mitigation plans and the EIS, attending various public meetings, and performing the geotechnical design of several project elements. In addition, the firm authored the Main Report, the Formulation Appendix and the Project Management Plan.

The mitigation plans considered a variety of alternatives, including the beneficial re-use of dredged material, in-kind littoral zone creation, wetland preservation/restoration, shore-line stabilization, and island and near-shore creation/restoration.

Collaborating with the New York/New Jersey Harbor Partnership, URS assisted in developing functional assessments used to economically evaluate and optimize mitigation alternatives. Unlike traditional wetland assessments, where a Habitat Evaluation Procedure (HEP) can be employed to measure environmental value, because the impacted area was the New York State-regulated littoral zone habitat, new procedures had to be developed by the team to perform a functional assessment of the impact areas and proposed mitigation solutions.

The NED/Recommended plan includes a maintained 50-MLW channel to Port Jersey, South Brooklyn, Port Newark/Elizabeth and Howland Hook, at an estimated construction cost of \$1.7 billion. In December 1999, the report was forwarded for review to Corps Headquarters in Washington, D.C., was endorsed by the Secretary of the Army this spring, and forwarded to the Office of Management and Budget. ■

F I R M profile

Maitra Associates, P.C.



Emergency trench shoring design for new International Arrivals Terminal at JFK Airport.

Maitra Associates, P.C. is an established multidiscipline engineering design and construction inspection firm serving the needs of a wide variety of clients in the infrastructure, transportation and facilities markets. Since its founding in 1982, Maitra has grown from a two-person office to a regional firm with over 100 professionals located in design centers in New Jersey and New York City. The firm's mission is the award, management, and successful completion of projects in the Northeast and Mid-Atlantic Regions.

Maitra offers professional services within several disciplines, including civil/site engineering; structural engineering; electrical engineering; mechanical engineering; survey/mapping; and construction inspection. The firm's diverse staff is comprised of experienced professionals who provide client focused, technically superior, and cost effective engineering and construction inspection services, within an interdisciplinary team environment. Maitra is entrepreneurial in spirit, reflecting a culture of flexibility, innovation and responsiveness while providing the in-depth resources of a full-service organization.

Maitra's significant projects include design services for large investments at the area's major metropolitan airports. Included are the new International Arrivals Terminal and American Airlines Terminal at JFK and the expansion of Continental

Airlines' Terminal C at Newark International Airport, plus two other projects: a new cargo hangar and a new maintenance facility for Continental at Newark.

For the past 12 years, Maitra has had an Indefinite Delivery Contract with the Port Authority of New York and New Jersey. Over 75 projects have been completed, establishing Maitra as a strategic partner with the Port Authority's Engineering Program Management Group responsible for tunnels, bridges and terminals. In addition, the New York State Office of General Services relies on Maitra to meet ongoing and future engineering needs at various facilities within their jurisdiction.

Recognizing the benefits of alternative designs and cost effective solutions, Maitra is currently providing engineering design services to the Brooklyn Navy Yard Development Corporation to provide accessibility to tenant sites and improve the maintenance characteristics of roadways.

Chandi P. Maitra, P.E., founder and President of the firm, has been a sustaining member of SAME for over 15 years. Maitra personnel participate in monthly meetings at both the New York and New Jersey Posts. ■

For further information, visit the firm's website at: www.maitra.com

LORING PROFILE

CONTINUED FROM PAGE 1

now defunct consulting engineering firm, Mr. Loring entered into private practice in October 1956. Shortly thereafter, he became a member of SAME. In the fall of 1962, barely six years after entering private practice, Joseph R. Loring & Associates was selected as the electrical engineers for the World Trade Center by the architects, Minoru Yamasaki & Associates and Emery Roth & Sons, and were approved by the Port Authority of New York and New Jersey (PANYNJ). After 38 years, Mr. Loring still considers the PANYNJ and the World Trade Center one of his firm's most valued clients. The Loring firm continues to work with Minoru Yamasaki Associates on many projects.

Mr. Loring feels that one of his most important affiliations with SAME was his involvement with the New York Chapter's Scholarship Program, which began relatively early in his career when introduced to Col. Joe Markle by Max Urbahn, Mr. Loring's first client.

Mr. Loring's career has been earmarked by involvement in a number of unique world class projects, including the King Fahd Airport in Dhahran, Saudi Arabia, one of the three major airports constructed in Saudi Arabia in the 1970s. In 1980, the Loring firm was on the winning team with Mitchell Giurgola & Thorp Architects, of the international design competition (out of 329 entries) for the design of the new Federal Parliament House in Canberra, Australia. The project was scheduled to be constructed from 1980 to 1988 at a cost, at that time, of the equivalent of (U.S.) \$800 million. As required by the Australian government, the project had to be designed in Canberra and Mr. Loring personally made 16 trips to Australia during that period. He and his wife, Sheila, attended the dedication of the Parliament House by Queen Elizabeth II in May 1988 and in May 1998, were invited by the Parliament House Construction Authority to join

MEMBER profile

in the celebration of the Tenth Anniversary of the opening.

In 1999, Mr. Loring's firm was awarded the ACEC's Grand Prize (Transportation Category) for the mechanical and electrical design of Terminal One at John F. Kennedy International Airport. The firm has recently been engaged as consultants to Minoru Yamasaki Associates to begin design on the World's Tallest Building sponsored by the followers of the Maharishi Mahesh Yogi, to be constructed at an unspecified location in the U.S.

After relocating to Arlington, Virginia 2½ years ago, Mr. Loring spends most of his time in the firm's Washington, DC office. He is currently involved in what he considers to be one of the most challenging projects of his career—the renovation of the mechanical and electrical systems of the U.S. Supreme Court Building, a building which was completed over 60 years ago. This complex project, involving a building which is considered a national treasure, has been made more difficult since the building is to remain in operation during the renovation.

Mr. Loring feels that one of his most important affiliations with SAME was his involvement with the New York Chapter's Scholarship Program, which began relatively early in his career when introduced to Col. Joe Markle by Max Urbahn, Mr. Loring's first client. Loring is proud to say that Urbahn Associates, the successor firm, is still one of their clients. Joseph R. Loring & Associates participated in many individual scholarship funds and, in 1988, funded a scholarship in the company's name, which would be awarded to a Virginia Tech student on an annual basis. Mr. Loring's commitment to the program was reinforced this year when he received a letter from a recent recipient of the scholarship, a young man who is a member of the Corps of Cadets, thanking him for the scholarship.

Mr. Loring currently serves on the Advisory Board to the National Institute of Building Sciences; the Advisory Board to the Committee of 100 at Virginia Tech and recently completed serving six years on the Advisory Board to the Bradley Department of Electrical Engineering at Virginia Tech. In 1999, Mr. Loring was inducted into the "Academy of Distinguished Alumni" at Virginia Tech. ■

CARL A. JENNE, P.E.

• Manager of New York operations

Goodkind & O'Dea recently promoted Carl A. Jenne, P.E., to Manager of New York operations, with oversight of offices in Manhattan and Rochester. In his new position, Mr. Jenne is responsible for the statewide administrative and technical functions of these two offices.

Mr. Jenne worked for Goodkind & O'Dea from 1975 to 1977. He rejoined the firm in May 1998 as Manager of the Mount Laurel, New Jersey office. In March 1999, he became Assistant Branch Manager of the New York City office.

Mr. Jenne earned a Bachelor of Engineering (Honors) from Stevens Institute of Technology and an MBA from Rutgers University. He is a licensed Professional Engineer in New York and New Jersey, a member of the Society of American Military Engineers, American Society of Civil Engineers, American Planning Association, and the American Management Association.

Major projects being performed by the firm's New York operations include waterfront facilities for the New York City Economic Development Corporation (NYCEDC), the Hudson River Park Trust, Turner Construction Company and the New York State Department of Transportation (NYSDOT); design/build of academic facilities for the New York State



Carl A. Jenne, P.E.

Dormitory Authority, the State University Construction Fund and the New York City School Construction Authority; highway and bridge designs for the City of Rochester, Monroe County, Allegheny County, NYSDOT, NYCDOT, NYCDDC and MTA Bridges and Tunnels; and transit projects for the MTA Long Island Rail Road, MTA Metro-North Railroad, New York City Transit, NYCEDC and NJ TRANSIT.

Founded in 1952, Goodkind & O'Dea offers comprehensive consulting engineering, architectural and construction inspection services in areas such as highways, bridges, infrastructure rehabilitation, site and civil engineering, mass transit, airports, buildings, telecommunications, municipal and environmental engineering. The firm is headquartered in Rutherford, New Jersey, with branch offices in Mount Laurel and Parsippany; New York City and Rochester, New York; New Haven, Connecticut; Boston, Massachusetts; and Carlisle, Pennsylvania. ■

SCHOLARSHIP FUND

CONTINUED FROM PAGE 1

Certainly a highlight of our Post's activities, the Dinner Dance is a truly memorable function for the students where they have the opportunity to mingle both with each other and with many of our industry's leading professionals. From the initial entrance into the Waldorf-Astoria's Grand Ballroom where banners of many of the schools are proudly displayed from the ornate balconies, to the final dance of the evening, each of the previous Dinner Dances has proven to be an elegant affair—and our upcoming event on November 4th promises to rank among the most gala yet.

Since the Dinner Dance itself is for the benefit of the Scholarship Fund, now is the time to consider

making a contribution to this worthy cause. Name Scholarships are in the amount of \$10,000 each and can be designated to a particular institution on a yearly basis or be awarded to a different institution each year. Bud Griffis, President of our Scholarship Fund, will certainly be delighted to answer any questions regarding the establishment of a new Name Scholarship in either a firm's or individual's name.

We look forward to seeing many of you and your guests on the dance floor on November 4th celebrating another momentous year in the life of your Post's Scholarship Fund. ■