Torres Rojas, Genara FOI #12486

From: Mary.Cabrera@WestonSolutions.com
Sent: Tuesday, July 26, 2011 10:32 AM
To: Van Duyne, Sheree
Cc: Torres Rojas, Genara; Duffy, Daniel
Subject: Freedom of Information Online Request Form

Information:

First Name: Mary
Last Name: Cabrera
Company: Weston Solutions
Mailing Address 1: 205 Campus Drive
Mailing Address 2:
City: Edison
State: NJ
Zip Code: 08837
Email Address: Mary.Cabrera@WestonSolutions.com
Phone: 732-417-5876
Required copies of the records: Yes

List of specific record(s):
We are requesting the winning bid documents and evaluation sheets for the following Contracts: Environmental Ecological Call-In 2011 P41511147 Environmental Engineering Design Call-In 2011 P 41511069 P 41511070 P 41511071 P 41511072

THE PORT AUTHORITY OF NY & NJ

Daniel D. Duffy
FOI Administrator

June 27, 2012

Ms. Mary Cabrera
Weston Solutions
205 Campus Drive
Edison, NJ 08837

Re: Freedom of Information Reference No. 12486

Dear Ms. Cabrera:

This is a response to your July 26, 2011 request, which has been processed under the Port Authority's Freedom of Information Code (the "Code", copy attached) for copies of the documents submitted for the winning bids and the evaluation sheets for the following contracts: Environmental Ecological Call-In 2011 P41511147, and the Environmental Engineering Design Call-In 2011 P41411069, P41511070, P41511071, P41511072.

Material responsive to your request and available under the Code can be found on the Port Authority's website at http://www.panynj.gov/corporate-information/foi/12486-C.pdf. Paper copies of the available records are available upon request.

Certain material responsive to your request is exempt from disclosure pursuant to Exemption (1) of the Code.

Please refer to the above FOI reference number in any future correspondence relating to your request.

Very truly yours,

Daniel D. Duffy
FOI Administrator

Attachment

225 Park Avenue South
New York, , NY 10003
T: 212 435 3642 F: 212 435 7555

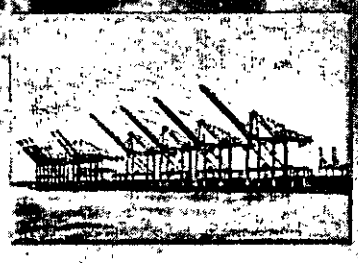
THE PORT AUTHORITY OF NY & NJ

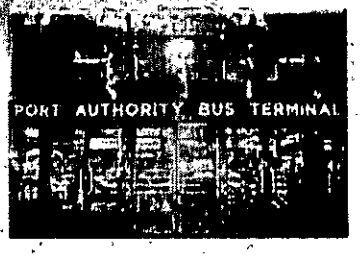
Original

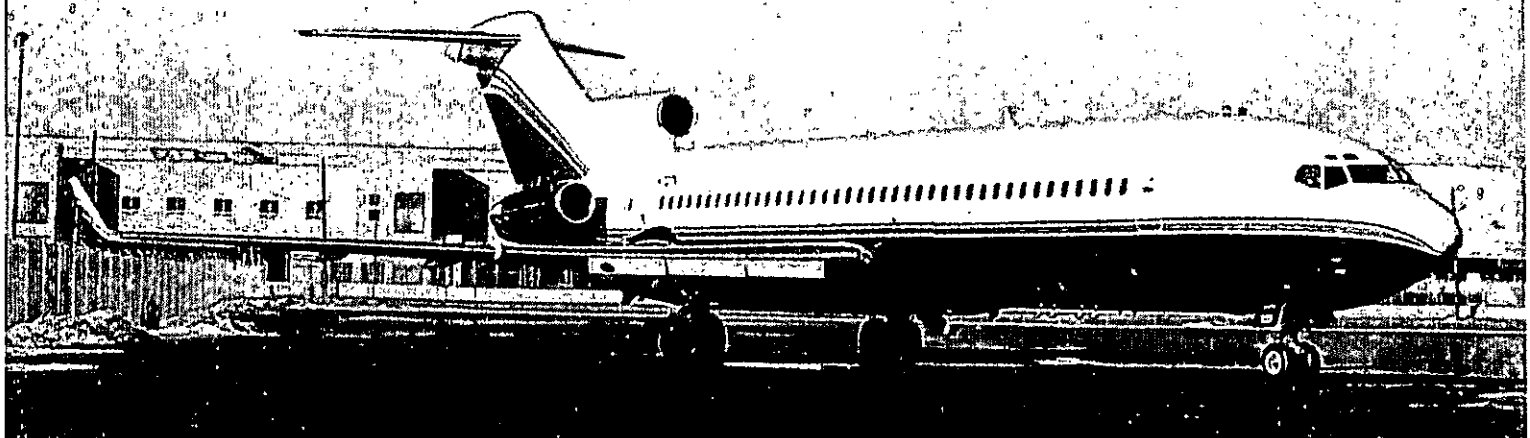
PROPOSAL

Performance of Expert Professional Environmental Engineering Services as Requested on a "Call-In" Basis During 2011

RFP# 21999







September 2010

Solutions for Life

MALCOLM PIRNIE

MALCOLM PIRNIE

Malcolm Pirnie, Inc.
17-17 Route 208 North
Fair Lawn, NJ 07030
T: 201.797.7400 F: 201.797.4399
www.pirnie.com

September 13, 2010

Mary Lou K. Rivera
Principal Contract Specialist
The Port Authority of New York and New Jersey
One Madison Avenue, 7th Floor
New York, NY 10010

Re: Proposal for the Performance of Expert Professional Environmental Engineering Services as Requested on a "Call-In" Basis During 2011 (RFP #21999)

Dear Ms. Rivera:

Malcolm Pirnie Inc. is pleased to submit the enclosed proposal both in hard copy and on compact disk for review and consideration by the Port Authority in evaluating our qualifications for the above referenced services.

We value our long-standing relationship since the late 1980's/early 1990's with the Port Authority and our work with staff over the years. We have assembled an excellent and motivated team of engineers and scientists who have worked on a wide range of environmental projects for the Port Authority, at Port Authority facilities, and at other locations in New York and New Jersey. Malcolm Pirnie would welcome the opportunity to continue to provide environmental engineering services to the Port Authority.

The attached proposal outlines our qualification, rates, multiplier and other requirements outlined in RFP #21999. With respect to Part II.J., Malcolm Pirnie has no objections to the terms outlined in the standard agreement.

Please contact myself (201-398-4405) or Kathryn Lamond (201-398-4317) if you have any questions or require more information.

Very truly yours,

MALCOLM PIRNIE, INC.

Robert S. Johnston, PE, PG
Vice President

dev
enclosures; A490724

Performance of Expert Professional Environmental Engineering Services as Requested on a "Call-In" Basis During 2011 (RFP #21999)

A

Attachment B

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ATTACHMENT B

PERFORMANCE OF EXPERT PROFESSIONAL ENVIRONMENTAL ENGINEERING SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011

AGREEMENT ON TERMS OF DISCUSSION

The Port Authority's receipt or discussion of any information (including information contained in any proposal, vendor qualification, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) shall not impose any obligations whatsoever on the Port Authority or entitle us to any compensation therefor (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with or after this Agreement on Terms of Discussion ("Agreement"), either orally or in writing, is not given in confidence. Such information may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this Agreement, whether made as part of or in connection with this Agreement, shall be void and of no effect. This Agreement is not intended, however, to grant to the Port Authority rights to any matter, which is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Port Authority's Freedom of Information Policy and Procedure adopted by the Port Authority's Board of Commissioners on November 20, 2008, which may be found on the Port Authority website at: *http://www.panynj.gov/corporate-information/pdf/Freedom-of-Information-Policy-and-Procedure.pdf,* not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause substantial injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

Malcolm Pirnie, Inc.
(Company)

(Signature)

Vice President
(Title)

9/14/10
(Date)

ORIGINAL AND PHOTOCOPIES OF THIS PAGE ONLY.
DO NOT RETYPE.

Performance of Expert Professional Environmental Engineering Services as Requested on a "Call-In" Basis During 2011 (RFP #21999)

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ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR THE EXPERT PERFORMANCE OF EXPERT PROFESSIONAL ENVIRONMENTAL ENGINEERING SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011 (RFP #21999)

1. Company Name (print or type):

   Malcolm Pirnie, Inc.

2. Business Address (to receive mail for this RFP):

   17-17 Route 208 North, 2nd Floor
   Fair Lawn, NJ 07410

3. Business Telephone Number: 201-398-4405

4. Business Fax Number: 201-797-4399

5. Firm website: www.Pirnie.com

6. Federal Employer Identification Number (EIN): (Ex. 1)

7. Date (MM/DD/YYYY) Firm was Established: 02 / 25 /1921
   (Year Incorporated)

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

   Please refer to Section H - Affiliates.

9. Officer or Principal of Firm and Title:

   Robert S. Johnston, Vice President

10. Name, telephone number, and email address of contact for questions:
    Robert S. Johnston, 201-398-4405

    RJohnston@Pirnie.com

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☐ Yes ☒ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/business-opportunities/supplier-diversity.html, to receive information and apply for certification.

Affiliations

Ownership Interests in Other Firms

Malcolm Pirnie is a wholly-owned subsidiary of ARCADIS US, Inc. Malcolm Pirnie or its officers have an ownership interest in several other firms including:

- **ARCADIS U.S., Inc.**
  630 Plaza Dr.
  Highlands Ranch, Colorado 80129
  EIN:

- **HaulPass. L.L.C.**
  104 Corporate Park Drive
  White Plains, NY 10602
  Owners: Malcolm Pirnie, Inc. (100%)
  EIN:

- **Rostan Solutions, L.L.C**
  1300 E. 8th Street, Suite F100
  Tampa, FL 33605
  Owners: Malcolm Pirnie, Inc. (100%)
  EIN:

- **Malcolm Pirnie of Michigan, Inc.**
  645 Griswold Street, Suite 1950
  Detroit, MI 48226
  Owners: Malcolm Pirnie, Inc. (100%)
  EIN:

- **Malcolm Pirnie Consulting Engineers India Private.**
  Limited"Trade Center"
  306, 3rd Floor, "C" Wing
  North Main Road, Koregaon Park
  Pune - 411001, Maharashtra, India
  Owners: Malcolm Pirnie, Inc. (99%) / Mr. K. Sridhar (1%)
  India Corporate Identity Number:

- **Malcolm Pirnie Engineers, PLLC**
  3101 Wilson Boulevard, Suite 550
  Arlington, VA 22201
  Owners: Millard Robinson (50%) / James Noonan (50%)
  EIN:

- **Malcolm Pirnie - Middle East FZC**
  PO Box 27471
  Abu Dhabi, UAE
  Owners: Robert McCollum (50%) / Mohsen Mortada (50%)
  Ras Al Khaimah Free Trade Zone
  Registration:

- **Malcolm Pirnie Australia Private, Limited**
  Level 29 Saint Martins Tower
  31 Market Street
  Sydney NSW Australia 2000
  Owners: Malcolm Pirnie, Inc. (100%)
  Australian Corporate Number: A.C.N. 127 906 030

- **InfraMetrix, LLC**
  9208 Florida Palm Drive
  Tampa, FL 33619
  Owners: Malcolm Pirnie, Inc. (72%) / Aqua Data, Inc. (28%)
  EIN:

- **MP Engineers of Puerto Rico (MPPR)**
  Las Vistas Shopping Village Ste 23
  300 Av Felisa Rincón de Gautier
  San Juan, PR 00926
  Owners: Raul Torres (90%) / Guillermo Marxuach (10%)
  EIN:

Performance of Expert Professional Environmental Engineering Services as Requested on a "Call-In" Basis During 2011 (RFP #21999)

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Multiplier Information

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CALL-IN SERVICES MULTIPLIER

Malcolm Pirnie proposes to perform services on a "call-in" basis during 2011 using a 2.89 multiplier on the actual salaries of "professional and technical personnel (but not partners or principals)." The Multiplier for work performed at Port Authority offices shall be 2.20. The back-up data is provided below.

Costs for allowable expenses are as follows:

Transportation: $0.50/mile for vehicles

Reproduction: $0.76/direct labor hour

Equipment: a schedule for usage rates for specialty equipment is available for field assignments.

MALCOLM PIRNIE FULL OVERHEAD COSTS-SUMMARY 2011 PROJECTION (IN THOUSANDS)

Direct Labor	$95,337
General & Administrative	
Employee Benefits	$48,253
Management Costs	42,590
Office Operations	38,904
Marketing	23,123
Human Resources	13,865
Financial Services	4,993
	$171,728
Overhead Rate	1.80

Direct Labor	1.00
	2.80
Profit@3.39%	0.09
Multiplier	2.89

Full Overhead Costs- Details 2011 Projection (In Thousands)

Employee Benefits	
Employers FICA	$11,651
Optional Holiday Payout	341
Paid Time Off (PTO)	13,311
Group Coverages	9,839
Pension	7,180
401K Plan	4,134
Unemp Dbl Wc	818
Overtime Differential	389
Overtime Offset	(609)
Licenses and Dues	537
Tuition	306
Employee Activities	314
Paid Absence	288
Short Term Disability	290
Benefits Allocation	(536)
	$48,253
Management Costs	
Incentive Compensation	$13,320
Insurance Costs	2,985
General Management	11,228
Legal Costs	2,499
Technical Services	7,134
Amortization of Intangibles	323

Management Costs Continued:

Contributions	371
Corp. Computer Operations	1,302
Corp. Computer Depreciation	667
Management Fee - AUS	3,296
Other	(535)
	$42,590

Office Operations

Rent & Utilities	$14,157
Office Services/Supplies & Maint	5,951
Computer Services	10,239
Communications	2,326
Administrative Reproduction Costs	773
Library	419
Expendable Off Furn & Suppl	48
Automobile Expenses	2,854
Automobile (Contra)	(1,943)
Deprec-Off Furn & Fixt	1,830
Amortization of Leaseholds	1,587
Archiving	265
Postage	398
	$38,904

Marketing

Proposals & Marketing Labor	$15,787
Proposals & Marketing Exp.	3,771
Project Contracts	572

Marketing Continued:

Corporate Communications	423
Mktg Admin & Support	1,579
Advertising	271
Entertainment	720
	$23,123

Human Resources

Moving Expenses	$1,203
Human Resources Admin	3,628
Employment Costs	1,885
Learning	2,131
Personal Development	694
Professional Activities/Leadership	2,599
Employee Partnerhip/Perf Reviews	852
Employee Orientation	59
Health and Safety	814
	$13,865

Financial Services

Accounting & Auditing	$3,719
Billing Rate Variance	(806)
Interest Expense	646
Amort. Deferred Loan Costs	93
Payroll Variance	253
Miscellaneous Taxes	753
Bank Service Charges	228
Bad Debts	0
State Income Taxes	107
	$4,993

Performance of Expert Professional Environmental Engineering Services as Requested on a "Call-In" Basis During 2011 (RFP #21999)

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Resumes

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Key Professional Staff

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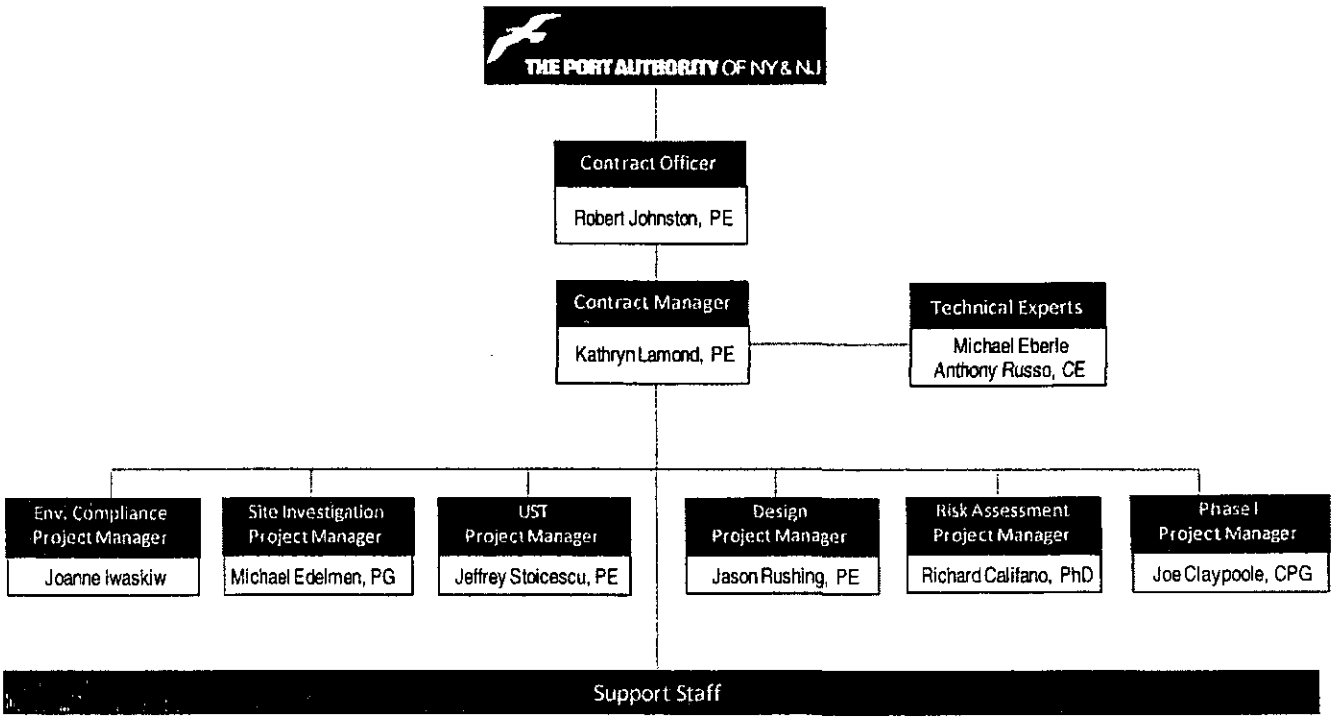
Below we present an organization chart below for our proposed team. We have assembled a team of experienced engineers and scientists that have prior experience with the Port Authority, have experience with call-in contracts, and have performed thousands of similar projects in the New York/New Jersey area. The service with the Port Authority spans the last 15-20 years, resulting in over 100 projects performed for the Port Authority. We also provided short bios of the Contract Officer and Contract/Program Manager.



Robert Johnston, PE, Vice President, will serve as Contract Officer, as he has on our current "call-in" contracts. Over 25 years, Mr. Johnston has managed hundreds of investigations for geotechnical projects, and provided assistance and consultation during construction. He is familiar with all of the Port Authority's facilities, and with their contracting procedures.

Kathryn Lamond, PE will serve as Contract Manager for this Environmental Engineering Services "call-in" contract. She has over 9 years of experience with environmental services including performing project management responsibilities for over a dozen Port Authority of NY & NJ projects and is familiar with the Port Authority processes.

Professional resumes for key members of the contract team are provided on the following pages as requested in the RFP. Resumes for additional technical support are available upon your request. A majority of the team members have worked on the projects discussed in Section F and a table is provided demonstrating this correlation.

Performance of Expert Professional Environmental Engineering Services as Requested on a "Call-In" Basis During 2011 (RFP #21999)

THE PORT AUTHORITY OF NY & NJ

Project Staff	Port Authority of NY & NJ (2008-2010) BFF&SFF S Water Treatment Plant	Port Authority of NY & NJ (2007-2009) Terminal 1, 2 & 4	Port Authority of NY & NJ (2009-Present) Terminal 5	Port Authority of NY & NJ (2009-Present) AMOCO	Port Authority of NY & NJ (2007-Present) Hanger 81B	Port Authority of NY & NJ (2008-2009) Bridge Abutment Bldg., Outerbridge Crossing	Port Authority of NY & NJ (2008-2009) Bridge Abutment Bldg., Gothels Bridge	Port Authority of NY & NJ (2008-2009) Maintenance Bldg., Gothels Bridge	Port Authority of NY & NJ (2007-Present) Kleener King	Port Authority of NY & NJ (2005-Present) BFF&SFF 981A/981MA, JFK-1036	Port Authority of NY & NJ (2005-2009) BFF AOC-1 and AOC-4 Closure	Port Authority of NY & NJ (2005-2010) BFF&SFF Remediation Monitoring	Port Authority of NY & NJ (2009-Present) Building 146/214/Hanger 19	Port Authority of NY & NJ (2007-Present) SPDES Permit Compliance	Port Authority of NY & NJ (2000-Present) Newark Bay Confined Disposal Facility	Port Authority of NY & NJ (2008-Present) MOSF	Port Authority of NY & NJ (2005-Present) Newark Airport SOFF	American Airlines (2009) Hanger 11	Shell Oil Products US (1985-Present) Various Projects	New York City DEP (1950's - Present) Various Projects
Robert Johnston, PE, PG	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Kathym Lamond, PE	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	
Michael Eberle	✔	✔	✔	✔	✔	✔	✔	✔		✔	✔	✔	✔				✔		✔	
Anthoney Russo, CE																				✔
Joanne Iwaskiw														✔						✔
Michael Edelman, PG												✔	✔				✔			
Jeffery Stoicescu, PE															✔			✔		
Jason Rushing, PE	✔									✔										
Richard Califano, PhD									✔		✔									
Joseph Claypoole, CPG																			✔	
Matthew Jones				✔	✔						✔	✔							✔	
Roger Reiersen			✔	✔	✔							✔	✔						✔	
Jeffery Rusch, LEED AP															✔			✔		
Brianne Francese			✔	✔	✔					✔		✔	✔			✔	✔		✔	
David Foster, PE															✔					
Blake Hamilton														✔						✔
Cory Snyder													✔							✔
Jason Hnatko, PE	✔									✔				✔					✔	
John Loeffel																			✔	
Eileen McKenna	✔	✔	✔	✔	✔					✔	✔	✔			✔	✔				✔

MALCOLM PIRNIE

Mr. Johnston has over 25 years of experience managing large projects, of which over 14 years have been with Port Authority properties and task order contracts. Throughout a career that spans over 20 years, Mr. Johnston has conducted and directed extensive site investigations, developed remedial solutions, and provided oversight of the implementation of these remedies. Mr. Johnston is a PE in NY and NJ, and has conducted and directed over 1000 environmental projects with over 150 No Further Action or closure letters.

Detailed Experience

- **Port Authority of NY & NJ (Eng. Dept): Call-in Contract/ New York/New Jersey.** Principal-in-Charge/Project Officer for over 30 projects at JFK, Newark, and other Port Authority Locations since 2001. Manages the call-in contract, and provides quality assurance/quality control on the projects to meet or exceed the Port Authority expectations. Assists the Port Authority in regulatory negotiations with NYSDEC and other agencies as required.
- **Port Authority of NY & NJ (Eng. Dept.): BFF and SFF Upgrades Contract JFK-1036 / Jamaica NY:** Mr. Johnston is the engineer of record for the design to further upgrade the Bulk Fuel Farm and Satellite Fuel Farm Remediation Systems. The design drawings and specifications were prepared in accordance with Port Authority CAD Standards and incorporated Port Authority Standard Specifications.
- **Port Authority of NY & NJ (Eng. Dept.): BFF and SFF Construction Services Contract JFK-981A & JFK-981MA / Jamaica NY:** Mr. Johnston is the engineer of record for the design and provided engineering consulting services during the construction activities to upgrade three dual-phase extraction systems located at John F. Kennedy Airport. Mr. Johnston attended bi-monthly progress meetings with the Port Authority and the contractor.
- **Port Authority of NY & NJ (Eng. Dept.): Site Closure Workplans / Jamaica NY.** Evaluated historical remedial activities, current site conditions and developed a workplan to achieve site closure for three LNAPL contaminated sites (Terminal 1, Terminal 2, Terminal 4) located within the

Robert S. Johnston

Project Role:
Contract Officer

Title/Firm:
Vice President
Malcolm Pirnie, Inc.

Years of Experience
25

Education
BA English Rutgers University 1982
BS Civil Engineering Rutgers University 1982
MS Civil Engineering University of California 1985

Licenses and Certifications
Professional Engineer
Regist Environmental Assessor
Registered Civil Engineer
Registered Geotechnical Engine

Health and Safety Training
Initial 40 Hour Hazardous Waste Operations Safety Training
Medical

Societies
American Concrete Institute
American Society of Civil Engineers
Association of Firms Practicing in Geosciences, Past President
National Fire Protection Association

Employment History
Malcolm Pirnie, Inc. 2001 to present
Dames & Moore 1995 to 2001
GeoCon Environmental Consultants, Inc. 1987 to 1995
GeoCon Inc. 1984 to 1987
University of California 1982 to 1983
Melick & Tully, Inc. 1977 to 1982

Central Terminal Area of the John F. Kennedy International Airport. The workplans incorporated a combination of remedial activities through vacuum truck extraction, closure sampling plans, and quarterly progress monitoring plans.

- **American Airlines: Terminal-wide Cleanup Program / NY.** Principal-in-Charge in the evaluation, design, and implementation of $40 million dollar terminal-wide clean-up program in anticipation of a terminal redevelopment project at JFK Airport Terminals 8 and 9. Negotiated a consent order within a 3 month period; and implemented remedial actions at the site within a 12 month period. Managed an ongoing field staff I at the site for conducting operations and maintenance, remediation, drilling activities, groundwater monitoring, remediation monitoring, and the development of design specifications for the environmental aspects of a $1.5 billion dollar terminal expansion.
- **John F. Kennedy Airport: Terminal 4 Redevelopment Project / NY.** Principal-in-Charge for all due diligence and environmental oversight for Terminal 4 1AB project. Oversaw range airside investigation. Negotiated with NYSDEC, reviewed existing remediation systems, and provided field oversight during initial construction. Prepared TAAs, implemented badging processes and security program, and oversaw field and laboratory testing program.
- **American Airlines: LaGuardia Airport Remediation Project / NY.** Principal-in-Charge of investigation and remediation activities relating to underground storage tanks at LaGuardia Airport. Negotiated out requirements for drain investigation and initiated airside soil removal / tank removal program.
- **New Jersey Transit: Environmental Services / NJ.** Principal-in-Charge for a variety of projects, including the Newark Subway and the Long Slip Canal Project. Project interaction included remediation evaluation, geotechnical analysis and transactional consulting.
- **New Jersey Schools Construction Corporation: Proposed Elementary and Middle School / Gloucester City NJ.** Principal-in-Charge for geoenvironmental investigation for of a near coastal contaminated site. Installed geotechnical borings, evaluated subsurface meadow mat layer, including consolidation, and provided recommendations for embankments and cut slopes, remedial excavations, dewatering, and site drainage.
- **U.S. Army Corps of Engineers, New York District: NJ Flood Control Studies / NJ.** Principal-in-Charge of a large economic evaluation for flood control of the River.
- **Consolidated Electrical Distributors: Environmental Site Assessments.** Developed protocols for evaluating the properties with respect to the risk and implemented Phase 2 investigation including regulatory liaison in over 30% of the properties.

Ms. Lamond has experience performing project management responsibilities for over 20 Port Authority projects at over 12 Port Authority facilities. In addition to her role as Project Manager on several projects under the existing Ecological Studies/Wetlands Services "call-in" contract with the Port Authority, Kathryn has also fulfilled the responsibilities of Contract Manager for this contract. Ms. Lamond has experience utilizing Port Authority Standard Specifications, Port Authority CAD Standards, and the submittal approval process. Her experience working in-house at the Port Authority Newark office with the Environmental Engineering Department also provided her with knowledge of the internal Port Authority processes, allowing her to better understand project delivery needs.

Detailed Experience

- **Port Authority of NY & NJ (Eng. Dept.): BFF and SFF Upgrades Contract JFK-1036 / Jamaica NY:** Project Manager for the design to further upgrade the Bulk Fuel Farm and Satellite Fuel Farm Remediation Systems. The design drawings and specifications were prepared in accordance with Port Authority CAD Standards and incorporated Port Authority Standard Specifications. Prepared the cost estimate for construction.
- **Port Authority of NY & NJ (Eng. Dept.): BFF and SFF Construction Services Contract JFK-981A & JFK-981MA / Jamaica NY:** Provided engineering consulting services during the construction activities to upgrade three dual-phase extraction systems located at John F. Kennedy Airport. Managed the construction submittal review process, working with the Structural, Mechanical, Civil, and Electrical design engineers to complete the timely reviews of over 200 submittals. Attended bi-monthly progress meetings with the Port Authority and the contractor. Facilitated the generation of design modifications based on changing field conditions.
- **Port Authority of NY & NJ (Eng. Dept.): Former Amoco Station / Jamaica NY.** Project manager for a site remedial program which included evaluation of soil and groundwater data, development of the remedial strategy (enhanced

Kathryn Lamond, P.E.

Project Role:

Contract Manager

Title/Firm:
Project Engineer
Malcolm Pirnie, Inc.

Years of Experience
9

Education
Program completed in BChE Chemical Engineering Bucknell University 2001

Licenses and Certifications
Professional Engineer

Health and Safety Training
Hazardous Waste Operations Eight (8) Hour Refresher
Ergonomics
Hazard Communication Awareness Initial
Initial 40 Hour Hazardous Waste Operations Safety Training
Medical
Hazardous Waste Operations Site Supervisor

Professional Training
Construction Quality Management for Contractors, USACOE Training Course, New York NY, 4/11-12, 2002.
Excavation Competent Person Training (8 Hour), in compliance with OSHA 29 CFR 1926-Subpart P, 2002.
Radiation Worker Training Certificate, Shaw Environmental, Inc., May 5, 2005.

Employment History
Malcolm Pirnie, Inc. 2005 to present
Shaw 2001 to 2005

biodegradation), and implementation of the remedial actions. Worked with the Port Authority Traffic division to develop Van Wyk lane closure plan.

- **Port Authority of NY & NJ (Eng. Dept.): Air Stripper Design / Jamaica NY.** Prepared design specifications for the upgrade of an existing air stripper to meet the requirements for operating in an explosion rated environment. Prepared the associated cost estimate for the completion of the required upgrades.
- **Port Authority of NY & NJ (Eng. Dept.): South Fuel Farm Remediation at Newark International Airport / Newark, NJ.** Prepared an SPCC plan for an above ground storage tank Malcolm Pirnie is providing for their vacuum truck extraction remedial operations at the Newark Airport South Fuel Farm.
- **Port Authority of NY & NJ (Eng. Dept.): SIB / NY.** Evaluated site soil and groundwater data, prepared closure documentation, and received closure for 2 UST sites adjacent to the Goethals bridge and site 1 adjacent to the OuterBridge Crossing.
- **Port Authority of NY & NJ (Eng. Dept.): Building 179 / Jamaica NY.** Evaluated the historical remedial progress data collected from the extraction and monitoring wells located in the vicinity of the LNAPL plume footprint at Hangar 81B located at JFK Airport. Developed a site closure strategy, communicated sampling program with Port Authority Materials Division, and prepared quarterly reports prepared for NYSDEC review.
- **Port Authority of NY & NJ (Eng. Dept.): Bulk Fuel Farm and Satellite Fuel Farm / Jamaica NY.** Evaluated the process and progress monitoring data recorded from the operation of three dual-phase extraction systems at JFK Airport. Assisted with the preparation of bimonthly optimization and maintenance reports to provide the contractor with direction on how to enhance the operation of the systems. Summarized the 20 years of remedial activities at the fuel farms and presented the closure strategy to NYSDEC and received closure for two areas of concern in the bulk fuel farm.
- **Port Authority of NY & NJ (Eng. Dept.): Site Closure Workplans / Jamaica NY.** Evaluated historical remedial activities, current site conditions and developed a workplan to achieve site closure for three LNAPL contaminated sites (Terminal 1, Terminal 2, Terminal 4) located within the Central Terminal Area of the John F. Kennedy International Airport. The workplans incorporated a combination of remedial activities through vacuum truck extraction, closure sampling plans, and quarterly progress monitoring plans.
- **Port Authority of NY & NJ (Eng. Dept.): Vapor Intrusion / Bronx NY.** Assisted with the development of a vapor intrusion sample investigation plan in accordance with NYSDOH guidance. Provided oversight during the field activities. Assisted with the preparation of the investigation summary report.

Mr. Eberle is a specialist in the investigation and remediation of hazardous materials in soil and groundwater on Port Authority projects and has over 10 years of experience directing remediation on Port Authority projects/facilities. As a senior member of Malcolm Pirnie's site closure process team, he strives to assure that for sites requiring remediation, alternative approaches are evaluated and a clear and cost-effective approach to reach site closure is developed.

Detailed Experience

- **Port Authority of NY & NJ (Eng. Dept.): Bulk Fuel Farm Remediation at JFK/ Queens NY.** Technical Lead for the optimization design and operation of two 100 gpm DPVE systems including more than 250 extraction wells. Greater than a million gallons of jet fuel has been removed from the subsurface and the optimization effort has reduced the remedial timeframe by at least 2 years. Two AOCs have received an NFA letter from NYSDEC.
- **Port Authority of NY & NJ (Eng. Dept.): Satellite Fuel Farm Remediation at JFK / Queens NY.** Technical Lead for the optimization design and operation of a 50 gpm DPVE system including more than 70 extraction wells. Greater than a million gallons of jet fuel has been removed from the subsurface and the optimization effort has remediated all LNAPL from two of three AOCs.
- **Port Authority of NY & NJ (Eng. Dept.): South Fuel Farm at Newark Airport / Newark, NJ.** Technical Lead for the optimization design and operation of the DPVE system that includes a phased remedial approach on 5 Zones including more than 100 extraction wells. Operation of the system effectively met the remedial goal within the anticipated remedial time-frame.
- **Port Authority of NY & NJ (Eng. Dept.): LNAPL Vacuum Truck Remediation Program at JFK International Airport / Queens NY.** Designed and oversees the optimization of the Vacuum Truck LNAPL recovery remediation at 5 sites throughout JFK.

Michael F. Eberle

Project Role:
Technical Expert

Title/Firm:
Associate
Malcolm Pirnie, Inc.

Years of Experience
24

Health and Safety Training
Initial 40 Hour Hazardous Waste Operations Safety Training
Hazardous Waste Operations Site Supervisor

Employment History
Malcolm Pirnie, Inc. 2004 to present
Dames & Moore Group 1987 to 2003

- **Port Authority of NY & NJ (Eng. Dept.): Building 146/214, and Hangar 19 / Jamaica NY.** Technical Lead for the design of a three full-scale chemical oxidation projects at JFK Airport utilizing sulfuric acid conditioning and low concentration hydrogen peroxide. Project included sampling plan preparation, field monitoring of injections, and closure report preparation.
- **Port Authority of NY & NJ (Eng. Dept.): Former Amoco Station / Jamaica NY.** Project manager for a site remedial program which included evaluation of soil and groundwater data, development of the remedial strategy (enhanced biodegradation), and implementation of the remedial actions.
- **Port Authority of NY & NJ (Eng. Dept.): Building 179 / Jamaica NY.** Sr. Technical advisor for the evaluation of historical remedial progress data collected from the extraction and monitoring wells located in the vicinity of the LNAPL plume footprint at Hangar 81B located at JFK Airport.
- **American Airlines: Remediation at JFK Airport / Queens NY.** Designed and directed the optimization plan of the two-phase vacuum extraction systems at Concourse D. The optimization effort reduced the remediation time frame from four years to less than two years. At another location at the airport, provided technical support for the implementation of a chemical oxidation/natural attenuation system designed to treat a significant aromatic hydrocarbon/MTBE plume. A Pump & Treat System associated with MTBE plume containment was shut down within one year of start up. Both sites received NFA letters from NYSDEC.
- **Shell Oil Products U.S.: Multiple sites.** Serves as Sr. Technical Remediation Lead on the Call-in contract for Shell Oil. Project tasks include site investigations, remedial design and implementation, development of soil and groundwater sampling programs, cost estimating, data analysis, subsurface contaminant modeling, subcontractor oversight, site inspections, and progress reporting.
- **Shell Oil Products U.S.: St. Marys WWTP Reserv. / ST MARYS WV.:** Designed, installed and oversaw the operation of an accelerated dual-phase vacuum extraction system. Designed to remediate a one acre mixed gasoline/diesel fuel LNAPL plume in less than one year. Operation of the system met remedial goals in 9 months. The Client received an NFA letter in 2007.
- **HOVENSA: Refinery / St Croix.** Technical Remediation Director overseeing the Hydrocarbon Recovery Project (HRP) for the largest refinery in the Northern Hemisphere. The HRP system consists of approximately 135 total fluid pumps and associated piping, four dual phase SVE systems, and approximately 725 monitoring wells. MPI is currently evaluating optional remedial technologies to reduce the projected remedial time-frame from 30 years to less than 10 years.

Mr. Russo specializes in environmental impact and planning, alternative analyses, and siting studies, permitting, biological, water, and sediment quality studies. He is responsible for managing a multidisciplinary team of scientists in the delineation of wetlands throughout New York and New Jersey, using techniques developed by the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency. Special studies include jurisdictional determinations and dredge and fill permit application pursuant to Section 404 of the Clean Water Act; nationwide permit determinations and application; wetland functional and value assessment using the computer-based Wetland Evaluation Technique (WET); and development of mitigation plans to replace or enhance wetland functional and habitat value.

Detailed Experience

- **Port Authority of NY & NJ: Feasibility Study for Construction of a 1000-Acre Dredged Material Containment Island in the New York Bight / New York-New Jersey Harbor NJ.** Served as project manager for a series of environmental and engineering studies to evaluate the practicability of building a containment island in the New York-New Jersey Harbor region for disposal of contaminated dredged materials. Key issues included impacts to wave and current patterns, fisheries, and benthic ecology. Options were contemplated for restoration of the completed island as offshore bird-nesting habitat and artificial reef.
- **Port Authority of NY & NJ: Newark and JFK Airports Wetlands Mitigation / Metropolitan New York NY.** Chief wetlands scientist in the siting, conceptualization, and design of two wetlands mitigation sites. At Newark, a freshwater system was designed to offset losses due to runway expansion. At JFK, a tidal system was created to offset losses due to a new rail access station.
- **Port Authority of NY & NJ: Wetlands Mitigation Banking Reconnaissance Level Study / Metropolitan New York City NY.** Project manager for study to assess the practicality of establishing a wetlands mitigation bank in the metropolitan region as a means of offsetting wetlands

Anthony M. Russo

Project Role:
Technical Expert

Title/Firm:
Vice President
Malcolm Pirnie, Inc.

Years of Experience
32

Education
BS Biology, Fordham University 1978
MS Environmental Biology and Ecology, Fordham University 1980

Licenses and Certifications
Certified Ecologist
Certified Habitat Evaluation Procedures Biologist
Certified Professional Wetland Scientist
Wetland Delineator Certification Program

Health and Safety Training
Construction Safety Awareness
Initial 40 Hour Hazardous Waste Operations Safety Training
Hazardous Waste Operations Site Supervisor

Societies
American Fisheries Society
American Society of Limnology and Oceanography
Ecological Society of America
Society of Wetland Scientists

Employment History
Malcolm Pirnie, Inc. 1984 to present
Mercy College, New York 1983 to 1986
NUS Corporation 1983 to 1984
Our Lady of Victory Academy, New York 1981 to 1984
Hazen and Sawyer, P.C. 1980 to 1983
Fordham University, Louis Calder Conservation and Ecology Study Center at Armonk, NY 1978 to 1980

losses potentially resulting from future construction projects.

- **National Park Service: NEPA EIS for Construction of a Pedestrian Bridge to Ellis Island National Monument / New York Harbor NY.** As Project Manager, led team in the preparation of a NEPA EIS which evaluated the consequences of and alternatives to building a pedestrian access bridge to Ellis Island from Liberty State Park, NJ. Many issues were addressed, the most significant of them being the historic concerns of allowing tourists to arrive by foot rather than by the traditional ferry access. Natural resource issues as well as cultural drove the consideration of alternatives.
- **New Jersey Department of Environmental Protection: Preliminary Site Assessments / NJ.** Participated in the preparation of 280 preliminary assessments for potential hazardous waste sites throughout the State of New Jersey.
- **New Jersey Sports and Exposition Authority: Ecological Evaluations and Permitting for Major League Baseball Stadium / Hackensack Meadowlands NJ.** As chief scientist, managed a multidisciplinary team in the evaluation of a 250-acre site selected for development as a major league baseball stadium and hotel complex. Conducted a hazardous waste site investigation of abandoned landfill areas to assess soil, soil gas, and surface water contamination. Delineated wetlands and performed subsequent quality analyses (WET) to assess degree of project impact.
- **Township of Mahwah: Wetland Mitigation / Mahwah NJ.** Chief scientist for the planning and development of a forested wetland system and boardwalk oriented toward public education. Supervised three years of postmitigation monitoring in fulfillment of NJDEP permitting requirements.
- **U.S. Army Corps of Engineers, Kansas City District: Vineland Chemical Company Superfund Site - Blackwater Branch Ecosystem Restoration / Vineland NJ.** Managed the mitigation design of a 15-acre floodplain wetland of the Blackwater Branch, Maurice River, contaminated with arsenic. The final marsh design encompasses selective excavation and grading, and revegetation to enhance and restore quality functional wetland values.
- **Oneida Indian Nation of New York: NEPA EIS for Conveyance of Land into Trust / Oneida and Madison Counties NY.** Project Manager leading the preparation of an environmental impact statement (EIS) in compliance with the National Environmental Policy Act (NEPA) as a third party contractor to the U.S. Department of the Interior, Bureau of Indian Affairs (BIA). The EIS is being prepared to assist the BIA in making a decision to acquire over 17,000 acres of land to be held in trust for the Oneida Indian Nation of New York.

Ms. Iwaskiw is experienced in permitting and regulatory compliance for environmental projects, including coordinating Environmental Impact Statements (EIS) and Environmental Assessments (EAS) in accordance with National Environmental Policy Act (NEPA), State Environmental Quality Review Act (SEQA), City Environmental Quality Review (CEQR) within the Port Authority Footprint. Her expertise includes acquisition of Federal, State, and Local permits and processing of application packages, and other analyses for major solid waste, wastewater, water, utility, and hazardous waste projects. Her project management experience encompasses coordination of environmental assessments, environmental impact statements, siting studies and analyses, and site planning and development.

Detailed Experience

- **Port Authority of NY & NJ (Eng. Dept.): JFK BMPP 2008 / Jamaica NY.** Project Manager for the development of the JFK Airport Best Management Practices Plan (BMPP), the 2008 and 2009 Annual Facility Review and Site Inspection Report for the Port Authority of New York and New Jersey (PANYNJ) in compliance with an existing airport SPDES permit. Project Activities included participation at multiple PANYNJ meetings to review and gather information for inclusion in both reports and delivery of multiple training sessions for tenants, contractors, and PANYNJ staff on the approved final BMPP.
- **National Park Service: EIS for Ellis Island Pedestrian Bridge / NY.** As project leader, coordinated the work of all disciplines and subconsultants during preparation of a draft NEPA EIS for construction of a proposed pedestrian bridge to Ellis Island and Statue of Liberty National Monument. Specific concerns included air, archaeological, cultural landscape, visual impacts, noise, traffic, economic and ethnographic studies.
- **New York City Department of Environmental Protection: Chelsea Emergency Pumping Station / NY.** Prepared Environmental Impact Statement (EIS) report on the potential impacts for the 100-mgd Chelsea emergency pumping station.

Joanne M. Iwaskiw

Project Role:
Project Manager - Environmental Compliance

Title/Firm:
Senior Associate
Malcolm Pirnie, Inc.

Years of Experience
23

Education
BE Mechanical Engineering Manhattan College 1989

Employment History
Malcolm Pirnie, Inc. 1991 to present
Flack & Kurtz Consulting Engineers 1990 to 1991
Roval Mechanical & Electrical Contracting 1988 to 1988
Hudson Wire Company 1986 to 1988

- **New York City Department of Environmental Protection: Expansion and Interim Upgrading of the Wards Island Water Pollution Control Plant / Bronx NY.** Prepared Environmental Assessment Statement (EAS) for the 25-mgd interim plant expansion of the Wards Island Water Pollution Control Plant. The EAS was prepared in compliance with both the New York City Environmental Quality Review process (CEQR) and New York State Environmental Quality Review process (SEQR).
- **New York City Department of Environmental Protection: North River Water Pollution Control Plant / New York NY.** Designed the layout and selected the mechanical odor control equipment for the 170-mgd North River Water Pollution Control Plant. The odor control abatement project includes design of odor control facilities, operation and process control modifications, and staff training.
- **Masada Resource Group: DEIS and Environmental Permitting / Middletown NY.** Project leader for the preparation of a SEQR Environmental Impact Statement; acquisition of environmental permits; and Part 360 closure of a portion of the project site (a former municipal landfill on New York State's Inactive Hazardous Waste Sites List), for a proposed waste-to-energy facility.
- **Village of Scarsdale: Popham Road Bridge Replacement Environmental Assessment / Scarsdale NY.** As a subconsultant to Vollmer Associates, project leader for the preparation of an Environmental Assessment (EA) for replacement of the Popham Road bridge which spans the Metro-North rail line. The EA is being completed as part of a Design Report (DR)/EA report which will be submitted to the NYSDOT for approval. The project includes the following specialized studies: Stage Ia archaeological investigation, hazardous waste/contaminated materials assessment and asbestos assessment.
- **City of Norwalk: Closure Plan for Norwalk Sanitary Landfill / Norwalk CT.** Drafted the permit preparation to regulatory branches for a parking facility design just west of the landfill to be incorporated within the park design of the postclosure plans. The area of concern is the railroad adjacent to the sanitary landfill which disrupted the parcel of land during construction. Prepared an EIS for access to the parking facility.
- **Confidential Client: Bakun Hydroelectric Project / Sarawak, Borneo NY.** For an international consortium, assisted in the evaluation of mitigation and monitoring requirements associated with construction of a 2,400-MW hydroelectric dam in the state. Major project elements included the flooding of 69,000 ha of Dipterocarp rain forest, displacement of more than 8,500 inhabitants, construction of 125 km of access road, and installation of more than 1,000 km of transmission line.

Mr. Edelman is a geologist specializing in remedial investigations and feasibility studies at hazardous waste sites; conducting regulatory agency negotiations and compliance strategies relative to RCRA compliance and corrective action; supporting voluntary site cleanup and remediation projects; and performing hydrogeologic studies and due diligence/compliance audits. Mr. Edelman has experience managing projects at Port Authority facilities in New York and New Jersey.

Detailed Experience

- **Port Authority of NY & NJ (Eng. Dept.): In-Situ Chemical Oxidation / Jamaica, NY.** Project Manager for the design and implementation of three full-scale chemical oxidation projects (Building 214, Building 146, Hangar 19) at JFK Airport utilizing sulfuric acid conditioning and low concentration hydrogen peroxide. Project included sampling plan preparation, field monitoring of injections, and closure report preparation. Managed subcontractors, prepared cost estimates and schedules, and coordinated with Airport Operations to perform airside injections at Hangar 19.
- **Port Authority of NY & NJ (Eng. Dept.): RIRA / Newark, NJ.** Incorporated the investigation data collected at the Fuel Selection Area Site and the subsequent recommendations into a RIRA report for submission to NJDEP. The RIRA was prepared in accordance with the requirements included in the NJDEP Technical Requirements for Site Remediation (NJAC 7:26E).
- **PECO Energy Company: Power Industry / NJ.** Program Director for a 3-year general consulting contract with PECO Energy Company. Services provided during the first 2 years of the contract included performing compliance audits of PECO facilities, auditing TSD disposal facilities, reviewing New Jersey ISRA requirements for an MgO regeneration plant, providing toxicological support for various projects, managing Phase I environmental site assessments, reviewing and compiling data for a leaking underground storage tank site, providing support for a

Michael J. Edelman

Project Role:
Project Manager - Site Investigation

Title/Firm:
Sr. Project Geologist
Malcolm Pirnie, Inc.

Years of Experience
27

Education
BA Standard and Environmental Geology Temple University 1979
MA Geochemistry Temple University 1985

Licenses and Certifications
Professional Geologist

Health and Safety Training
Hazardous Waste Operations Eight (8) Hour Refresher
Initial 40 Hour Hazardous Waste Operations Safety Training
Medical

Employment History
Malcolm Pirnie, Inc. 2006 to present
Roux Associates 2003 to 2006
URS Corporation 1990 to 2003
Westinghouse Environmental Services, Geology Department 1988 to 1990
Mittelhauser Corporation 1987 to 1988
SMC Martin, Inc. 1984 to 1987
BCM Engineers, Inc. 1983 to 1984

CERCLA site investigation/remediation including assistance with negotiation of the consent order, and performing routine groundwater monitoring projects.

- **New Jersey Department of Environmental Protection: CERCLA (Superfund) Project, Otillio Landfill / Newark NJ.** Site Manager and Health and Safety Officer for a state Superfund site in north New Jersey. Responsibilities included subcontract management, contractual negotiations, liaison with regulatory agencies, and preparation of material for public meetings.
- **Confidential Client: Voluntary Cleanup / NJ.** Served as Project Manager for ISRA remedial investigation and cleanup at a babbitted bearing and electro-mechanical equipment repair company. Developed and implemented sampling plan including surface and subsurface soil sampling, cleaning and disposal of septic tank contents.
- **Avis Rental Cars: Groundwater Recovery / Newark and Atlantic City NJ.** Project Director for groundwater recovery projects for car rental agencies.
- **King of Prussia Site: Remedial Investigation / NJ.** Staff Geologist and Site Health and Safety Officer for a remedial investigation of a Superfund site in the pine barrens of New Jersey.
- **Sterling Organics: Hydrogeological Investigations / Albany NY.** Project Hydrogeologist for three sites in the vicinity of Albany. Services included zone of capture modeling.
- **U.S. Environmental Protection Agency Regions III and IV: Underground Injection Control.** Project Manager for a number of USEPA Underground Injection Control Program projects.
- **Confidential Client 11: Power Industry / DE.** Performed an environmental assessment of a 20-acre industrial site for a public utility in Delaware. Responsibilities included the preparation of sampling plans, subcontractor management, performance of a magnetometer survey and budgetary control.
- **Greiner Associates - Consultant for PennDOT: Environmental Monitoring / PA.** Managed an environmental monitoring program for a highway construction site in southeastern Pennsylvania. This was related to the construction of I-95 in Philadelphia which involved driving pilings for the highway through a sludge lagoon area.
- **Various Clients: Property Transfer.** Performed numerous Phase I and Phase II environmental property audits for industrial clients in Pennsylvania and New Jersey.
- **Various Clients: Underground Storage Tanks.** Project Director on numerous UST projects in Pennsylvania and New Jersey. Investigations typically involved tank removal, soil sampling, and well installation. Remediation systems typically involved pump-and-treat with vacuum extraction.

Mr. Stoicescu manages the delivery of civil, geotechnical, and environmental engineering projects and has acted as Project Manager for a variety of Port Authority projects. Through Mr. Stoicescu's career, he has been involved in nearly every major phase of projects including field investigations, conceptual design and reporting, detailed engineering design, contract preparation, procurement, construction management, and business development.

Detailed Experience

- **Port Authority of NY & NJ (Eng. Dept.): Dredge Disposal and Management of Newark Bay Confined Disposal Facility / Jamaica NY.** *Senior Project Manager responsible* for managing impacted dredge disposal and operations with the confined disposal facility. The project is the first subaqueous pit constructed for the disposal of contaminated dredged spoils on the East Coast. Provided disposal operations oversight during maintenance dredging of various berths within and around New York City. Reported on monitoring results during operations including turbidity, water quality, CDF capacity, and recommended on-going and future dredge operations. Assess dredge disposal options, provided filling recommendations, and improvements to CDF. As Project Manager, delivered tasks on schedule and within budget.
- **Jet Blue: JFK Terminal 5 / Jamaica, NY.** Project Manager for environmental investigations, design services, and underground storage tank (UST) removals.
- **New York City DEP: Flushing Bay CSO Retention Facility / NY.** Performed construction management and geotechnical engineering tasks associated with the construction of a 28-mil-gal underground sewage tank and an administration building. Estimated cost of the project was $113 million. Tasks included reviewing the construction of a slurry wall, deep soil mix wall, jet grout columns, soil anchors / tiebacks, and driven steel piles. Specific tasks included reviewing daily field reports and field testing of five to six junior engineers, developing field protocol for sampling and testing, training field staff, supervising tieback load testing, identifying construction deficiencies and

Jeffrey Stoicescu, P.E.

Project Role:
Project Manager - Underground Storage Tank

Title/Firm:
Senior Associate
Malcolm Pirnie, Inc.

Years of Experience
15

Education
BS Civil Engineering University of Saskatchewan 1993
MS Geoenvironmental/Geotechnical Engineering University of Saskatchewan 1997

Licenses and Certifications
Professional Engineer
ACI Concrete Construction Inspector
ACI Concrete Field Testing Technician Grade I

Special Recognition
Canada's Governor General's Award in Environmental Engineering
Association of Professional Engineers of Saskatchewan Silver Medal Award (Highest graduating civil engineer at U of S)
Canada Scholarship
Shell Canada Award for Geotechnical Engineering
University of Saskatchewan Undergraduate Award
Kilborn Engineering Scholarship

Societies
ASFE
American Society of Civil Engineers

Employment History
Malcolm Pirnie, Inc. 2002 to present
The Robert B. Balter Company 2000 to 2002
MD Haug & Associates 1995 to 1999

recommending solutions, and coordinating with the contractor and site engineer regarding progress payment items and claims for extras.

- **Morris Companies: New Warehouse / Newark NJ.** Project engineer responsible for the technical direction of a subsurface investigation program and geotechnical design of a proposed 342,500-sq-ft warehouse to be constructed on a former brownfields site in Newark. This challenging project included developing the geotechnical design for a large warehouse building with variable soil conditions across the site.
- **Baltimore Zoo: Expansion and Renovation / Baltimore MD.** Lead geotechnical engineer for $65 million expansion and renovation. Performed calculations and computer modeling, recommended designs, and prepared technical specifications for geotechnical and civil engineering aspects of the project including: foundations (caissons, piles, spread footings), retaining walls, rock slope stabilization (rockbolts), earthworks, slope stability and seepage modeling, settlement analysis, pavement design, permanent underdrains, and filters, and stormwater ponds.
- **Potash Corporation of Saskatchewan: Lanigan Mine Tailings Management Area Expansion / Canada.** Civil and geotechnical engineering project manager for engineering design and construction management. Engineering design included slurry wall design and seepage and stability analysis, drawing and specification preparation, supervision and development of field subsurface investigation, preparation of contract document, and participation on the bid selection committee.
- **Confidential Client: Home Ownership Environmental Site Assessment / Saudi Arab.** Project Manager for an environmental site assessment for a proposed 3000-acre home development area. The study identified potential sources of on-site contamination, assessed potential human health concerns, and recommended preliminary remedial measures required to support development of the site for residential use. The site investigation program included the review of hundreds of aerial photographs, installation of environmental borings and wells, historic site use review, and detailed site reconnaissance. The investigation also included development of an environmental action plan and remedial measures to support the proposed residential development.
- **Confidential Client: Smelter Project / Cap De Ville Trinidad.** Project Manager for an extensive geotechnical, environmental, and civil investigation in the Caribbean Island of Trinidad. Engineering effort was in support of design and construction of an aluminum smelter facility and related support structures. Conducted due diligence assessments and field work for the client to assess minimize environmental impacts during construction and operation. Recommended sustainable environmental approaches for construction, including recommendations to reduce impacts to soil, air, and water.

Mr. Rushing has over 10 years of environmental engineering experience with water (storm and remediation/industrial) treatment projects along with hazardous waste site and groundwater remediation, and drinking water quality and treatment. Mr. Rushing has experience preparing design documents utilizing Port Authority Standard Specifications and Port Authority CAD Standards. Mr. Rushing also has experience on Port Authority projects performing field inspections, preparing cost estimates, and reviewing contractor submittals.

Detailed Experience

- **Port Authority of NY & NJ (Eng. Dept.): BFF and SFF Upgrades Contract JFK-1036 / Jamaica NY:** Mr. Rushing led the design of further upgrades for the Bulk Fuel Farm and Satellite Fuel Farm Remediation Systems, including new oil/water separator and air stripper systems and the addition of air scour system to existing filters to reduce future maintenance costs and improve reliability. He was responsible for the conceptual design of the upgrades and the final design of the treatment systems. The design specifications and drawings were prepared utilizing Port Authority Standard Specifications and CAD Standards.
- **Port Authority of NY & NJ (Eng. Dept.): Stormwater Treatment Plants JFK Airport / Jamaica NY:** Mr. Rushing led the evaluation of the stormwater drainage systems at the BFF and the SFF. The investigation estimated total volume flows to the BFF and SFF SWTPs. The results of the investigation were utilized for the design recommendations for the SOR upgrades and the design and installation of new air strippers. Mr. Rushing prepared the Basis of Design Report presenting the SOR and SWTP upgrade alternatives, relative advantages / disadvantages of each approach, and the feasibility level cost estimates.
- **Boehringer Ingelheim Chemicals, Inc.: Design and Pilot Testing of Two MBR Systems Piloting / Peterburg VA.** Malcolm Pirnie conducted pilot testing of flat sheet and hollow fiber submerged membrane technologies as part of a project to upgrade the industrial pre-treatment plant at the Boehringer Ingelheim Chemicals facility in Petersburg, VA.

Jason Rushing, P.E.

Project Role:

Project Manager - Design

Title/Firm:
Associate
Malcolm Pirnie, Inc.

Years of Experience
12

Education
BS Civil Engineering Virginia Polytechnic Institute & State University 2000
MS Environmental Engineering Virginia Polytechnic Institute & State University 2002

Licenses and Certifications
Professional Engineer

Health and Safety Training
Initial 40 Hour Hazardous Waste Operations Safety Training

Special Recognition
2003 American Water Works Association Academic Achievement Award for Masters Thesis, 2nd Place
2002 American Water Works Association Larson Aquatic Research Masters Scholarship
2001 Charles Via Fellowship, Department of Civil and Environmental Engineering, Virginia Tech
2001 ASCE, first place in national undergraduate research paper competition
1997-2000 Virginia Concrete Foundation scholarship
Tau Beta Pi
2009 Malcolm Pirnie's Paul L. Busch Prize

Societies
American Association for the Advancement of Science
American Chemical Soc.
American Water Works Association, Research Committee, VA Section;
Northern VA Regional Science Fair Judge
Virginia Water Environment Association
Water Environment Federation

The pre-treatment plant was converted from a high-purity oxygen sequencing batch reactor (SBR) to a flow-thru membrane bioreactor (MBR) system in order to accommodate higher influent flows and loads associated with an expansion of active pharmaceutical ingredients (API) production.

Employment History
Malcolm Pirnie, Inc: 2006 to present
Parsons Corporation 2002 to 2006
Virginia Tech, Dept. of Civil and Environmental Engineering 2000 to 2002
HNTB Corporation 1999 to 1999
Metropolitan Washington Airports Authority 1997 to 1998

- **FMC Corporation: Decommissioning and Decontamination of Elemental Phosphorus Plant / Pocatello ID.** As Process/Environmental Engineering Lead, Mr. Rushing led the bench-scale testing, pilot testing, and process design to treat characteristically hazardous process water stored in surface impoundments to Universal Treatment Standards for land disposal. Assisted with bench-scale testing, pilot testing, and design of a physicochemical wastewater treatment system to manage "phossy water" from several onsite storage ponds for discharge to a publicly owned treatment works.
- **Massachusetts Bay Transportation Authority: Bench-scale Testing to Support Design of Groundwater Treatment Plant Modifications / South Boston MA.** Malcolm Pirnie is responsible for the operation of a groundwater treatment plant at a bus maintenance facility located in Boston, MA. Malcolm Pirnie engineers conducted bench-scale testing onsite to improve performance of the existing chemical precipitation and gravity separation system. Jar testing demonstrated that gravity separation could be greatly improved by dosing a polymer to improve iron coagulation.
- **Municipal Client: Process Modifications at Water Treatment Plant / Eastern Shore DE.** Performed evaluation, testing, and design of process modifications at the plant to remove the pesticides lindane, MTBE, and BTEX.
- **Rohm and Haas Co.: Treatability Evaluation of Three Contaminants of Concern / Bristol PA.** Proposal and project manager for two-year research effort to evaluate remediation methods for three specific COCs: BCEE, BCEM, and 1,2-DCA.
- **Amgen: BNR Membrane Bioreactor Design / Juncos PR.** Designed a BNR membrane bioreactor wastewater treatment system for a pharmaceutical plant which involved biological nitrogen removal at high temperature with high influent concentrations of urea and readily degradable COD.
- **PepsiCo, Inc.: Pepsi Cidra WWTP / Cidra PR.** Malcolm Pirnie designed new wastewater treatment facilities for a Pepsico carbonated soft drink and juice concentrate manufacturing facility located in Puerto Rico. Wastewater treatment process components included segregation/equalization, membrane bioreactors, color removal, and centrifuge dewatering for residuals. Malcolm Pirnie engineers conducted bench-scale jar tests to identify the most cost effective technology for color removal.

Dr. Califano manages the firm's Toxicology and Risk Assessment Group. In this capacity, he conducts or directs projects involving risk assessment or risk-based solutions for public and private sector clients across the country. His experience encompasses all aspects of federal and state Superfund and RCRA corrective action processes, as well as state voluntary cleanup, petroleum spill, and brownfields processes. Dr. Califano authored the risk assessment used for the Port Authority clean-up goals at JFK International Airport.

Detailed Experience

- Port Authority of NY & NJ (Eng. Dept): Study of *Contamination at JFK International Airport / Queens NY.* Directed a study to assess groundwater quality and potential human and ecological health risks associated with refined petroleum product, ethylene glycol, and chemical solvent contamination of subsurface soil and groundwater underlying the Central Terminal Area (CTA) at JFK International Airport. The health risk assessment was then used to develop site-specific, risk-based cleanup levels (CTA Values) for subsurface soil and groundwater that were accepted by the New York State Department of Environmental Conservation (NYSDEC) and have been used for numerous remediation projects in the CTA. For example, in the last three years Malcolm Pirnie has used the CTA Values to receive NFA letters for Terminal 1, Terminal2, and Terminal 4. The risk-based cleanup levels have saved the Port Authority and their tenants millions of dollars in remediation costs. In addition, the risk assessment approach was presented in the NYSDEC Spills Program task force early in the development of their draft Interim Procedures for Inactivation of Petroleum-Impacted Sites.
- Port Authority of NY & NJ (Eng. Dept.): Vapor Intrusion Investigation & Remedial Design / Bronx NY. Directed field investigations involving the collection of sub-slab soil vapor, indoor air, and outdoor air samples at a former dry cleaning facility with underlying groundwater contamination located in Bathgate Industrial Park. Tetrachloroethylene (PCE), trichloroethylene (TCE), and their degradation products were of primary concern.

Richard J. Califano

Project Role:
Project Manager - Risk Assessment

Title/Firm:
Senior Associate
Malcolm Pirnie, Inc.

Years of Experience
37

Education
BS Biology, Manhattan College 1973
MS Biology, New York University 1979
PhD Biology/Environmental Health Science New York University 1981

Health and Safety Training
24-Hr Supervised Field Training
Hazardous Waste Operations Eight (8) Hour Refresher
Construction Safety Awareness
Occupational Safety & Health Standards for Construction Industry
Ergonomics
Medical
Respiratory Protection
Unexploded Ordnance (UXO) remediation site training

Societies
Society for Risk Analysis

Employment History
Malcolm Pirnie, Inc. 1986 to present
NUS Corporation 1984 to 1986
New Jersey Department of Environmental Protection, Division of Water Resources 1981 to 1984
New York University Medical Center Institute of Environmental Studies 1975 to 1981
Lawler, Matusky & Skelly Engineers 1973 to 1975

Managed design of sub-slab depressurization system ultimately installed at the facility.

- **Port Authority of NY & NJ: Dredged Spoil Disposal / NY.** Directed a project charged with compiling scientific literature and regulatory permit issues related to construction of a containment facility for dredged spoil disposal, and served as quality assurance manager on environmental issues for a related follow-up project.
- **Port Authority of NY & NJ (Eng. Dept.): Vapor Intrusion Investigation & Remedial Design / Bronx NY.** Directed field investigations involving the collection of sub-slab soil vapor, indoor air, and outdoor air samples at a former dry cleaning facility with underlying groundwater contamination located in Bathgate Industrial Park. Tetrachloroethylene (PCE), trichloroethylene (TCE), and their degradation products were of primary concern. Managed the design of the sub-slab depressurization system ultimately installed at the facility.
- **New York City Department of Environmental Protection: Various WWTP Upgrade and Expansion Projects / NY.** Directed the development of provisional short-term (SGCs) and annual guideline concentrations (AGCs) for ambient air for a number of hazardous air pollutants in conformance with guidance provided by the New York State Department of Environmental Conservation. The provisional SGCs and AGCs were used in evaluations of air quality impacts as part of air permit application submittals.
- **Confidential Client: Remedial Investigation/Feasibility Study / NJ.** Managed a remedial investigation / feasibility study involving a multi-industry release of dioxins, pesticides, heavy metals and volatile organic compounds to soil and groundwater. Also performed a remedial alternative analysis as part of a focused feasibility study.
- **U.S. Army Corps of Engineers, Baltimore District: Watervliet Arsenal / Watervliet NY.** As part of a Corrective Measures Study exposure assessment, used vapor transport modeling to derive site-specific, risk-based concentrations for volatile chemicals in groundwater that are protective of indoor air quality in various buildings on the arsenal.
- **U.S. Environmental Protection Agency, Region 2: ARCS/RAC II Superfund Contract.** Directed/authored health risk assessments for RI/FS projects in New York and New Jersey including the Action Anodizing Plating & Polishing, Preferred Plating Corporation, Sidney Landfill, York Oil Company OU2, and Li Tungsten / Captain's Cove sites in New York; and the Higgins Farm, Higgins Disposal, U.S. Radium, Franklin Burn, Welsbach / General Gas Mantle, Dover Well Field OU2, and White Chemical Corporation sites.
- **U.S. EPA: Field Investigations at Superfund Sites.** Managed a multidisciplinary, 60-member field investigation team investigating uncontrolled hazardous waste sites under the Superfund Program. Directed public health assessments for remedial investigation / feasibility studies as well as the review, interpretation and reporting of analytical data.

Mr. Claypoole's extensive experience as an environmental scientist/hydrogeologist includes hydrogeological and environmental investigations, as well as remediation projects involving hazardous and petroleum contamination. He has been involved in various stages of site investigations, remedial investigations and remedial actions from initial inspections to corrective actions and closure. Mr. Claypoole's experience includes data collection, interpretation, and presentation in technical reports. He has experience working at Port Authority facilities and experience executing projects under task order contracts similar to the Port Authority's.

Detailed Experience

- **JetBlue: Terminal 5 RAWP / Jamaica, NY.** Prepared Remedial Action Workplan for implementation during the redevelopment of Terminal 5 at JFK Airport. The RAWP set forth soil excavation requirements, post-excavation soil sampling requirements, soil reuse criteria, and the post-remedial groundwater sampling plan.
- **FedEX: JFK Airport / Jamaica, NY.** Performed remedial investigation, product delineation, vacuum extraction, and post remedial monitoring. Prepared project scoping documents, sampling plans, cost estimates, and progress reports.
- **Shell Oil Products U.S.: Multiple sites.** Contract Administrator/Project Manager on the Call-in contract for Shell Oil. Project tasks include site investigations, remedial design and implementation, development of soil and groundwater sampling programs, cost estimating, data analysis, subsurface contaminant modeling, subcontractor oversight, site inspections, and progress reporting.
- **ICI Americas Inc.: RCRA Facility Investigation/ISRA Remedial Investigation / NJ.** Deputy Project Manager for a corrective action program in which a RCRA Facility Investigation is being conducted for eight Solid Waste Management Units (SWMUs). One SWMU involves soil and groundwater contamination by petroleum hydrocarbons where up to six feet of mobile petroleum is present with an estimated volume of 5 to 7 million gallons. A corrective

Joe Claypoole

Project Role:

Project Manager - Phase I

Title/Firm:
Senior Associate
Malcolm Pirnie, Inc.

Years of Experience
22

Education
BS Geology State University of New York at Albany 1986

Licenses and Certifications
Certified Professional Geologist

Health and Safety Training
Hazardous Waste Operations Eight (8) Hour Refresher
Confined Space Entry
Ergonomics
Medical

Professional Training
USACE Construction Quality Management Certification Training

Societies
Association of Ground Water Scientists and Engineers

Employment History
Malcolm Pirnie, Inc. 2004 to present
Geovation Consultants, Inc. 2001 to 2004
Malcolm Pirnie, Inc. 1998 to 2001
Meredith/Boli & Associates, Inc. 1997 to 1998
Native Soils, Inc. 1994 to 1997
Malcolm Pirnie, Inc. 1991 to 1994
Camp Dresser & McKee 1988 to 1991

measure study will be conducted. The ISRA investigation involves evaluation of over 90 areas of concern which need to be closed/remediated as part of a property transfer. The investigations involve multimedia sampling and analyses at multiple areas of concern.

- **U.S. Army Corps of Engineers: Dover Municipal Well No. 4 Preliminary Design Investigation / Dover NJ.** Project hydrogeologist for the preliminary design investigation of the Dover Municipal Well No. 4 Superfund Site. This work was conducted for the USEPA Region II. Project included a field investigation to fill remedial investigation data gaps, and groundwater flow and solute transport modeling for the design of a groundwater extraction and treatment system.
- **U.S. Army Corps of Engineers: Watervliet Arsenal Remediation / Watervliet NY.** Construction management of a permeable reactive barrier wall treatment system performed as a design build project at the Watervliet Arsenal. The innovative, in-situ treatment system consisted of two continuous permeable reactive walls which were installed by conventional excavation methods to capture and treat the dissolved-phase VOCs before they could migrate off-site.
- **Confidential Client: Groundwater Remedial Actions / NY.** Project manager for a groundwater remediation project involving a former dry cleaning facility in NYSDEC's Voluntary Cleanup Program. Provided technical support to the primary consultant in a design build capacity. After a remedial alternatives evaluation was performed, in-situ anaerobic bioremediation was the selected remedy. Designed a passive system for the delivery of cosubstrates and nutrients to promote biologically mediated reductive dechlorination.
- **Camp Dresser & McKee: Remedial Investigations at UST Sites / GA.** Technical coordinator of 14 UST sites in the state of Georgia for EPA Region IV. Responsibilities included development of sampling and analysis plans, coordination of analytical laboratory and drilling subcontractors, implementation of field activities, data analyses, and report preparation.
- **Meredith/Boli & Associates, Inc.: UST Evaluation / CA.** Project management and field oversight of a corrosion evaluation of USTs. Project included the evaluation of the cathodic protection system, corrosion pitting, soil and groundwater physical characteristics, and stray currents for litigation support.
- **Native Soils, Inc.: Remedial Investigations.** Petroleum-contaminated soil and water delineation and remediation at a number of sites. Projects involved determination of the nature and extent of contamination, evaluating remedial alternatives, negotiation with regulatory agencies, implementation of corrective actions and preparation of closure reports.

Mr. Foster has almost 20 years of experience on projects including projects for the Port Authority of New York and New Jersey and has provided operation and maintenance services at sites throughout the region. He has experience in design and construction oversight in compliance with environmental requirements for municipal, federal, and industrial clients in New York and New Jersey. He has completed supervisory training for hazardous waste operations as required by 29 CFR 1910.120(e)(4). Additionally, he has training in environmental regulations, including: the Resource Conservation and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); risk assessment; and hazardous materials management.

Detailed Experience

- Port Authority of NY & NJ: Operation and Maintenance of The Newark Bay Confined Disposal Facility / Newark NJ. From 1997 to present, served as Field Professional at subaqueous dredged materials disposal facility. Managed and coordinated all aspects of disposal operations; verified field operations consistent with permit conditions. Personally oversaw all disposal activities from project motorboat or contractor tugboat. Solicited and oversaw subcontractor bathymetric surveys and turbidity monitoring. Prepared Reports of Operations and served as day-to-day liaison to The Port Authority. Maintained field office, project files, and electronic directories. Kept project motorboat in working order. Prepared cost estimates and project schedules to communicate to the Port Authority project manager that project tasks were delivered on schedule and within the approved budget.
- Port Authority of NY & NJ: Dredging and Dewatering Inspection Services / Port Newark NJ. Inspected dredging and dewatering operations for compliance with environmental permit conditions at various locations in Port Newark Channel and Port Elizabeth Channel. Prepared and submitted Inspection reports to the Port Authority.
- Port Authority of NY & NJ: Dredge Disposal Feasibility Study at the Howland Hook Marine Terminal / Staten Island NY. Performed feasibility study for management of

David S. Foster, P.E.

Project Role:
Support Staff

Title/Firm:
Project Engineer
Malcolm Pirnie, Inc.

Years of Experience
23

Education
BS Mechanical Engineering Clarkson University 1984
MS Hazardous Materials Management Tufts University 1990

Licenses and Certifications
Professional Engineer

Employment History
Malcolm Pirnie, Inc. 1991 to present
Wank Adams Slavin Associates, Inc. 1988 to 1989
Syska & Hennessy, Inc. 1984 to 1988

dredged material from a large-scale dredging project. Developed scenarios and performed cost comparisons for various dewatering technologies. Interfaced with the Authority's laboratory with regard to physical and chemical properties of sediments in the Arthur Kill. Performed total suspended solids sampling to evaluate dewatering operations.

- **U.S. Army Corps of Engineers: Remedial Investigations.** Prepared work plans, quality assurance plans, and site safety and health plans for various military sites under the jurisdiction of the Baltimore and New York Districts of the Army Corps of Engineers, including Fort Drum (NY) and Raritan Arsenal (NJ).
- **Investigation of Environmental Contamination / NJ.** Provided litigation support relative to soil contamination from earlier manufacturing practices. Sampled soil and reviewed information on manufacturing and disposal.
- **Site Remediation.** Provided field oversight and sampling for multiple soil remediation projects in New York and New Jersey.
- **Confidential Client: RCRA Compliance / NY.** Provided groundwater sampling, reporting, and evaluation in compliance with RCRA and SPDES permits for an industrial site. The project included a groundwater pump-and-treat system as a corrective action.
- **Confidential Client: Hazardous Waste Remediation / NY.** Assisted industrial client in complying with New York State requirements for interim remedial measures for groundwater contamination. Provided field services during construction and operated/maintained groundwater recovery and treatment systems and soil vapor extraction systems on-site.
- **U.S. Army Corps of Engineers, Kansas City District: Former Jayhawk Ordnance Works / Galena KS.** Field manager for sample collection of chromium-contaminated soils at the Formerly Used Defense site.

Ms. Francese has experience working on Port Authority of NY & NJ remedial projects, in which she analyzed and reported sampling results for multiple sites at John F. Kennedy International Airport. Ms. Francese provides consulting services on LNAPL and dissolved phase remedial projects. She also has field experience performing soil sampling, groundwater sampling, and soil vapor/air sampling.

Detailed Experience

- **Port Authority of NY & NJ (Eng. Dept.): BFF and SFF Upgrades Contract JFK-1036 / Jamaica NY:** Assisted with the design to further upgrade the Bulk Fuel Farm and Satellite Fuel Farm Remediation Systems. The design drawings and specifications were prepared in accordance with Port Authority CAD Standards and incorporated Port Authority Standard Specifications.
- **Port Authority of NY & NJ (Eng. Dept.): Building 179 / Jamaica NY.** Communicates sampling program requirements with Port Authority Materials Division, manages the data, and prepares quarterly reports for NYSDEC review.
- **Port Authority of NY & NJ (Eng. Dept.): Former Amoco Station / Jamaica NY.** Managed data collection program and prepared reports for a remedial program which included evaluation of soil and groundwater data, development of the remedial strategy (enhanced biodegradation), and implementation of the remedial actions. Worked with the Port Authority Traffic division to develop Van Wyk lane closure plan required as part of the remedial actions.
- **Port Authority of NY & NJ (Eng. Dept.): Program Management BFF & SFF / Jamaica NY.** Assists with analyzing and reporting on sampling data. Prepares sampling and gauging requests for the Port Authority Materials Division. Ms. Francese assists with the development and completion of Quarterly Remedial Progress Reports. Assisted with the requests for closure for two AOCs which received NFAs at the bulk fuel farm.

Brianne R. Francese

Project Role:

Support Staff

Title/Firm:
Engineer
Malcolm Pirnie, Inc.

Years of Experience
2

Education
BSEE Environmental Civil Engineering
Manhattan College 2009

Licenses and Certifications
Fundamentals of Engineering

Health and Safety Training
Cardiopulmonary Resuscitation
First Aid
Initial 40 Hour Hazardous Waste Operations Safety Training
Medical

Professional Training
AutoCAD training 2009, 10 hr OSHA Construction, NYWEA Conference 2008 & 2009

Societies
NYWEA, Metropolitan Chapter, Young Professional

Employment History
Malcolm Pirnie, Inc. 2009 to present
STV Inc. 2008 to 2009

- **Port Authority of NY & NJ (Eng. Dept.): South Fuel Farm Remediation at Newark International Airport / Newark, NJ.** Prepared an SPCC plan for an above ground storage tank Malcolm Pirnie is providing for their vacuum truck extraction remedial operations at the Newark Airport South Fuel Farm.
- **Port Authority of NY & NJ (Eng. Dept.): LNAPL Vacuum Truck Remediation Program at JFK International Airport / Queens NY.** Summarized date for optimization of the Vacuum Truck LNAPL recovery remediation at 5 sites throughout JFK. The objective of the optimization plan is to receive risk based or clean closures at each site within 1 year of operation.
- **American Airlines, Inc.: JFK PBS & CBS / New York NY.** Assisted with the development of a Risk Management Plan and Spill Prevention Report for American Airlines/American Eagle.
- **American Airlines, Inc.: LGA PBS & CBS / New York NY.** Assisted with the development of a Risk Management Plan for American Airlines/American Eagle.
- **Croda Uniqema Inc.: Atlas Point GW / New Castle DE.** Analyzes and reports on sampling data.
- **Croda Uniqema Inc.: Atlas Point HSCA AOC / New Castle DE.** Analyzes and reports on sampling data.
- **General Mills Inc: General Mills Silna / Moonachie NJ.** Analyzes and reports on sampling data. Also performs field work that consists of soil vapor/air sampling and low flow water sampling.

Mr. Hamilton serves as an environmental scientist and has supported a number of multimedia compliance projects with Federal, Municipal and Industrial clients. His technical skills and experience with Malcolm Pirnie includes environmental and construction permitting, formal wetland delineation, threatened and endangered species surveys, range environmental vulnerability assessments, Environmental Site assessments, air emissions inventories, litigation support, and database management.

Detailed Experience

- **Port Authority of NY & NJ (Eng. Dept.): JFK BMPP 2008 / Jamaica NY.** Assisted in the development of the JFK Airport Best Management Practices Plan (BMPP), the 2008 and 2009 Annual Facility Review and Site Inspection Report for the Port Authority of New York and New Jersey (PANYNJ) in compliance with an existing airport SPDES permit. Project Activities included participation at multiple PANYNJ meetings to review and gather information for inclusion in both reports and delivery of multiple training sessions for tenants, contractors, and PANYNJ staff on the approved final BMPP.
- **New York City DEP Bur. of Water Supply: CRO-365 / New York City NY.** Conducted a tree survey/natural resources survey for use in the preparation of extensive environmental permitting for the design of a shoreline stabilization project for turbidity control at the Kensico reservoir in the New York City Watershed. Provided assistance in the preparation of the USACE-NYSDEC Joint Permit Application, Site Plan Approval, EAS, Phase I ESA, and agency consultations.
- **New York City DEP BEDC: DEL-283 Planning, Investigation / New York NY.** Performed wetland delineation for a previously conducted wetland survey performed for future construction activities/environmental permitting required for investigation of a leak from a New York City Water distribution pipeline.
- **CH2M Hill Inc.: OU12 Litigation Supp / Dallas TX.** Prepared database analysis, lead emissions calculations,

Blake Hamilton

Project Role:

Support Staff

Title/Firm:
Environmental Scientist
Malcolm Pirnie, Inc.

Years of Experience
3

Education
BS Environmental Science and Resource Management Cornell University 2007

Health and Safety Training
Hazardous Waste Operations Eight (8) Hour Refresher
Initial 40 Hour Hazardous Waste Operations Safety Training
Medical

Special Recognition
Cause for Applause-September 2008

Employment History
Malcolm Pirnie, Inc. 2007 to present

and air pollutant redistribution from DOI and mining PRP operations.

- **Chiao Tung Bank: JM Pipe Phase I ESAs / Pueblo West CO.** Drafted Phase I ESA report for Pueblo West ESA which included EDR database review, liens search, historical and aerial photograph comparisons, and regulatory agency interviews.
- **General Mills Inc: General Mills Silna, / Moonachie NJ.** Performed formal wetland delineations, tree/habitat surveys and prepared wetland/tree survey data sheets and GIS maps using GPS software. Developed an extensive photo log to catalog wetland and upland plant species for use in environmental permitting preparation.
- **Fort Worth District, USACE: Fort Bliss MSWLF / El Paso TX.** Contributed technical writing, historical TCEQ records review, figures preparation/editing using GIS, and regulatory analysis to aid in submittal of a permit modification for a 10 foot vertical height expansion at the Fort Bliss MSWLF
- **El Paso Energy: East TX dig sites / Woodville TX.** Performed a wetland, endangered and threatened species habitat delineation/survey for a natural gas pipeline expansion and removal project, which included GPS/GIS mapping. Also developed an extensive photo log documenting wetland/upland plant species along the wetland boundaries.
- **Ft. Bliss Directorate of Public Works: ISR Infrastructure In / Fort Bliss TX.** Led and managed a team of seven inspectors for the 2008 Installation Status Report comprising 500 buildings at the Fort Bliss military base in El Paso, TX. Duties included inspecting facilities for conditional functionality, QA/QC of over 60 inspections performed by other inspectors, and aquiring signatures from appropriate personnel for submittal to the DPW.

Mr. Hnatko has experience working a variety of environmental compliance and site remediation projects. He has experience developing contract documents for the Port Authority incorporating Port Authority Standard Specifications and Port Authority CAD Standards. Working with industrial and transportation clients, he has developed knowledge of Spill Prevention Control and Countermeasures (SPCC) and Stormwater Pollution Prevention (SWPP). He is experience in environmental field audits and inspections. Mr. Hnatko has also taken the lead in the design of soil vapor extraction and other remediation systems and has assisted operations personnel with optimizing remediation and treatment systems. His technical background in biological and environmental engineering has enabled him to create air dispersion and flow monitoring models for several projects.

Detailed Experience

- **Port Authority of NY & NJ (Eng. Dept.): BFF Const Ser / Jamaica NY.** Mr. Hnatko assisted engineers around the country with AutoCAD drawings and design for upgrades to the Bulk Fuel Farm and Satellite Fuel Farm Remediation Systems. Malcolm Pirnie prepared design drawings and specifications for a large expansion of the remediation systems and upgrades to many of the treatment processes. Mr. Hnatko updated drawings and specifications to address client comments and reissue of contract documents. He also assisted with submittal reviews during the construction phase of the contract.
- **Port Authority of NY & NJ (Eng. Dept.): BFF SFF 2009 / Jamaica NY.** Mr. Hnatko assisted with the design of further upgrades for the Bulk Fuel Farm and Satellite Fuel Farm Remediation Systems, including new oil/water separator and air stripper systems and the addition of air scour system to existing filters to reduce future maintenance costs and improve reliability. He was responsible for selecting and sizing remediation equipment, coordinating design drawings, reviewing specifications, and prepared the engineers cost estimate.

Jason Hnatko, P.E.

Project Role:

Support Staff

Title/Firm:
Project Engineer
Malcolm Pirnie, Inc.

Years of Experience
6

Education
BS Biological and Environmental Engineering Cornell University 2005

Licenses and Certifications
Professional Engineer
Certified Construction Documents Technologist (CDT)

Health and Safety Training
Hazardous Waste Operations Eight (8) Hour Refresher
Ergonomics
Initial 40 Hour Hazardous Waste Operations Safety Training
Medical

Societies
Environmental Business Council of New England
Society of American Military Engineers
Women's Transportation Seminar

Employment History
Malcolm Pirnie, Inc. 2005 to present
Cornell University 2005 to 2005
RCM Technologies 2004 to 2005
Cornell University 2004 to 2004
RCM Technologies 2003 to 2003
Syngenta Crop Protection 2002 to 2002

- **Port Authority of NY & NJ (Eng. Dept.): BFF and SFF Operations and Maintenance Contract JFK-981MA / Jamaica NY.** Malcolm Pirnie prepared Operations and Maintenance specifications for the operations of the Bulk Fuel Farm and Satellite Fuel Farm Remediation Systems following upgrades completed under contract JFK-981. Mr. Hnatko assisted engineers in preparing design drawings and specifications for system operations.
- **Shell Oil Products U.S.: ST. MARYS REFINERY R / ST MARYS WV.** Prepared contract documents for a large bioventing remediation system including all drawings, specifications, contracts, and requests for proposals. Assisted in the review of bids and selection of contractors to provide equipment and install the remediation system. Managed project during the installation answering questions from contractors, reviewing change order requests, and maintaining a project schedule.
- **Massachusetts Bay Transportation Auth.: Millers River ACO / Boston MA.** Mr. Hnatko's created design drawings and specifications for the cleaning of sediments from the drainage system, designed a cofferdam at the outfall, assisted with an Army Corp of Engineers permit application to construct a cofferdam, and created a database to keep and present data of local precipitation and flow through the drainage system.
- **Massachusetts Bay Commuter Railroad Co.: Newbury Port / Boston MA.** Mr. Hnatko collected sediment samples from wetlands impacted by historic spills from an adjacent railroad layover. He also prepared figures to present the data for reports required under the Massachusetts Contingency Plan.
- **Confidential Client: Marubeni Due Diligence / Multi NY.** Malcolm Pirnie assisted a large power utility with environmental due diligence and document review for the acquisition of six power generating assets throughout the northeastern United States. Mr. Hnatko reviewed environmental documentation for large power generating stations in New Jersey and New Hampshire.
- **Massachusetts Bay Transportation Auth.: Cabot Bus Garage O&M / South Boston MA.** Malcolm Pirnie is overseeing the operations of a dual-phase extraction system at an active bus maintenance facility under the Massachusetts Contingency Plan. Mr. Hnatko worked with operators and engineers to design upgrades to the treatment system to improve reliability and ensure regulatory compliance. He has also assisted with data collection and generating reports for compliance with environmental regulations and contract documents.
- **Massachusetts Bay Transportation Auth.: MBTA-AAI Lynn Bus Ga / Lynn MA.** Malcolm Pirnie is overseeing the operations of a dual-phase extraction system at an active bus maintenance facility under the Massachusetts Contingency Plan. Mr. Hnatko has collected samples at the site and prepared data tables for reports and submittals.

Mr. Jones has experience working on both Port Authority facilities and Port Authority projects. Mr. Jones specializes in Recovery System Optimization and Hydrocarbon Remediation. He takes a lead role in organizing the implementing project's field efforts. He has extensive experience with environmental sampling (groundwater, soil, and air), environmental monitoring equipment, recovery system operation and maintenance, subcontractor oversight, and field team management.

Detailed Experience

- **Port Authority of NY & NJ (Eng. Dept.): Various LNAPL sites at JFK Airport / New York NY.** LNAPL evaluation and recovery through Vacuum Truck extraction. Gauging and delineation of LNAPL areas. Implemented various extraction methods to remediate the contamination plumes.
- **Port Authority of NY & NJ (Eng. Dept.): Former Amoco Station / Jamaica NY.** Field team leader for a site remedial program which included injection of sulfate to enhance the rate of attenuation. Implemented the Van Wyk lane closure plan approved by the Port Authority Traffic division for the Van Wyk lane closure required as part of the remedial actions.
- **Shell Oil Products U.S.: St. Marys WWTP Reserv / St. Marys WV.** Design and installation of Soil Vapor Extraction (SVE) and Enhanced Anaerobic Biodegradation (EAB) systems; daily O&M and optimization procedures performed on both systems. Other field activities include: field team & subcontractor management, groundwater sampling, air/vapor sampling, and soil sampling. Preparation of soil and groundwater reports. Implementing Job Safety Analysis' (JSA) for activities listed above.
- **Shell Oil Products U.S / Clendenin WV.** Environmental well installation (monitoring, recovery, EAB wells). Product recovery pilot study - installation, O&M, optimization of product skimmer pumps. Field team and subcontractor management for groundwater / soil sampling, waste disposal, and remediation system coordination / installation. Implementing JSAs for activities listed above.

Matthew C. Jones

Project Role:

Support Staff

Title/Firm:
Project Environmental Scientist
Malcolm Pirnie, Inc.

Years of Experience
6

Education
BA Environmental Studies Ramapo College of New Jersey 2004

Licenses and Certifications
Dangerous Goods Shipping Certification
Visible Emissions Evaluator (EPA Method 9)

Health and Safety Training
24-Hr Supervised Field Training
Hazardous Waste Operations Eight (8) Hour Refresher
Cardiopulmonary Resuscitation
First Aid
Initial 40 Hour Hazardous Waste Operations Safety Training
Medical

Employment History
Malcolm Pirnie, Inc. 2004 to present
Louis Berger Group 2004 to 2004

- **New Jersey Transit: NJ Transit Hoboken / Hoboken NJ.** Perform Operation & Maintenance (O&M) on an existing multiphase extraction (MPE) system at the Hoboken refueling station.
- **General Mills, Inc: Safer Solvent Recovery / Moonachie NJ.** Remediation site to clean up chlorinated solvents by use of an Electric Resistance Heating System (ERH). Field team lead role performing tasks such as: field team management, groundwater sampling, confirmation soil sampling, subcontractor oversight, vapor recovery optimization, vapor migration study, initialization of electrodes and soil vapor points, and system vapor sampling. Design and construction of a LactOil injection system as a pilot study to determine remediation potential in various areas across the site.
- **ICI Americas, Inc.: ICI Bayonne ISRA / Bayonne NJ.** Worked on a RAW soil boring program to delineate areas of contamination. Also involved with the GWRI of the area and performed ground water sampling.
- **New York State Energy & Research Development Authority: Wyeth GW Cool / Pearl River NY.** Performed a pump test on Wyeth's existing well system to determine the water usage and capable pumping rates. Data was used to optimize the energy usage of the plants cooling system.
- **HOVENSA: Hydrocarbon Recovery / St. Croix VI.** Hydrocarbon recovery on the largest refinery in the Northern Hemisphere. Perform O&M and optimization on various types of recovery pumps. System O&M and optimization on multiple Vapor Extraction Recovery Systems (VER). Evaluation of product and recovery rates, groundwater sampling, vapor stream sampling, and field team management.
- **Kansas City District, USACE: Passaic River Estuary Superfund Study / Newark NJ.** Field team member on a USEPA Superfund project that involves the investigation and study of the Lower Passaic River. Involved in the collection of data and samples for various aspects of the river. Also sampled river sediment as part of the High Resolution Core Sampling effort and coordinated the decontamination of all of the sampling equipment used.
- **Kansas City District, USACE: Welsbach/General Gas Mantle Superfund Site / Camden & Gloucester City NJ.** Field team member on a USEPA Superfund project. Participated in both Phase I and Phase II site investigations. Field activities include surface and down hole gamma scans, surface alpha/beta radiological scans, environmental soil sampling, and data entry.

Mr. Loeffel is a hydrogeologist specializing in remedial investigations at hazardous waste sites. Mr. Loeffel has experience conducting regulatory agency negotiations and compliance strategies; supporting voluntary site cleanup and remediation projects; and performing hydrogeologic studies. M. Loeffel has served as project manager for multiple LNAPL remediation projects. He has experience working at Port Authority facilities and experience executing projects under task order contracts similar to the Port Authority's.

Detailed Experience

- **New Jersey Transit: NJ Transit Hoboken / Hoboken NJ.** Project Hydrogeologist for optimization of an existing multiphase extraction (MPE) system at the Hoboken Rail Yard Refueling Station. Regular O&M performed in addition to modifications to system to increase product recovery. Assisted in development of a remedial strategy to build a case for site closure.
- **FedEX: JFK Airport / Jamaica, NY.** Performed remedial investigation, product delineation, vacuum extraction, and post remedial monitoring. Prepared project scoping documents, sampling plans, cost estimates, and progress reports.
- **Shell Oil Products U.S.: Multiple sites.** Contract Administrator/Project Manager on the Call-in contract for Shell Oil. Project tasks include site investigations, remedial design and implementation, development of soil and groundwater sampling programs, cost estimating, data analysis, subsurface contaminant modeling, subcontractor oversight, site inspections, and progress reporting.
- **Shell Oil Products U.S.: St Marys WWTP Reserv. / St. Marys WV.** Project Hydrogeologist for DPE system located along historically leaking fuel pipelines. Oversee and manage local staff for routine O&M and direct modifications to system extraction array to increase LNAPL product recovery.
- **Confidential Client: Site Investigation Field Operations / Kenilworth, NJ.** Served as lead project hydrogeologist. Focus of project was to collect confirmatory samples, and

John Loeffel

Project Role:

Support Staff

Title/Firm:
Project Hydrogeologist
Malcolm Pirnie, Inc.

Years of Experience
12

Education
Graduate studies in M.Sc. Hydrogeology Wright State University
Program completed in BS Water Resources State University of New York at Oneonta 1998

Licenses and Certifications
Licensed Remediation Specialist

Health and Safety Training
Hazardous Waste Operations Eight (8) Hour Refresher
Ergonomics
Initial 40 Hour Hazardous Waste Operations Safety Training
Medical
Hazardous Waste Operations Site Supervisor

Professional Training
Applied Groundwater Flow and Contaminant Transport Modeling Waterloo Hydrogeologic/ Waterloo, ON-F

Societies
National Ground Water Association, Member #3135257

Employment History
Malcolm Pirnie, Inc. 2005 to present
Key Environmental, Inc.2003 to 2005
CH2M Hill 2001 to 2003
Panterra Corporation 1998 to 2001

locate potential source areas for a wide spectrum of contaminants. Responsibilities included coordination of all field activities, project budgeting, scoping and scheduling, drilling oversight, rock core logging, packer zone testing, in-situ hydraulic conductivity tests and analysis using AQTESLOV software, performed air and general health and safety monitoring, enforcement of project health and safety plan, IDW management and disposal, monitoring well development oversight, client interaction, staff management, coordination and procurement of sampling equipment and analytical laboratory, groundwater and soil sampling under NJDEP regulations.

- **Confidential Client: Site Investigation Field Operations. Lead/ Project Hydrogeologist.** Oversight and installation of several air-sparging/ SVE well systems. Utilized / injected SOYGOLD 5000 (soy-methyl-ester) as a co-metabolite for naturally occurring microbes, enhancing the reduction of site contaminants, particularly chlorinated solvents. Injected successfully during several pilot studies, injected as full-scale remediation in December 2004.
- **CH2M Hill, Inc: USEPA Diamond Head Oil Superfund Site / Parsippany, NJ.** Remedial Investigation Field Team Lead/ Project Hydrogeologist Three month field investigation ($1M) to delineate potential contaminant levels and extent of an "oil lake" at a former oil refinery in Kearny NJ.
- **USEPA Jackson Steel Superfund: Remedial Investigation Project Hydrogeologist / Assistant Field Team Lead/ Sample Manager Eight month field investigation ($2.1M) in Mineola, NY (Long Island).** Focus of project was to delineate a chlorinated solvent plume, and locate potential source areas. Attended community meetings regarding potential effect of Superfund site on neighboring properties, including a day-care center, at the request of the EPA. High public profile project featured in several television newscasts, and in the New York Times.
- **USEPA Pohatcong Valley Superfund: Remedial Investigation- Phase II Drilling Lead/ Field Hydrogeologist Initial start-up of Phase II RI throughout Pohatcong Valley (Washington), NJ.** Focus of project was to locate and delineate source of chlorinated solvents based on results of Phase I. Responsibilities included: subcontractor management, installation and logging of soil borings using HSA and Air-Rotary drilling, monitoring well installation oversight, subcontractor materials tracking, database management, soil and groundwater sampling, and communication with CLP laboratory, locating soil borings for drilling, database management, project status reporting to CH2M Hill project manager, coordination with property owners for soil boring installation, company representative to Pohatcong Valley community.

Ms. McKenna is experienced in using a variety of CAD programs in various engineering specialties. She has experience utilizing Authority's CAD Standards to generate Environmental, Mechanical, Structural, and Electrical Engineering design drawings. She has over 28 years of CAD experience and is the Lead CAD Operator for Malcolm Pirnie's Northern New Jersey office. She has worked on numerous Port Authority environmental reports and has been utilized as a CAD specialist for the Port Authority for various environmental remediation projects since 2007.

Detailed Experience

- **Port Authority of NY & NJ (Eng. Dept.): BFF and SFF Upgrades Contract JFK-1036 / Jamaica NY:** Ms. McKenna prepared the design drawings for the upgrades at the Bulk Fuel Farm and Satellite Fuel Farm Dual-phase Extraction Remediation Systems. The design drawings prepared were in accordance with the Port Authority CAD Standards. The drawings were delivered for Port Authority review according to the required folder structure, file nomenclature, and layer design. Ms. McKenna worked with the Malcolm Pirnie project manager to receive a passing performance on the CAD Standards Review Report for the Mechanical, Structural, Electrical, and Environmental design drawings.
- **Port Authority of NY & NJ (Eng. Dept.):** Prepares CAD figures on an as-needed basis for the various projects at JFK International Airport. Corresponds with the Port Authority to determine the needs of the various projects and utilizes the information provided by the Port Authority to generate the desired CAD figures.
- **Consolidated Edison of New York, Inc.: SPDES Outfall Surveys / New York NY.** Prepared process flow schematics of SPDES outfall surveys for the East River, Waterside, 59th Street, and 74th Street generating stations.
- **Consolidated Edison of New York, Inc.: Storm Sewer Investigation / NY.** Prepared base maps and led drafting efforts for the investigation of storm sewers at six generating stations. Worked on the development of

Eileen McKenna

Project Role:
CAD Specialist

Title/Firm:
CADD Specialist
Malcolm Pirnie, Inc.

Office Location
Fair Lawn, New Jersey

Years of Experience
28

Education
AAS Land Surveying and Drafting
Sullivan County Community College 1978

Professional Training
Autocad 2007
Autocad Map 2008
Autocad MEP 2008
ERSI Arcmap 9.3

Special Recognition
Consulting Engineers Council of New Jersey
Award for Drafting Excellence - February 16, 1995
Consulting Engineers Council of New Jersey
Award for Drafting Excellence - February 24, 1994
Consulting Engineers Council of New Jersey
Merit Award for Drafting Excellence - February 26, 1992
Consulting Engineers Council of New Jersey
Award for Drafting Excellence in Mechanical/Electrical - CADD - February 27, 1991
Consulting Engineers Council of New Jersey
Award for Drafting Excellence in Civil Engineering - CADD - February 27, 1991
Consulting Engineers Council of New

drawings utilized as part of BMP plans.

- **Malcolm Pirnie, Inc.: CAD Training.** Assists other CAD personnel with training and coordination. Assists in daily CAD operation, maintenance of files, supplies and support for CAD training, integration of other graphic packages, and scheduling of CAD work.
- **Town of Wallkill: Stage I Design & Mech. / Wallkill NY.** Prepared CAD drawings of plan and profile sheets and details.
- **Village of Ridgewood: Van Houten WTP Upgrade / Village of Ridgewood NJ.** Prepared civil and mechanical CAD drawings.
- **Water and Wastewater Utilities: Instrumentation Design.** Drafted civil, mechanical, structural/HVAC, electrical and instrumentation site layouts/schematics for water and wastewater treatment plants using AutoCad for Manasquan, Fort Dix, Texaco, Lake Gaillard, PRASA, and Elizabethtown.
- **Water/Sewer Networks: Mapping.** Prepared maps for reports in: water/sewer networks, hydrogeology well locations, and water contours. Produced detailed, hazardous waste cross-sections for remedial sites.

Special Recognition Continued

Consulting Engineers Council of New Jersey
Award for Drafting Excellence in Mechanical Engineering - CADD - February 22, 1989

Employment History

Malcolm Pirnie, Inc. 1982 to present

Mr. Reiersen has experience performing preliminary investigations, site investigations and remedial investigations using groundwater, soil, and vapor sampling techniques. Mr. Reiersen has conducted contaminant data analysis, remedial map construction, and hydrogeologic modeling based on plume movements. Mr. Reiersen has implemented remedial action workplans at JFK Airport for Port Authority projects including chemical oxidation and organic substrate injection. Mr. Reiersen also has implementing engineering/institutional controls, system O&M on pump-and-treat/thermal remediation systems, and preparing H&S documents.

Detailed Experience

- **Port Authority of NY & NJ (Eng. Dept.): In-Situ Chemical Oxidation / Jamaica, NY.** Acted as Field Team leader and H&S Supervisor to sub-contractor performing chemical oxidation at two LNAPL contaminated sites at JFK Airport (Building 146 and Building 214). Collected real time monitoring data to optimize injection approach and safely managed the injection schedule of over 100,000 gallons of Sulfuric Acid conditioning solution and Hydrogen Peroxide oxidant on schedule.
- **Port Authority of NY & NJ (Eng. Dept.): Former Amoco Station / Jamaica NY.** Performed remedial activities which included injection of sulfate to enhance the rate of attenuation at a gasoline impacted site at JFK Airport. Implemented the Van Wyk lane closure plan approved by the Port Authority Traffic division for the Van Wyk lane closure required as part of the remedial actions. Evaluated post injection data and assisted with the preparation of progress reports.
- **ICI Americas, Inc.: ICI/Asahi / Bayonne NJ.** Organized, managed, and implemented several DNAPL investigation field programs including the drafting of the final NJDEP submittals. Prepared cost estimates and proposals for the investigation field work and remedial action implementation. Completed Remedial Action Workplan and Report documents for soil excavation at seven AOCs and executed the Remedial Actions on-schedule and according

Roger Reiersen

Project Role:

Support Staff

Title/Firm:
Project Geologist
Malcolm Pirnie, Inc.

Years of Experience
7

Education
Program completed in BS Earth Science (Hydrogeology) Boston University 2002
Graduate studies in Cert. Geological Mapping University of New Mexico 2002
Graduate studies in Cert. Biological Sciences/Ecology Shumei University (Japan) 2004

Licenses and Certifications
Certified Asbestos Inspector
OSHA Occupational Safety and Health Training

Health and Safety Training
Hazardous Waste Operations Eight (8) Hour Refresher
Cardiopulmonary Resuscitation
First Aid
Initial 40 Hour Hazardous Waste Operations Safety Training
Medical
Hazardous Waste Operations Site Supervisor

Professional Training
Certificate: Field Sampling Procedures and Vapor Intrusion Guidance, NJWEA, 10/21/2005
Certificate: DNAPL Assessment and Remediation Methods, Cook College, 2006
Cetificate: Regulatory Training in Underground Storage Tanks, Cook College, SUNJ Rutgers, 5/8/2007

Employment History
Malcolm Pirnie, Inc. 2008 to present
GeoTrans Inc. 2005 to 2008
ISOTEC 2003 to 2005

to the approved Workplan.

- **Bechtel, Phase I/II Projects:** Performed over a hundred Phase I site evaluations in accordance with ASTM Standard 1527-05 for telecommunications providers. Experienced in investigating within a wide range of buildings and locales from Manhattan to North Carolina. Certified in the inspection of asbestos containing materials (ACM). Performed several subsequent Phase II evaluations including the sampling of suspect ACM, lead paint, and impacted soil/groundwater.
- **Croda Uniqema Inc.: Atlas Point Groundwater / New Castle DE.** Conducted a fate and transport analysis of bis-2 chloroethylether within three distinct subsurface formations for the purposes of completing a five-year monitored natural attenuation project and the future design of a final delineation plan and remediation system including the drafting of all associated figures.
- **General Mills Inc: General Mills Silna / Moonachie NJ.** Provide field and office support for ongoing remedial action projects utilizing in-situ Thermal Remediation and organic substrate technology on a DNAPL plume.
- **Lucent Technologies, LUST Removal and Soil Remediation:** Organized and implemented a large scale UST removal and soil excavation project for a leaking 10,000 gallon gasoline tank in accordance with NJDEP requirements. Conducted excavation in conjunction with the LUST on additional AOCs located within regulated wetland transition areas including permitting and wetland restoration. Obtained No Further Action for the AOCs within proposed budget and schedule.
- **ISOTEC, Chemical Oxidation Projects:** Performed dozens of chemical oxidation projects throughout the country utilizing modified Fenton's reagents, sodium/potassium permanganate, ORC/HRC, and other chemicals. Designed injection well arrays, physically implemented substrate injection strategies, and modified injection strategies for site-specific COCs based on existing site conditions such as unforeseen geologic conditions and the presence of nearby pump and treat systems.

Mr. Rusch supports a broad range of geotechnical and geo-environmental projects and is experienced with Port Authority Environmental Engineering projects for both the Port Authority and at their facilities. Mr. Rusch has experience with geotechnical and environmental site investigations, shallow and deep foundation design, slope stability, and groundwater seepage. Mr. Rusch also has experience in engineering design for hazardous waste remediation sites and landfills.

Detailed Experience

- **American Airlines, Inc.: AA Bldg 79 / New York NY.** Project Engineer for pre-lease due diligence of Building 79 at John F. Kennedy International Airport. Reviewed an existing Phase I Environmental Site Assessment (ESA) and performed a Phase II ESA in accordance with ASTM E 1903 to evaluate the baseline soil and groundwater conditions of the site prior to AA's occupancy.
- **American Airlines, Inc.: Terminal 4 / New York NY.** Project Engineer for LNAPL remediation airside at La Guardia Airport. Developed remedial strategy, prepared TAA, and directed subcontractor activities to remove airside outdated remedial equipment. Will be directing well installation, vacuum truck extraction activities, and post-remedial monitoring events.
- **New York City Housing Authority (NYCHA): Underground Storage Tank Reporting / New York NY.** As part of a comprehensive consent order, the New York City Housing Authority (NYCHA) is required to address outstanding New York State Department of Environmental Conservation (NYSDEC) underground storage tank (UST) spill numbers at over 345 housing developments across New York City. Project Engineer responsible for environmental site assessment, remedial design, and closure management consulting services for NYCHA at 16 housing developments. Services have included designing site assessment programs and subsequent remedial action programs, including soil and groundwater sampling programs, site excavations and excavation support systems, dual-phase extraction programs, and sulfate injection groundwater treatment programs, preparation of UST spill closure reports, and

Jeff Rusch

Project Role:

Support Staff

Title/Firm:
Project Engineer
Malcolm Pirnie, Inc.

Years of Experience
5

Education
BSE Civil/Environmental Engineering
University of Michigan 2005

Licenses and Certifications
Fundamentals of Engineering
Certified Construction Documents Technologist (CDT)
LEED Accredited Professional

Health and Safety Training
Hazardous Waste Operations Eight (8) Hour Refresher
Construction Safety 10 Hr
Initial 40 Hour Hazardous Waste Operations Safety Training
Medical
Troxler Nuclear Gauge Safety Training

Societies
Order of the Engineer Society

Employment History
Malcolm Pirnie, Inc. 2006 to present
NTH Consultants, Ltd. 2005 to 2005

coordination with the NYSDEC Case Manager on site closure.

- **New York City DEP BEDC Mkt: EEDSGN-19 Croton Falls Stormwater Design / Brewster NY.** Responsible for geotechnical investigation to identify and evaluate the geotechnical competency of the existing roadway materials prior to the stormwater BMP upgrade work. Calculated the allowable bearing capacity for the design of all drainage structures and estimated the anticipated total and differential settlement of the infrastructure. Additionally, designed a gravel roadway section and pavement section for the reconstruction of the roadway surfaces. Also evaluated the corrosion potential and environmental quality of the existing site soils as it related to re-use in site construction and restoration.
- **JAMM Realty Holdings LLC: Foundry St. TS / Newark NJ.** Project Engineer responsible for designing the foundation of a proposed 45,000 square foot prefabricated, steel-framed, wide-span Butler-type solid waste transfer facility in Newark, New Jersey. Designed three deep foundation systems for the facility, including battered concrete-filled pipe piles, battered steel H-piles, and wide-diameter drilled piers (caissons).
- **OFA - Kansas City District: Passaic River / Newark NJ.** Designed two remedial system components for the remediation and ecosystem restoration of the Lower Passaic River. The first design consisted of a dredging grid system for contaminated river sediment in which each grid cell would be enclosed with a special HZ steel sheet pile wall system. The second design consisted of a 2-foot sand cap and an erosion protection layer to protect the integrity of the cap.
- **Baltimore District, USACE: Ft Meade Bldg 9859 S / Ft Meade MD.** Prepared a feasibility assessment of the demolition and disposal of Building 9859 at the U.S.-Army Fort George G. Meade and its surrounding infrastructure, including removal of subsurface tanks, below grade foundations, buried utility connections, and treatment system components. Developed an overall demolition sequencing plan, Demolition Work Plan, and demolition construction drawings for the demolition of all building systems and components and the restoration of the site.
- **Molycorp, Inc.: Molycorp Remediation / Washington PA.** Developed excavation plan to facilitate the removal of a contaminated soil-tar lens extending beyond the limits of remedial excavation into a steep railroad embankment.
- **City of Norwalk: Norwalk LF Amd CI / Norwalk CT.** Engineer responsible for construction oversight of closure of stock-piled material at Norwalk Landfill. Closure consisted of re-grading landfill grades and installation of geocomposite clay liner. Prepared comprehensive Closure Report for closure of 15-acre Norwalk Landfill for CTDEP approval. Closure work certified initial closure work completed in 1999 and additional closure work of stock-piled material.

Mr. Snyder has experience preparing and implementing preliminary investigations, remedial investigations, and remedial action projects including chemical oxidation/injection and pump and treat systems on task order contracts such as the Port Authority's. Mr. Snyder has conducted plume delineation, contaminant data analysis, remedial map construction, and hydrogeologic modeling based on plume movements. Mr. Snyder also has experience preparing H&S documents for use in remedial action projects.

Detailed Experience

- **Port Authority of NY & NJ (Eng. Dept.): In-Situ Chemical Oxidation / Jamaica, Queens, NY.** Acting as Field Team leader and Health and Safety Supervisor to the sub-contractor performing chemical oxidation at two LNAPL contaminated sites (JFK Airport Building 146 and Building 214). Obtained monitoring data to manage the injection schedule of aquifer conditioning and oxidation with over 100,000 gallons of Sulfuric Acid and Hydrogen Peroxide. Managed the field activities for the project and the field injection activities were completed in accordance with the project schedule.
- **New York City DEP BEDC: Hillview Cover Design / Yonkers NY.** Performed oversight and site safety during drilling and geotechnical test-bore installment and abandonment.
- **New York City DEP Construction: DEL-159CM / Carmel NY.** Asbestos Project Monitor for 6 months on-site. Consultation provided for abatement crew of 4+ workers at Shaft locations S9, S10, and S17. Abatement of friable and nonfriable chrysotile, applicable and site variances included.
- **New York City DEP Construction: Tallman Island-Home / New York NY.** Performed paint chip and substrate sampling for the presence of lead, PCBs and asbestos prior to demolition of facilities. Also performed site safety manager for facility during demolition and installation of plant upgrades.

Cory Snyder

Project Role:

Support Staff

Title/Firm:
Environmental Scientist
Malcolm Pirnie, Inc.

Years of Experience
3

Education
Graduate studies in MS Hydrogeology Queens College
Program completed in BA Biology Johns Hopkins University 2006

Licenses and Certifications
Asbestos Inspector
Asbestos Project Monitor and Field Technician
Certified GIS Technician
Certified Toxic Mold Inspector
Lead Based Paint Inspector
OSHA Occupational Safety and Health Training

Health and Safety Training
Hazardous Waste Operations Eight (8) Hour Refresher
Initial 40 Hour Hazardous Waste Operations Safety Training
Lead Inspector

Special Recognition
1998 Winner NASSP Prudential Spirit of Community Awards, Counselor 2006
U. S. Ambassador - UNESCO's 5th International Children's Summit, Paris
Washingtonian Magazine's "100 People to Watch in the Next Century"
President's National Service Award
Bowie Cable Television (BCTV) - Best Youth Television Program - Director, Producer, Editor

Employment History
Malcolm Pirnie, Inc. 2007 to present

- **New York State Department of Environmental Conservation: DEC Westside OU2 / New York NY.** Field work performed with drill crew at remediation site as geologist; on-site project consultation to crew. Remediation planning. Investigation conducted using Geoprobe and hollow stem augers. Maintain daily log. Well installation, pressure transducer and passive diffuser bag sampling. Remediation Investigation report writing, GIS mapping of plume, soil boring logs. Groundwater, air and soil sampling.
- **Kansas City District, USACE: Wad 09-Welsbach-ARRA / Camden & Gloucester City NJ.** *Performed indoor air quality sampling.* Paint chips, substrate and horizontal surfaces were sampled to determine the presence of lead and asbestos prior to the arrival of a radiological sampling crew.
- **Verizon: GTE OSI-Hicksville, / Hicksville NY.** Performed oversight of sonic drilling operations, groundwater monitoring well installment, and synoptic round of groundwater sampling and well gauging. Groundwater sampling included the use of dedicated bladder, double-valve micropurge, Marchalk, and QED bladder pumps on several properties in the site vicinity.

Performance of Expert Professional Environmental Engineering Services as Requested on a "Call-In" Basis During 2011 (RFP #21999)

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Technical Personnel and Rates

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Technical Personnel and Rates

E

The expanded technical personnel schedule is included on the following pages. As requested, the personnel schedule lists the name, job title, and hourly rate of personnel expected to work on the Geotechnical Engineering Services Port Authority projects. Resumes for these individuals have been provided in Section D as requested in the RFP.

Company Policy

It is the company's policy to compensate certain employees for time worked in excess of 40 hours in a work week as follows:

Non-exempt employees (scientist or engineer) are paid time-and-one-half for time worked in excess of 40 hours in a work week, except as otherwise required by law. Employees may make up for hours missed by working additional hours within the same work week, as defined previously. Exempt employees (project scientist/engineer, senior project scientist/engineer) are paid straight-time for time worked in excess of 40 hours in a work week. There is no overtime provision for Associates, Senior Associates and Officers, unless there is a special condition (i.e. extended duration due to project requirement).

The following provisions apply in computing overtime:

- Time-off for meals do not count as time worked.
- Holidays are included in overtime computations.
- Paid absence and/or PTO-paid time off do not apply to overtime computations as time worked.
- Time absent from work for any other reason, is not included in computing overtime.

Travel time on company business in excess of normal commutation time is considered time worked.

All other full and part-time salaried (not hourly) employees who are required to work on a *Malcolm Pirnie designated holiday receive credit for the holiday plus applicable overtime pay* for time worked in excess of 40 hours in a work week.

Key Personnel Schedule

Name	Title	Hourly Rate
	Principal	$230.00
(Ex. 1)	Project Engineer	$41.70
	Project Engineer	$56.75
	Associate	$71.90
	Sr. Project Hydrogeologist	$64.05
	Environmental Scientist	$32.75
	Technician	$28.35
	Project Engineer	$43.45
	Senior Associate	$80.60
	Technician	$52.15
	Associate	$60.60
	Sr. Project Scientist	$60.10
	Project Engineer	$27.15
	Sr. Project Engineer	$55.10
	Project Scientist	$48.25
	Project Engineer	$37.00
	Senior Project Planner	$53.50
	Project Scientist	$35.45
	Project Scientist	$26.65
	Associate	$60.75
	Project Engineer	$33.45
	Technician	$30.13
	Sr. Associate	$65.50
	Project Scientist	$32.50
	Project Engineer	$66.33
	Associate	$65.50
	Project Scientist	$44.25
	Technician	$32.50
	Associate	$64.65
	Technician	$28.00
	Project Scientist	$33.50
	Project Engineer	$34.15
	Associate	$53.50
	Associate	$75.15
	Project Engineer	$43.60
	Environmental Scientist	$25.45
	Technician	$31.55
	Senior Associate	$66.00

Performance of Expert Professional Environmental Engineering Services as Requested on a "Call-In" Basis During 2011 (RFP #21999)

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Relevant Experience

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Experience with the Port Authority of New York and New Jersey

Malcolm Pirnie, Inc (Malcolm Pirnie) has provided a full range of environmental engineering services to the Port Authority in the Metro Area (New York and New Jersey) since the 1980's. These assignments have supported efforts for line departments including **Aviation, Tunnels Bridges & Terminals, Port Commerce,** and **Real Estate & Development.** We have worked at all three major airports (JFK International, LaGuardia, and Newark International), the West 30th Street Heliport, and the Goethals Bridge, as well as at other facilities, including tunnels and real estate projects owned, or operated by the Port Authority. To date, we have completed or are working on more than 100 separate assignments and 25+ call-in contracts in the New York/New Jersey Area. This is in addition to our environmental support experience for major infrastructure projects by **NYCDEP, NJ Transit, NYC MTA, NYC EDC, and NYC DOS.** We understand the Port Authority mission is to keep the region moving, and understand that the current contract is to assist with the environmental aspects of infrastructure development, compliance and maintenance.

Our critical differentiator is: **our team is familiar with the Port Authority operations and understands Port Authority priorities.** As a result of the economic downturn, the Port Authority is taking aggressive action to control operating expenses and prioritize capital spending through a zero-growth operating budget in 2009 and a flat 2010 operating budget. Malcolm Pirnie is sensitive to the Port Authority's **fiscal discipline** and will continue to assist the Port Authority in **reducing consulting expenses** for various projects; we have been working on large infrastructure projects in the Metro Area for over 100 years, and have an experienced **core team who has worked together on Port Authority projects for the last 6-10 years**-we have no learning curve, which results in very productive, cost effective project execution.

Malcolm Pirnie

Malcolm Pirnie, Inc is a 110 year old New York City firm that has focused on large infrastructure projects since its inception. In 2009, Malcolm Pirnie merged with ARCADIS, a 120 year old Dutch firm, to facilitate global growth-we are now a wholly owned subsidiary of ARCADIS. The combined firm's roots are in **environmental engineering and consulting.** Malcolm Pirnie's early design services for the City of New York water system required all levels of engineering for the water tunnels, waterfront design and infrastructure consistent with the ARCADIS designs in the late 1800's for the various levees and dikes in the Netherlands.

Currently the firm has over **16,000** employees worldwide, with almost **7,000** employees in the US and over 1,100 in the Metro Area to serve the Port Authority. The firm has 12 offices in the Metro Area, with major offices in New York City, White Plains, Fair Lawn, Edison, and

Somerset. The firm is well positioned to support the Port Authority due to its unique management structure (no profit centers and experienced core teams centered around the Port Authority) that allow the project managers execute projects with the **right professionals** without the obstacles of geographic profit centers.

The firm also has almost **300** professionals committed to environmental engineering in the Metro Area and can draw on technical experience from our 16,000 employees around the world. This access represents world class experience, in an almost unlimited number of technical areas, from air dispersion modeling of vehicular tunnels from our experts in Paris, to the environmental impacts of slurry walls on water quality from our experts in New York.

Relevant Experience

It is understood that the Port Authority Environmental Engineering Department requires environmental project assistance to complete or assist an array of Port Authority capital projects at the various facilities in the Metro area. The current RFP requires experience executing the following **types of projects**:

- Soil and Groundwater Remediation
- Remediation Design
- Compliance Audits
- Underground Storage Tank Assessments and Closures
- Phase I Assessments
- Risk Assessments
- Environmental Assessment

On the following pages, we provide our qualifications and experience in conducting environmental engineering services. Our execution of the above project types have provided us with extensive Port Authority experience with the **same core team** performing the following **tasks**:

- Project Scoping
- Field Inspections
- Preparation of Soil, Groundwater, Surface Water Sampling Plans
- Environmental Data collection and Analysis
- Preparation of reports describing methodology, results and recommended mitigative measures
- *Cost Estimating*
- Modeling
- Preparation of contract documents
- Shop drawing review and approval

Relevant Experience - Project Type

A. *Soil and Groundwater Remediation*

Malcolm Pirnie has **successfully (i.e getting sites to closure)** assisted the Port Authority with soil and groundwater remediation projects. Malcolm Pirnie's team has worked at almost 50 Port Authority sites performing soil and groundwater investigations, developing remedial strategies, implementing the remedial programs, evaluating progress monitoring soil, groundwater, and vapor analytical results, preparing summary reports and negotiating with regulatory agencies. At Port Authority facilities, Malcolm Pirnie has evaluated and utilized approaches that expedite the closure process and **reduce Port Authority project costs**: In-situ chemical oxidation techniques, Dual-phase extraction, Enhanced Anaerobic Bioremediation (EAB) techniques, and Monitored Natural Attenuation (MNA) to name a few.

We have **pioneered the use of innovative techniques** such as EAB, Duel Phase Extraction and MNA for the Port Authority in addition to numerous Metro Area clients such as Shell Oil, NYCDEP, numerous municipalities and hundreds of industrial clients. We have also negotiated extensively with the New York State Department of Environmental Conservation (NYSDEC) and the New Jersey Department of Environmental Protection (NJDEP) to **expedite the remedial timeframe and reduce remedial costs.** Malcolm Pirnie has assisted the Port Authority in receiving closure or **No Further Action (NFA) letters for approximately 10 locations** at their Metro facilities-there is no firm that can match this track record.

B. Remediation Design

Our remediation experts have designed and constructed hundreds of soil and groundwater treatment systems for the remediation of impacted soils and groundwater in the Metro Area. By closely tracking new technology developments and applying our common-sense approach to the use of innovative technologies, we have greatly increased our ability to effectively meet our clients' **environmental and financial needs and reduce the duration of cleanup activities.** These clients include NYCDEP, NYC EDC, NYC DDC, numerous municipalities in the Metro Area, Shell, Chevron, Exxon, Alcoa, BASF, Honeywell, and hundreds of others.

Malcolm Pirnie has prepared multiple remedial designs specifically for the Port Authority. For example, Malcolm Pirnie developed the specifications and drawings for the upgrades to two dual-phase extraction systems at the JFK Airport fuel farms. The design drawings were completed in accordance with **Port Authority CAD Standards** and approved by the Port Authority Mechanical, Electrical, Structural and Environmental Engineering disciplines. The specifications utilized a combination of **Port Authority Standard Specifications** and Custom specifications prepared by Malcolm Pirnie. Malcolm Pirnie's familiarity with the Port Authority CAD Standards and Standard Specifications allow for an expedited approval process during the remedial design phase of projects. **Our experience** with the Port Authority design process will reduce the learning curve and enable Malcolm Pirnie to execute designs **more cost effectively than the competition.**

C. Compliance Audits

Malcolm Pirnie has conducted hundreds of environmental audits in the Metro Area for clients such as the Port Authority, NYCDEP, NJ Transit, Shell Oil, Airline Tenants (American, American Eagle, Jet Blue, FedEx and others), scores of municipal clients and hundreds of industrial clients. The projects include regulatory and permit compliance for **$1B+ NYCDEP** facilities (Wards Island, Croton Filtration Plant, Flushing CSA and Delaware Aqueduct) to **SPDES evaluations at JFK Airport**. We have prepared audit checklists on projects consistent with facilities owned and operated by the Port Authority, such as waterfront ports, tunnels, bridges, and airports. We have performed compliance audits on all media (air, water, soil) and on all types of regulated facilities. The audits also include **Health and Safety audits per 29CFR and audits of disposal facilities** where the Port Authority may take their wastes or excess fill soils from major capital projects, such as WTC and JFK, and *evaluated dewatering compliance from such projects. Evaluation of non-point source storm* water runoff (Storm Water Pollution Prevention Plans-SWPPPs) is also a strength at airports, waterfront facilities, rail facilities, and truck terminals. We have monitored compliance with tunnel excavation activities to assess compliance with waste and chemical storage and disposal. Audits have also been conducted of **lead paint and asbestos mitigation activities**, and of tenant compliance at leased facilities. Other compliance projects include **AST compliance** at JFK and LGA, **AST and MOSF compliance** at JFK, various waterfront NYCDEP facilities, and at numerous petroleum terminals including the Hess Brooklyn Terminal.

D. Underground Storage Tank Assessments and Closures

Malcolm Pirnie has been designing and evaluating underground storage tank (UST) systems in the Metro Area since the early 1980's. The core team/Malcolm Pirnie/ARCADIS have conducted **hundreds of UST investigations** in the Metro Area for clients such as Shell, Exxon, BP, Chevron, Conoco Phillips, American Airline, NJ Transit, NYC EDC, NYCDEP, in addition to UST assessments and closures on Port Authority properties. Many of these sites have gone to closure. **Many of the closures received for the Port Authority properties are also UST sites.** The core team has executed projects requiring a wide range of services including hydrogeologic investigations, UST inspection and testing, UST assessment and certification, UST removal, closure of USTs permitted under NYSDEC, NJDEP and the Resource Conservation and Recovery Act (RCRA), remediation of leaking USTs, and design of new storage facilities and piping for installations above and below ground. Other projects executed for the above clients in the Metro Area include inventory reconciliation, inventory control, cathodic protection monitoring, UST registration and **Spill Prevention, Control, and Countermeasures (SPCC) plan development and implementation.**

Malcolm Pirnie's expertise in geology and hydrogeology in the Metro Area relevant to UST projects includes test drilling, geophysical studies, development of monitoring systems, performance of pumping tests, groundwater modeling, and design and installation of

groundwater recovery systems and associated treatment systems, all which have been completed on Port Authority properties. We are experienced in working with the Port Authority Materials Department, or conversely, are experienced in the execution of numerous projects for Port Authority tenants where we subcontracted with drillers, remediation contractors and UST system installers. The core team has completed UST closures at Terminal 8, Gate 23, Hangar 10, Building 123, LGA Hangar 4, Goethals Bridge Facility, Outterbridge Crossing among others.

E. Phase I Assessments

The Port Authority is focused on acquiring properties that support its infrastructure goals to "keep the region moving." Malcolm Pirnie's approach to Phase I Site Assessments extends beyond the guidance specified in ASTM Standard E-1527 due to the unique requirements of the Port Authority-the focus of the property acquisition is for facility development. Therefore, the Phase I includes the potential for environmental impacts on the proposed construction and investigates the areas proposed for excavation, the potential for dewatering, and the potential for the export of impacted fill soils. Also, due to the Port Authority being a "deep pocket", the Phase I extends to offsite property sources that may be influenced by dewatering during a Port Authority Capital Project. If structures are present that may require possible demolition, the scope of a Phase I can be expanded to include items such as building hazardous materials surveys, asbestos surveys, lead based paint surveys or other services required by the client.

The work under Phase 1 is typically carried out in the following steps: Interviews of Key Personnel; Review Land Use History and Geologic/Hydrogeologic Information; Review of Local, State and Federal EPA Information; Interviews with Facility Operators; Field Observations; Review of Deed and City and County Records; and Reporting. Malcolm Pirnie has performed hundreds of Phase Is on proposed capital projects for such clients as NYCDEP, NYC EDC, NJ Transit, Airline Tenants, numerous major cities in the Metro Area including Newark, Hackensack, Jersey City, Hoboken, and numerous other public clients. The projects include right of way for the tunnel shafts, water plants, waterfront facilities, airport hangars and terminals, tunnel approaches and appurtenant facilities, bridge approaches and pertinent facilities, rail facilities and waterfront petroleum terminals. Since the project team is familiar with the types of facilities typically acquired, the experience facilitates a proper approach to reduce the Port Authorities liabilities in the transactions.

Additionally, the team is familiar with standard Port Authority leases and routinely assists the Port Authority is specialized lease development for environmental clauses, including specifications for a baseline/Phase I conducted by the tenant. Such experience is invaluable to the Port Authority and unique to the Malcolm Pirnie team.

F. Risk Assessments

The Malcolm Pirnie team members have performed hundreds of risk assessments in the

Metro Area under CERCLA, RCRA, state programs, and voluntary action programs for the above clients on similar projects. The clients include NYCDEP (risk assessments for tunnels, shafts and valve chambers due to PCBs, lead and other hazards), JetBlue (risk based vapor intrusion evaluations), and waterfront clients (sediment eco-risk evaluations). The team has a **Risk Assessment Center of Excellence in NJ** housing the leader of the team, Dr. Rich Califano. Dr. Califano has extensive experience with risk assessments on Port Authority facilities. The restricted, permanent use of the **JFK Airport Central Terminal Area (CTA)** as an airport terminal area prompted the Port Authority to contemplate risk-based cleanup standards. In 1994, Malcolm Pirnie (under Dr. Califano's direction) prepared a risk assessment and derived the **Proposed Remedial Action Goals** for soil and groundwater. In June 1996, NYSDEC accepted the final levels for the CTA Values. During the last 3 years, using the **risk based values, Malcolm Pirnie received closure letters** for Terminal 1, Terminal 2, Terminal 4, and anticipates receiving closure for Terminal 5 during the next two years. The expeditious closures of these Terminals likely **saved the Port Authority millions of dollars** in potential investigation and remedial costs. It should be recognized that NYSDEC is changing the approach for the use of the CTA values, and risk assessment/brown fields approaches to site remediation and potential exposures (i.e. vapor intrusion) will be even more important in negotiating with NYSDEC. **The Malcolm Pirnie team has the experience with NYSDEC and Port Authority facilities needed for a successful outcome on future Port Authority projects.**

G. Environmental Assessments

Environmental site assessments provide an evaluation of existing and historical areas of environmental concern through a first-hand study of the property under investigation and a comprehensive search of available historical records and regulatory data. **Malcolm Pirnie has performed thousands of environmental assessments** in the Metro Area for major clients such as NYCDEP, Port Authority, NYC EDC, NYC DOS, City of Jersey City, Newark, Hackensack, and municipalities in Bergen County, Hudson County, Passaic County, and Union County.

The assessment can range from ecological and wetlands to air dispersion modeling with Malcolm Pirnie's Air Modeling Group in White Plains or our RECON air testing group in Bridgewater, NJ. The data can support the full range of environmental assessments from either supporting permit applications for operation of Port Authority facilities, evaluation of work place environmental exposure, and baseline assessments, including marine and ecological/wetlands to an evaluation of fill materials for disposal for a large capital project. For any environmental assessment project, the focus of adequate research, both a review of existing records and applicable regulations is critical before a work plan is prepared for more costly and intrusive sampling. **With over 1,100 professionals in the Metro Area, there is no environmental project or assessment that Malcolm Pirnie cannot handle.**

Relevant Experience - Project Tasks

A. Project Scoping

Malcolm Pirnie implements project scoping for every project regardless of size or scope. A well thought out project plan is paramount for any project to be completed efficiently and cost effectively. For each task order the Port Authority assigns, Malcolm Pirnie first prepares a task-based proposal that **clarifies the scope and estimates the cost** of the task. The project proposal will also provide the Project Manager with the proposed project schedule and project staff. Maintaining **open lines of communication** with the Port Authority Project Manager throughout a project is a top priority of Malcolm Pirnie, and it starts in the project scoping phase with a **clear and concise project proposal.**

B. Field Inspections

The formulation of a successful project or design begins with the accurate collection of field data. These investigations can range from a relatively simple site walk-through to observe the site and its surroundings, to the design and execution of elaborate investigation programs. Malcolm Pirnie has performed field inspections at a variety of Port Authority facilities to determine existing conditions and the potential influences on the project, the necessity for equipment upgrades or to identify potential liabilities during property acquisitions. Malcolm Pirnie's engineers and scientists rely on their professional experience in the Metro Area and their **experience with Port Authority facilities** to perform inspections with a critical eye and identify problematic areas or areas of **potential cost savings.** Our best example of a cost savings realized during inspection was the identification of compromised air strippers at the **JFK stormwater treatment facilities.** The stormwater treatment equipment is antiquated and beyond the design life of the system, but the capital budget was not available to upgrade the entire plant. By upgrading only the air strippers in the interim, **the Port Authority drastically reduced the risk of violating their discharge permit thereby minimizing costly fines.** The interim solution allowed the Port Authority to allocate their limited capital budget to other areas of need.

C. Preparation of Soil, Groundwater, Surface Water Sampling Plans

Malcolm Pirnie is experienced in preparing **scores of sampling plans** and **Materials sampling requests** for the Port Authority. The sampling plans include **soil, groundwater, surface water sampling, vapor sampling, lead and asbestos sampling,** among others. Major factors to consider in the development of the plans include:

- **Agency Approval**-if an agency is required for review and approval, Malcolm Pirnie's experience with the agency will ensure that the plan will have a high likelihood of **approval.** Every plan is an opportunity for cost reductions and sets up the negotiating table-we discuss the negotiation options with the Port Authority before the plan is submitted to reduce the potential for unnecessary costs and multiple revision loops.

- **Coordination with Operations and other departments**-Due to the numerous departments with overlapping jurisdiction on any Port Authority project, particularly in AOA, the plan also serves to alert the other departments to the nature of the work and to gain access or approval. A well written plan and schedule will communicate the scope of work to the other departments to **avoid delays and will reduce project costs.**

- **Use of Standard Operating Procedures (SOPs)**-with ARCADIS, we have supplemented our library of SOPs with hundreds of SOPs that have been tried and tested at bulk fuel farms, waterfront facilities, large infrastructure projects, and airports. The use of SOPs combined with Malcolm Pirnie's experience with the Port Authority, NYSDEC and NJDEP **will ensure cost reductions on all of the Port Authority's projects.**

Malcolm Pirnie's success at the various Port Authority facilities over the last 6-8 years is rooted in careful and thoughtful mutual work scope development with the Port Authority professionals. This type of approach is also practice with our other task order contracts with NYCDEP, NJ Transit, City of Jersey City, Newark, Hackensack, to name a few....**the end result of excellent work plans are projects executed on time and on budget.**

D. Environmental Data collection and Analysis

Malcolm Pirnie's staff has over a century of experience working with contractors and surveyors in the Metro Area, and has worked with the Port Authority's coordinate system on our existing environmental call in contracts. Malcolm Pirnie routinely performs **subsurface exploration** programs in support of investigation and remedial design, along with other project requirements.

Due to Malcolm Pirnie's long history with clients such as NYC MTA, DEP, DDC, EDC in NYC and numerous clients in NJ (City of Newark, Hoboken, Jersey City, Elizabeth) in the Port Authority area, **we have extensive subsurface records/boring logs/groundwater elevation data** to assist in preparing programs, in addition to the Port Authority data. The extensive data set Malcolm Pirnie has for existing and potential future Port Authority facilities in the NYC Metro area, may result in **increased cost savings** during the initial stages of design or property transfers. The firm also has a fully manned sampling/testing equipment warehouse in Westchester County with a full range of field testing equipment which Malcolm Pirnie uses at Port Authority projects at **discounted rates.**

E. Preparation of reports describing methodology, results and recommended mitigative measures

The calling card of an environmental consultant/engineer is the quality of the deliverable-the report or plans and specifications. **We have set the bar high for quality documents** to exceed the expectations of the Port Authority and the other stakeholders, notably the regulatory agencies. Malcolm Pirnie staff is experienced in preparing reports for the Port

Authority and exceeding expectations. These reports have been prepared as either stand-alone documents, which provide design parameters and the findings of our studies, or they can be included in overall reporting as supplementary sections in Port Authority documents. **We understand the various requirements of the Port Authority Engineering Department-we have been doing the work preparing reports for the last 6-8 years and will have no learning curve. We are currently preparing reports for a number of Port Authority projects on a routine basis.**

F. Cost Estimating

Malcolm Pirnie's cost estimating staff has significant experience in estimating the construction and operations costs for a wide range of environmental projects. We maintain an up-to-date **database** of cost information, available for all projects. For the NYCDEP's **Investigation of Hudson River Water Supply Alternatives**, Malcolm Pirnie managed the team responsible for groundwater and environmental investigations and cost estimating of various alternatives. For the **Newtown Creek WPCP**, we conducted a large cost estimating activity for the various environmental aspects of the project, including the costs of developing and implementing the environmental permits. **For the JFK Bulk and Satellite Fuel Farm Upgrades, we developed an engineer's estimate and traced costs through construction with support on Port Authority PACCs.**

G. Modeling

Malcolm Pirnie's groundwater modeling capabilities include modeling groundwater flow regimes and contaminant transport. Frequently used modeling software includes USGS Modular 3-D Model, PLASM, USGS Konikow and Bredehoeft Solute Transport Model, and SESOIL to name just a few. Our staff is also experienced in the conceptual design and evaluation of both physical and hydraulic barriers for groundwater and contaminant movements, and in air dispersion modeling, noise modeling, surface water monitoring, fugitive dust emission modeling, and remediation modeling.

H. Preparation of contract documents

Through our project experience, the preparation of contract documents has been a mainstay of almost all of our projects, including NYCDEP, Port Authority, numerous local municipalities and private clients. For the Port Authority's Bulk Fuel Farm and Satellite Fuel Farm Long Term Remediation System Expansion project, Malcolm Pirnie **prepared the contract documents** for the expansion of three systems located at John F. Kennedy Airport. The preliminary design efforts included field investigations of the existing extraction systems, and the generation of a **Basis of Design Report**. The Environmental, Mechanical, Structural, Electrical, and Civil Engineering disciplines at Malcolm Pirnie generated the **specifications and design drawings** necessary for the performance of the construction upgrades. Malcolm Pirnie also prepared cost estimates and assisted with contractor selection.

Malcolm Pirnie has experience in preparing drawings, using **Port Authority Standard Specifications**, in writing custom Port Authority specifications, and preparing other reports and documents to support public bidding or technical memos. We are familiar with the **Port Authority CAD standards** and the updated (April 2010) CAD standards outlined online and in the Port Authority Data Collection and Drafting Manual. **Due to our experience with the Port Authority design document preparation and approval process, there will be no learning curve.**

The firm also has a very large IT/Geospatial Database Group (> 100 employees) that have experience in all types of databases and boring log programs including Equis, ArcView, and others. We also have an office in India (MP India) where we have the ability to quickly digitize and transform paper data into electronic format, with the advantage of competitive rates and continuous work cycles.

I. Shop drawing review and approval

Malcolm Pirnie has **experience with the Port Authority process** of reviewing detailed shop drawings, construction drawings, and erection drawings prepared and submitted by contractors for compliance with the design documents. The review of these drawings is performed by the designers and design specialty groups that prepared the contract documents. Deviations from the contract documents are closely examined for their impact on the construction schedule or operation of the facility. Review comments are coordinated by a construction administration specialist, who also is responsible for timely review of all shop drawings. All review comments are clearly denoted on the returned submittal, which is also given a final status regarding its acceptability and conformance to the contract documents.

Malcolm Pirnie **reviewed 100+ submittals** during the completion of contract JFK-981A. Malcolm Pirnie engineers worked with the Port Authority Engineering department to successfully track, approve, and distribute the 100+ submittals in a manner which allowed the project to **stay within budget and on schedule.**

Relevant Projects

The table on the following pages illustrates a sample of our projects that were comparable in services performed during the last three years and prior. Please cross reference the projects tables with our personnel table in Section D and you will see the **strength of our Port Authority core team.** Additional projects with detailed descriptions can be provided upon request.

THE PORT AUTHORITY OF NY & NJ

Relevant Projects	Owners Contact Information	Project Type: A. Soil & Groundwater Investigations	B. Remediation Design	C. Compliance Audits	D. UST Assesments and Closure	E. Phase I Assessments	F. Risk Assessments	G. Environmental Assessments	Project Tasks: A. Project Scoping	B. Field Inspections	C. Preparation of Soil, Groundwater & Surface Water Sampling Plans	D. Env. Data Collection & Analysis	E. Preparation of Reports Describing Methodology, Results & Recommended Mitigative Measures	F. Cost Estimating	G. Modeling	H. Preparation of Contract Documents	I. Shop Drawing Review & Approval	Completed On Time	Completed Within Budget
Port Authority of NY & NJ (2008-2010) **BFF&SFF Storm Water Treatment Plant** JFK Airport, NY	Bill Glynn Principle 973-565-7565		✔	✔					✔	✔		✔	✔	✔	✔	✔	✔	✔	✔
Port Authority of NY & NJ (2007-2009) **Terminal 1, 2 & 4** JFK Airport, NY	Bill Glynn Principle 973-565-7565	✔	✔						✔		✔	✔	✔	✔				✔	✔
Port Authority of NY & NJ (2009-Present) **Terminal 5** JFK Airport, NY	Bill Glynn Principle 973-565-7565	✔	✔						✔		✔	✔	✔	✔				Ongoing	
Port Authority of NY & NJ (2009-Present) **AMOCO** JFK Airport, NY	Angela Altieri Engineer 973-565-7578	✔	✔				✔		✔	✔	✔	✔	✔	✔				Ongoing	
Port Authority of NY & NJ (2007-Present) **Hanger 81B** JFK Airport, NY	Angela Altieri Engineer 973-565-7578	✔	✔						✔	✔	✔	✔	✔	✔				Ongoing	
Port Authority of NY & NJ (2008-2009) **Bridge Abutment Bldg., Outerbridge Crossing** New York, NY	Bill Glynn Principle 973-565-7565	✔			✔				✔		✔	✔	✔					✔	✔
Port Authority of NY & NJ (2008-2009) **Bridge Abutment Bldg.,Gothels Bridge** New York, NY	Bill Glynn Principle 973-565-7565	✔			✔				✔		✔	✔	✔					✔	✔
Port Authority of NY & NJ (2008-2009) **Maintenance Bldg., Gothels Bridge** New York, NY	Bill Glynn Principle 973-565-7565	✔			✔				✔		✔	✔	✔					✔	✔
Port Authority of NY & NJ (2007-Present) **Kleener King** Bronx, NY	Ed Aldrich Sr. Env. Analyst 973-565-7533	✔	✔				✔		✔	✔	✔	✔	✔					Ongoing	
Port Authority of NY & NJ (2005-Present) **BFF&SFF 981A/981MA, JFK-1036** JFK Airport, NY	Bill Glynn Principle 973-565-7565		✔		✔				✔	✔		✔		✔		✔	✔	Ongoing	

MALCOLM PIRNIE

THE PORT AUTHORITY OF NY & NJ

Relevant Projects	Owners Contact Information	Project Type: A. Soil & Groundwater Investigations	B. Remediation Design	C. Compliance Audits	D. UST Assessments and Closure	E. Phase I Assessments	F. Risk Assessments	G. Environmental Assessments	Project Tasks: A. Project Scoping	B. Field Inspections	C. Preparation of Soil, Groundwater, Surface Water Sampling Plans	D. Env. Data Collection & Analysis	E. Preparation of Reports Describing Methodology, Results & Recommended Mitigative Measures	F. Cost Estimating	G. Modeling	H. Preparation of Contract Documents	I. Shop Drawing Review & Approval	Completed On Time	Completed Within Budget
Port Authority of NY & NJ (2005-2009) **BFF AOC-1 and AOC-4 Closure** JFK Airport, NY	Bill Glynn Principle 973-565-7565	✔	✔				✔		✔		✔	✔	✔					✔	✔
Port Authority of NY & NJ (2005-2010) **BFF&SFF Remediation Monitoring** JFK Airport, NY	Bill Glynn Principle 973-565-7565	✔	✔						✔	✔	✔	✔	✔					✔	✔
Port Authority of NY & NJ (2009-Present) **Building 146/214/Hanger 19** JFK Airport, NY	Thzaira Charles Engineer 973-565-7554	✔	✔						✔	✔	✔	✔	✔	✔				Ongoing	
Port Authority of NY & NJ (2007-Present) **SPDES Permit Compliance** JFK Airport, NY	Erik Nakutavicius Staff Airport Engineer 718-244-4533			✔					✔	✔		✔			✔			Ongoing	
Port Authority of NY & NJ (2000-Present) **Newark Bay Confined Disposal Facility** New York-New Jersey Harbor , NJ	Jim Cleary Port Commerce 212-435-4270			✔					✔	✔		✔			✔			Ongoing	
Port Authority of NY & NJ (2008-Present) **MOSF** Newark, NJ	Bill Glynn Principle 973-565-7565							✔		✔			✔					Ongoing	
Port Authority of NY & NJ (2005-Present) **Newark Airport SOFF** Newark, NJ	Tiffany Chan Engineer 973-565-7557	✔	✔					✔	✔	✔		✔	✔	✔				Ongoing	
American Airlines (2009) **Hanger 11** JFK Airport, NY	Alan Angers Regional Environmental Manager (817) 931-5423	✔				✔			✔	✔	✔	✔	✔				✔	✔	✔
Shell Oil Products US (1985-Present) **Various Projects** NY, NJ, WV	Mark Himberger Env. Manager (713) 241-7035	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔		✔	✔	Ongoing	
New York City DEP (1950's - Present) **Various Projects** New York, NY	Daniel A. Solimando, P.E. Chief, WWT & Remediation (718) 595 6116	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	Ongoing	

MALCOLM PIRNIE

Performance of Expert Professional Environmental Engineering Services as Requested on a "Call-In" Basis During 2011 (RFP #21999)

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Management Approach

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Management Approach To "Call-In" Projects

The "Call-In," delivery-order type of contract requires a firm with the capabilities of *managing multiple, concurrent activities, and the flexibility and personnel resources to* undertake task orders on short notice. Perhaps our best demonstration of these capabilities is the service we have provided to the Port Authority under our "call-in" contracts from 1993 to the present.

Since March 1993, Malcolm Pirnie scientists, engineers, and consultants (and administrative support staff) from our Northern New Jersey, New York City (Queens/Long Island City) and White Plains, New York offices have provided thousands of hours of service on almost a 100 projects.

Projects have ranged from wetlands delineations at JFK International Airport to an exposure analysis and closure report for petroleum hydrocarbons underlying the Yonkers Industrial Park to the JFK Bulk Fuel Farm Remediation System Expansion and other assignments. We are also performing operation and management of the Newark Bay Confined Disposal Facility and dredging oversight of the Port Elizabeth channel for the Port Authority's Port Commerce Department. Our management team has staffed each project with the professionals that understand the requirements of the Port Authority, and are motivated to complete the projects in an expedited fashion, especially to move regulators in the direction of the project objectives.

Malcolm Pirnie's approach to managing work assignments maximizes the use of our experienced and qualified project team members to provide the Port Authority with cost-effective and responsive results. Our project team and project management approach will provide the Port Authority with responsiveness in the development of workable solutions for the environmental issues that the Port Authority faces. Our management team's experience with the Port Authority provides us with the opportunity of providing you the quality of service and personal relationship that you have enjoyed for the past seventeen years.

A general services, or call-in, contract is built on the ability of the management team to form a close working relationship with its client. Our management team strategy will:

- Encourage communication between Malcolm Pirnie and the Port Authority and maintain a pro-active pursuit of strengthening the partnership between the Port Authority and the management team.
- Provide committed, experienced personnel capable of performing routine consulting services; especially tasks requiring immediate response.
- Provide personal Principal-in Charge service, especially with quality control/quality assurance of the documents along with value added consulting.

- Have the flexibility and technical ability to address a wide variety of environmental, engineering, and compliance related issues.
- Maximize the advantages gained by Malcolm Pirnie staff relationships with regulatory agency personnel in New York and New Jersey to gain support from them on critical issues pertaining to regulatory negotiations, and obtaining grants and/or loans for work assignments where appropriate.

The Malcolm Pirnie management team will provide the Port Authority with dedicated, committed staff with the expertise to ensure successful performance on tasks awarded under this contract. We are aware of the issues and needs of the Port Authority and we will require little, if any, learning curve because of our previous experience with the Port Authority. We are familiar with requirements associated with providing general engineering "work order" services to the Port Authority. We understand the importance of being timely and providing deliverables which are correct, accurate, and acceptable when submitted.

Project Management

Malcolm Pirnie's office in Fair Lawn, New Jersey will serve as the lead management office for the Engineering Department's consultant program "Call-In" contract. Understanding the importance of being readily accessible to the Port Authority's staff and of project schedule demands, we will assign project responsibilities to personnel in both this office and the firm's nearby offices in Long Island City and White Plains, New York. As demonstrated on previous Port Authority projects, utilization of personnel from multiple offices gives us the flexibility needed to meet varying project demands.

Contract Officer

Robert Johnston, a Vice President of the firm, will serve as the Contract Officer/Principal-in-Charge for the "Call-In" contract. Mr. Johnston has been Project Officer on a number of assignments we have performed under our existing "Call-In" contract for Ecological Services. As Contract Officer, he has ultimate responsibility for the quality of our work and to ensure that appropriate personnel and material resources are made available to fulfill the project requirements of the Port Authority. For each assignment, he will designate a project manager/task leader to head up the technical aspects of the assignment, will oversee the development and implementation of a specific project plan, and have overall responsibility for the budget, schedule, and technical quality of the work performed on the project. Mr. Johnston, a licensed Professional Engineer in New York and New Jersey, is accomplished in the direction of multi-phase, multi-task contracts for the Port Authority, NJ Transit, and other clients.

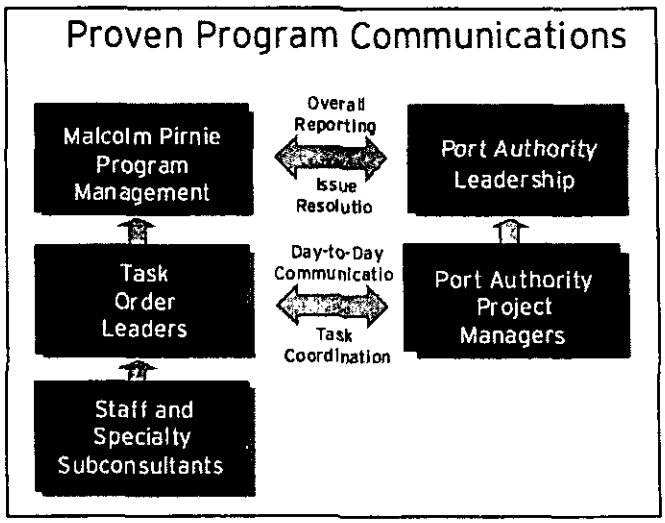
Contract Manager

Kathyrn Lamond, a Project Engineer located in our Fair Lawn, NJ office, will serve as the Contract Manager for the Engineering Department's consultant program "Call-In" contract.

In this capacity, she will be the day-to-day contact for the Port Authority Project Managers. She will assist the Contract Officer in promptly responding to requests for services and in assigning appropriate personnel to projects. In addition, Ms. Lamond will oversee Malcolm Pirnie's adherence to the requirements of this contract, including, but not limited to, providing updated personnel rosters and working with the Port Authority's Office of Business and Job Opportunity to include MBEs/WBEs in our proposals. She will also serve as a project-specific project manager on appropriate assignments. Ms. Lamond has over six years of technical and managerial experience on Port Authority "Call-In" and other contracts. Ms. Lamond also worked for 6 months as an In-House consultant at the Port Authority Newark Office in the Environmental Engineering Department. Her experience In-house provided her with knowledge of the internal Port Authority processes, allowing her to better understand project delivery needs.

Project Execution

Primary responsibility for each project rests with a Project Officer who is responsible for the budget, schedule, and technical quality of work performed on that project. The Project Officer consults with a designated Quality Assurance staff member and forms a project management team consisting of a Project Manager and key technical and administrative staff with the skills appropriate to meet and exceed the needs of the assignment.



Project Plan

The key to successful completion of any assignment is solid technical capabilities coupled with a clear, targeted project plan. The project plan involves project scoping, project cost estimating, and project scheduling. For each work assignment, a specific project plan will be prepared and closely adhered to. The plan is a blueprint for project execution and communication. The development of a project plan at the onset of an assignment facilitates our efforts to see that all projects are completed on time and within budget. Such an approach is not unique to this contract, but rather a long-standing practice of our project delivery program.

Quality Assurance

The cornerstone of quality assurance and quality control (QA/QC) at Malcolm Pirnie is our Quality Assurance/Quality Control Program (every assignment is subject to strict adherence to our QA/QC Program). Our Quality Assurance (QA) staff are experts in technical disciplines such as geotechnical, ecological/biological sciences, hazardous waste, civil

engineering, wastewater and water. Our QA staff are autonomous from project staff and report senior management of the firm. QA leads are responsible for assigning QA staff for each project; they must also be satisfied that proper checks and balances exist to assure quality project implementation.

Quality Consultants are assigned to every project to bring the firm's full technical experience to the project team and our clients.

Project Management System

Malcolm Pirnie's Project Management (PM) System greatly facilitates all aspects of project delivery, eliminates excessive paperwork, and ensures that charges are input accurately and expenses and labor hours are allocated precisely.

In addition to the PM system output, project officers and project managers receive monthly project status reports that compare project cost and billable amounts to the established project ceiling. This enables key supervisory staff to identify and correct potential problems before they become actual problems.

Minority/Women Business Enterprises (MBEs/WBEs)

MBE Participation Plan

If subcontractor or sub-consultant assistance is required on a project, Malcolm Pirnie will contact the Port Authority's Office of Business and Job Opportunity to obtain a list of certified MBE/WBE firms. We will determine if we have worked with any certified MBEs in the required area of expertise and, where possible, we will attempt to subcontract with certified firms that have worked with us on other projects. We maintain ongoing working relationships with several local MBE/WBE firms. Firms are chosen for their ability to augment Malcolm Pirnie's in-house technical resources and typically provide specialized services for discrete tasks such as laboratory analysis, surveying, drilling, and reproduction. To further our efforts, we are in routine contact with Affirmative Action bureaus, which maintain listings of Small, Minority and Women Business Enterprises (SBE, MBE and WBE). The RFP states that the Chief Engineer has set a goal of 12 percent participation by qualified and certified MBEs and 5 percent by qualified and certified WBEs. We are confident that we can easily meet this goal.

Performance of Expert Professional Environmental Engineering Services as Requested on a "Call-In" Basis During 2011 (RFP #21999)

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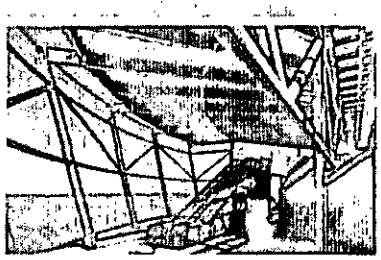
PORT AUTHORITY OF NY & NJ

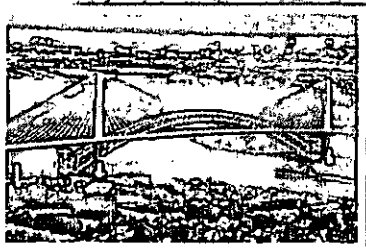
Performance of Expert Professional Ecological Studies and Design Services as Requested on a "Call-In" Basis during 2011

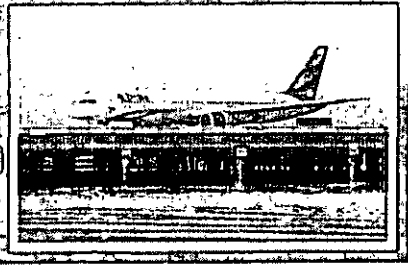
RFP Number 22195

HDR

Submitted by: Henningson, Durham & Richardson Architecture and Engineering, PC







HDR ONE COMPANY | *Many Solutions* SM

October 7, 2010

The Port Authority of New York and New Jersey
One Madison Avenue, 7th Floor
New York, New York 10010

Attention: RFP Custodian

Re: **Proposal for Performance of Expert Professional Ecological Studies and Design Services as Requested on a "Call-In" Basis during 2011, RFP# 22195**

Dear Ladies/Gentlemen:

HDR is pleased to submit the attached proposal for Performance of Expert Professional Ecological Studies and Design Services on a "Call-In" basis as part of the Architectural/Engineering Design Division's Program for 2011-2014. We have been providing related engineering consulting services to clients in the public and private sectors for over 90 years. Our ecological and environmental science services include field and laboratory services, hazardous waste investigations and management, environmental impact assessment, environmental compliance analysis and permitting, wetlands and threatened and endangered species studies, air pollution control, water and wastewater engineering, civil and site engineering, and mathematical modeling.

Our experience with the past and ongoing assignments (over 200) for the PANYNJ and with term contracts for other governmental agencies in New York and New Jersey provides us with an established management basis to successfully and expeditiously handle assignments under this call-in term contract.

Our multidisciplinary experience, our familiarity with environmental regulations, and recognition of our expertise by government agencies, along with our convenient geographic locations throughout New York and New Jersey are important factors in the cost-effective completion of these assignments.

As requested in the RFP, a signed copy of Attachment B is located in Section A of the enclosed proposal. We appreciate the opportunity to propose on this contract and hope to be selected to work with you. We are fully committed to execute this contract as the highest priority within our firm. We believe HDR's qualifications match your needs well. Should you wish to discuss any aspect of this submission in greater detail, or if you require additional information, please do not hesitate to contact me at (845) 735-8300.

Sincerely,

John Duschang
Vice President

Henningson, Durham & Richardson Architecture and Engineering, P.C.

One Blue Hill Plaza, 12th Floor
P.O. Box 1509
Pearl River, NY 10965-8509

Phone: (845) 735-8300
Fax: (845) 735-7466
www.hdrinc.com

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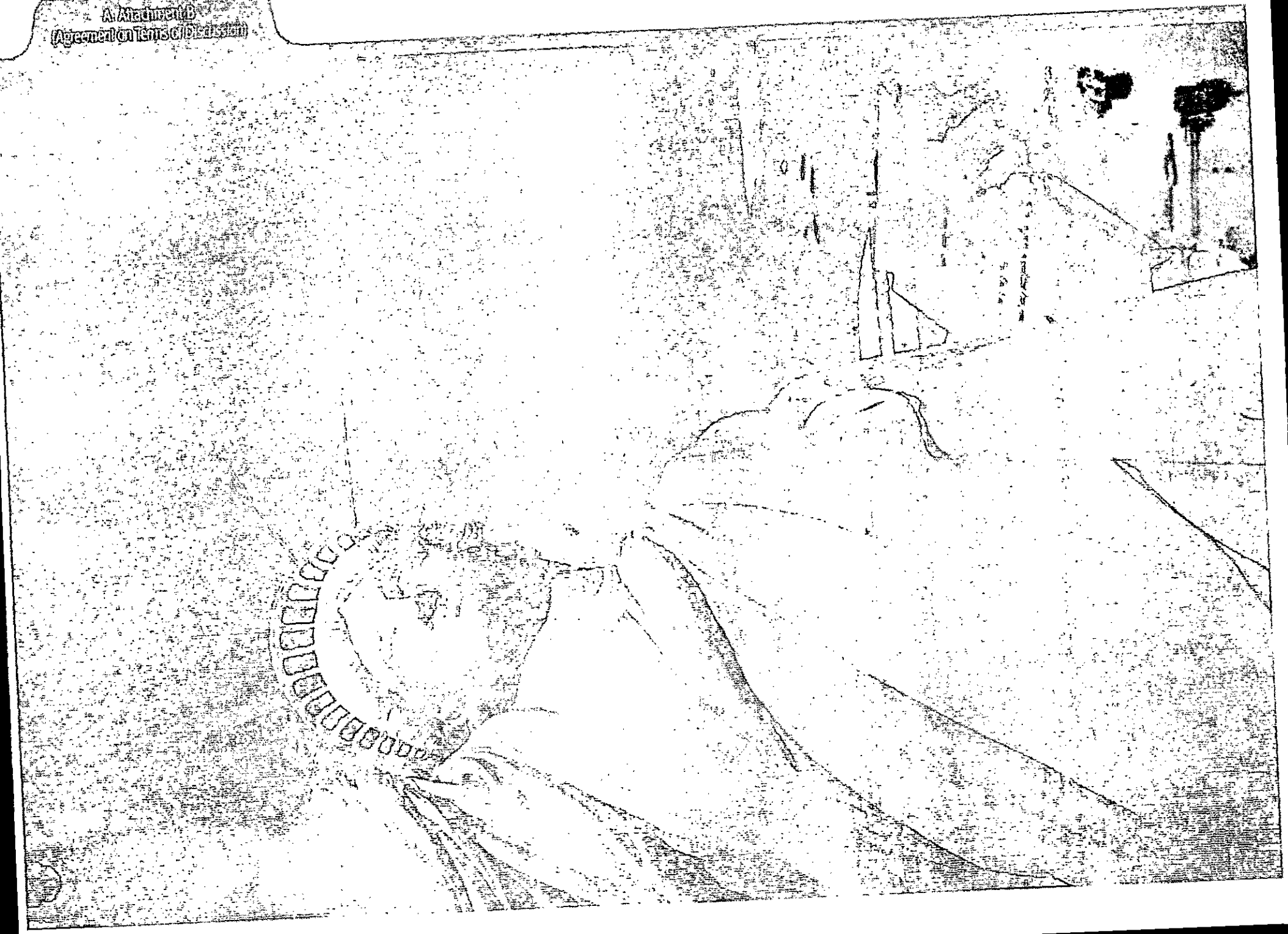
List of Firm's Affiliates.....H

Conflict of Interest Statement I

Comments on Contract.....J

A. Attachment B
(Agreement on Terms of Discussion)



ATTACHMENT B

PERFORMANCE OF EXPERT PROFESSIONAL ECOLOGICAL STUDIES & DESIGN SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011 - RFP #22195

AGREEMENT ON TERMS OF DISCUSSION

The Port Authority of New York and New Jersey's (Port Authority) receipt or discussion of any information (including information contained in any proposal, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) is not to impose any obligation whatsoever on the Port Authority or to entitle us to any compensation therefore (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with, or after this letter, either orally or in writing, is not given in confidence and may be used or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this agreement, whether made as part of or in connection with any information received from us, or made at any other time in any fashion, shall be void and of no effect. This letter is not intended, however, to grant to the Port Authority rights to use any matter which is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Port Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Port Authority's Freedom of Information Policy and Procedure adopted by the Port Authority's Board of Commissioners on November 20, 2008, which may be found on the Port Authority website at: *http://www.panynj.gov/corporate-information/pdf/Freedom-of-Information-Policy-and-Procedure.pdf*, not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause substantial injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

Henningson, Durham & Richardson Architecture and Engineering, P.C.
NAME OF COMPANY

SIGNATURE OF OFFICER

Senior Vice President
TITLE

10/7/10

B. Attachment C
(Company Profile)

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR THE EXPERT PERFORMANCE OF EXPERT PROFESSIONAL ECOLOGICAL STUDIES & DESIGN SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011 (RFP #***)**
22195

1. Company Name (print or type):

   Henningson, Durham & Richardson Architecture and Engineering, P.C.

2. Business Address (to receive mail for this RFP):

   One Blue Hill Plaza, Pearl River, NY 10965

3. Business Telephone Number: 845 735-8300

4. Business Fax Number: 845 735-7466

5. Firm website: http://www.hdrinc.com

6. Federal Employer Identification Number (EIN): (Ex. 1)

7. Date (MM/DD/YYYY) Firm was Established: 6 / 28 / 1977

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

   see Attachment C-1.

9. Officer or Principal of Firm and Title:

   Peter McGroddy, PE, Senior Vice President

10. Name, telephone number, and email address of contact for questions:
    John Duschang, 845 735-8300, john.duschang@hdrinc.com

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☐ Yes ☒ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/business-opportunities/supplier-diversity.html, to receive information and apply for certification.

C-1 Attachment

Name of Affiliate	Address	EIN
BROWN, VENCE & ASSOCIATES	198 Cirby Way, Suite 170, Roseville, CA 95678-6430	(Ex. 1)
CGvL	26250 Enterprise Court, Suite 150, Lake Forest, CA 92630-8408	
CLAUNCH & MILLER, INC.	4635 Southwest Freeway, Suite 1000, Houston, TX 77027-7105	
COCHRAN & WILKEN, INC.	5201 South Sixth St. Rd., Springfield, IL 62703-5143	
CUH2A Europe, Inc.	1000 Lenox Drive, Lawrenceville, NJ 08648	
CUH2A, INC. ARCHITECTURE ENGINEERING PLANNING	1000 Lenox Drive, Lawrenceville, NJ 08648	
Devine Tarbell & Associates, Inc.	970 Baxter Blvd., Portland, ME 04103	
E. T. Archer Corporation	3741 N.E. Troon Drive, Lee's Summit, MO 64064	
ECONOMIC & ENGINEERING SERVICES, INC. (EES)	10900 N.E. 4th Street, Suite 1110, Bellevue, WA 98005	
engineering-environmental Management, Inc. (e2m)	9563 South Kingston Court, Suite 200, Englewood, CO 80112-5952	
HAWAII PACIFIC ENGINEERS, INC.	1132 Bishop Street 10th Floor, Suite 1003 Honolulu, HI 96813	
HDR ACQUISITION SERVICES, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR ALASKA, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR ARCHITECTURE ASSOCIATES, INC.	1525 Carling Ave., Suite 500, Ottawa, ON K1Z 8R9	
HDR ARCHITECTURE CANADA, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR ARCHITECTURE, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR ARCHITECTURE, P.C.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR ARCHS. & ENGRS., P.C.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR Canada Holding Corporation	1525 Carling Ave., Suite 500, Ottawa, ON KIZ 8R9	
HDR CONSTRUCTION CONTROL CORPORATION	8404 Indian Hills Drive, Omaha, NE 68114	
HDR CORPORATE SERVICES, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR CORPORATION	1525 Carling Ave. Suite 500, Ottawa, ON KIZ 8R9	
HDR dé PUERTO RICO, P.C.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR DESIGN-BUILD, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR ENGINEERING, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR ENGINEERING, INC. OF THE CAROLINAS	8404 Indian Hills Drive, Omaha, NE 68114	
HDR ENVIRONMENTAL TECHNOLOGIES, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR INTERNATIONAL, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR MICHIGAN, INC.	5405 Data Court, Ann Arbor, MI 48108	
HDR OF THE DISTRICT OF	8404 Indian Hills Drive, Omaha, NE 68114	

COLUMBIA, P.C.		
HDR PROJECT DEVELOPMENT SERVICES, INC.	8404 Indian Hills Drive, Omaha, NE 68114	(Ex. 1)
HDR PROJECT SERVICES CORPORATION OF ARIZONA	8404 Indian Hills Drive, Omaha, NE 68114	
HDR SECURITY OPERATIONS, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR/WLJORDEN, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR-RICHARDSON GORDON, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HENNINGSON, DURHAM & RICHARDSON INTERNATIONAL INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HENNINGSON, DURHAM & RICHARDSON OF PENN., ARCHS. & ENGRS., P.C.	8404 Indian Hills Drive, Omaha, NE 68114	
HENNINGSON, DURHAM & RICHARDSON, P.C.	8404 Indian Hills Drive, Omaha, NE 68114	
HLB DECISION ECONOMICS, INC.	8403 Colesville Road. Suite 910. Silver Spring, MD 20910-3313	
iTRANS Consulting, Inc.	100 York Boulevard, Suite 300, Richmond Hill, ON L4B 1J8	
JOHNSON-BRITTAIN & ASSOCIATES, INC.	378 North Main Avenue, Tucson, AZ 85701	
PHAROS CORPORATION	123 Second Avenue South, P.O. Box 1569, Edmonds, WA 98020-8457	
QUEST ENGINEERS, INC.	2517 Sir Barton Way, Lexington, KY 40509	
SHINER, MOSELEY AND ASSOCIATES, INC.	555 N. Carancahua, Suite 1650, Corpus Christi, TX 78748-0010	
SURFACE WATER RESOURCES	2031 Howe Avenue, Suite 110, Sacramento, CA 95825-0196	
WHM TRANSPORTATION ENGINEERING CONSULTANTS, INC.	504 Lavaca Street, Suite 1175, Austin, TX 78701-2817	

SECTION C. MULTIPLIER

HDR is proposing a multiplier of **2.85** times direct salary as the multiplier for the first line of subparagraph 9A of the Standard Agreement. The multiplier backup for our Federal Acquisition Regulations (FAR) is provided in the following table. HDR does not plan on utilizing temporary employees on this project.

HDR ENGINEERING, INC. AND SUBSIDIARIES

STATEMENT OF DIRECT LABOR, FRINGE BENEFITS AND GENERAL OVERHEAD
FOR THE YEAR ENDED DECEMBER 26, 2009

	Actual	Unallowable	FAR Reference	Allowable
DIRECT LABOR	$265,083,538	$		$265,083,538
FRINGE BENEFITS:				
Vacation	$ 34,745,410	$		$ 34,745,410
Holiday	12,892,587			12,892,587
Sick leave	752,687			752,687
Payroll taxes	34,249,780			34,249,780
Group insurance	31,237,641			31,237,641
Retirement benefits	16,360,490	11,021	31.205-6(j)	16,371,511
Total fringe benefits	130,238,595	11,021		130,249,616
GENERAL OVERHEAD:				
Indirect labor:				
General	111,645,368	(2,124,580)	31.205-6(p)/31.205-27(a)	109,520,788
Marketing	36,835,701			36,835,701
Travel and expenses — general	7,745,673	(766,801)	31.203(a)/31.205-46	6,978,872
Employees' expenses	10,295,718	(2,651,272)	31.205-13(e),14,22,46,51	7,644,446
Supplies	119,871			119,871
Building rental and expenses — net	45,134,045			45,134,045
Autos	896,470	(55,068)	31.205-6(m)(2)	841,402
Taxes — general	3,078,168			3,078,168
Depreciation and amortization	15,452,314	(9,922,195)	31.201-1	5,530,119
Postage and freight	799,720			799,720
Telephone	4,727,785			4,727,785
Subscriptions	188,102			188,102
Donations	303,542	(303,542)	31.205-8	
Insurance and self-insurance	9,923,243	(1,039,303)	31.205-19	8,883,940
Bad debts	120,082	(120,082)	31.205-3	
Office expenses	1,735,612			1,735,612
Interest — net	939,011	(939,011)	31.205-20	
Professional services	1,006,083			1,006,083
Printing	1,096,814			1,096,814
Temporary help	424,637			424,637
Goodwill	(1,000,000)	1,000,000	31.205-49	
Marketing	7,558,982	(3,382,250)	31.205-1(f)(1),14,46	4,176,732
Allocated expense	77,589,369	(68,015,939)		9,573,430
Computer expense	16,180,599	(34,070)	31.205-1(f)(1),14,27,46	16,146,529
Intercompany overhead	(526,611)			(526,611)
Administrative costs	9,706,465	(1,285,895)	31.205-1(f)(1),14,27,46	8,420,570
Other — net	887,043	(711,593)	31.205-3,14,15,46(e)(2)	175,450
State income tax expense	224,688	788,014	31.205-41(b)(7)	1,012,702
Total general overhead	363,088,494	(89,563,587)		273,524,907
TOTAL FRINGE BENEFITS AND GENERAL OVERHEAD	$493,327,089	$(89,552,566)		$403,774,523
TOTAL FRINGE BENEFITS AND GENERAL OVERHEAD RATE	186.10 %			152.32 %

See notes to statement and schedule.

* With computer allocation 161.44%

Computer Allocation — The Company accumulates Computer Aided Design and Technical Personal Computer costs in one cost center. These costs are charged directly to contracts as a general technology charge using an hourly billing rate of $3.70. The actual cost per hour for the year ended December 26, 2009 was $4.38. The variance between the technology costs charged directly to contracts and the total technology costs is included in the overhead pool. The total technology costs charged direct to contracts was $24,176,207 for the year ended December 26, 2009. Total technology costs incurred were $28,616,764 for the year ended December 26, 2009. Had the company not charged the general technology costs direct to contracts, then these costs would have been included in the overhead pool and the resultant allowable indirect rate would be 161.44%.

D:\Resumes

SECTION D. RESUMES

Introduction

HDR has assembled a multi-disciplinary team consisting of key leaders and a large, diverse, qualified support staff for the potential tasks and project types to be covered by this call-in contract. The paragraphs below summarize the technical qualifications of our key management personnel. Our project organization chart and staff resumes highlighting the qualifications of the staff to be assigned to this contract immediately follow.

John Duschang will serve as the Contract Manager. Mr. Duschang has over 16 years of experience in managing ecological and environmental assessment assignments and working with the PANYNJ. He has recently assisted in several critical task orders, including the Bayonne Bridge Feasibility Study to Increase Navigational Clearance and the analysis and regulatory compliance for the re-activation of cooling water intake for the redevelopment of the World Trade Center, in responding to draft JFK SPDES permit conditions and preparing the PANYNJ for permit negotiations with NYSDEC on outfall monitoring requirements. Mr. Duschang also assisted the PANYNJ in preparing an environmental assessment to support successful federal and state permit applications related to the World Financial Center ferry terminal expansion and respond to issues raised by the local Community Board regarding potential impacts to air quality, noise, pedestrian traffic congestion and safety.

Karim Abood, PhD, PE, will be a Quality Assurance/Quality Control Officer (QAO) for regulatory and programmatic compliance. Dr. Abood he has been the QAO in all of our PANYNJ environmental call-in term contracts. He offers over 49 years of experience in environmental impact assessments, environmental compliance and permits, water quality and aquatic investigations, hazardous waste management, ecological investigations, and modeling projects.

Werner Mueller, PE, CFM, will serve on the Board of Experts (BOE). He is a Senior Vice President with over 30 years of experience in diverse projects requiring compliance with environmental rules, regulations, and policies. He has been principal in charge on contracts encompassing a wide range of skills including, water resources, environmental science, brownfields, environmental planning, fisheries, solid waste management and site civil engineering. Mr. Mueller was directly engaged in the strategy for the development of the JFK Airport / Red garage SWPPP and the stormwater management strategy to secure NJDEP permits for the Port Newark / Port Elizabeth Express Rail project. He has been serving on the Board of Experts for HDR's current Ecological Call-In contract with the PANYNJ.

Patrick Lawler, PE, will serve on the Board of Experts (BOE). He has over 49 years of experience in bench/pilot-scale testing, drainage system design, infrastructure analyses, water/wastewater facilities design, hazardous waste remedial design, resident engineering, and construction-related services. Mr. Lawler has been involved in numerous PANYNJ projects including the Newark Sewer Surcharge Study, the Newark Peripheral Ditch Odor Control project, and the JFK Airport Bulk and Satellite Fuel Farms wastewater treatment designs.

Stephen Seymour, PWS, will be the primary project manager for wetland delineation projects. Mr. Seymour is a Certified Professional Wetland Scientist who has been involved in wetland delineation and wetland and waterfront permitting in southern New York, New York Harbor, and northern New Jersey for the past 20 years. He has conducted ecological risk assessments, food chain and bioaccumulation studies, and field surveys to develop and support remedial investigation/feasibility studies. Mr. Seymour performed the wetland delineations for PANYNJ at the Stewart International Airport and supervised and participated in the delineation of freshwater and tidally-influenced wetlands on a parcel bordering Newark Bay in Elizabeth, New Jersey for the Allied Signal Site.

Guy Apicella, PE, will be the primary project manager for the water quality studies. He has 36 years of experience in the development and application of modeling solutions to environmental problems. He has managed numerous water quality modeling studies of New York and New Jersey waterways, including the Hudson-Raritan, and East Rivers, Jamaica Bay, Flushing Bay, and Newtown Creek. Mr. Apicella has assisted the PANYNJ on numerous water quality related assignments, including the water quality impact analysis of the PANYNJ proposed Goethals Bridge project, evaluation of the breakwater removal as part of the LaGuardia Airport runway overrun extension and, most recently, development of the water quality modeling plan for Jamaica Bay and surrounding waters in response to NYSDEC revised SPDES permit conditions at JFK.

Ronald Alevras will be the primary project manager for the essential fish habitat studies. He has over 35 years of experience in managing impact assessment studies for waterfront development and dredging. The waterfront development work involves evaluation of various activities that modify shoreline habitat, including dredging, dredged material management, filling, the placement of in-water structure, the construction of over-water platforms and effects of vessel operations such as marinas and ferries. Mr. Alevras is supervisor for all EFH studies at HDR and our work for the PANYNJ. Mr. Alevras supervised the George Washington Bridge EFH Study, managed the proposed subchannel placement cells in Newark Bay for the disposal of non-HARS dredged material and was also the fisheries technical lead for the Newark Bay Confined Disposal Facility (NBCDF) EIS.

Jennifer Curran will be the primary project manager for environmental assessment projects. She has over 12 years of experience and specializes in leading multi-discipline teams conducting assessments to conform to NYS SEQRA, NYC CEQR and NJ LURP permit requirements. Ms. Curran is well known to the PANYNJ and has recently been involved in projects including Port Jersey Wind Energy Project Avian Studies, Bayonne Bridge Environmental Screening and Alternatives Analysis, the Howland Hook Marine Terminal Eastbound Ramp Configurations Alternatives Analysis.

Key Staff Experience Matrix

Name and Project Role	Project Disciplines			
	Wetland Delineation	Water Quality Studies	Essential Fish Habitat Studies	Environmental Assessments
Contract Manager				
John Duschang	✓	✓	✓	✓
Quality Assurance/Quality Control Officer				
Karim Abood, PhD, PE	✓	✓	✓	✓
Board of Experts				
Werner Mueller, PE	✓	✓	✓	✓
Patrick Lawler, PE	✓	✓		✓
Wetland Delineations				
Stephen Seymour, PWS	✓	✓	✓	✓
Barry Babcock	✓			✓
Christopher Cotroneo	✓			✓
Jack Hecht, CWB	✓		✓	✓
John Roebig, PhD, RLA	✓		✓	✓
Jaak Van den Sype	✓	✓	✓	✓
Water Quality Studies				
Guy Apicella, PE		✓		✓
Charles Beckers, PE		✓		✓
Scott Lowe, PhD, PE		✓		✓
Frederick Schuepfer, PE		✓	✓	✓
Kevin VerWeire	✓	✓		✓
Essential Fish Habitat Studies				
Ronald Alevras	✓	✓	✓	✓
Laura Csoboth			✓	✓
Dave Davis	✓		✓	✓
William Saksen	✓	✓	✓	✓
Sarah Zappala		✓	✓	✓
Environmental Assessments				
Jennifer Curran	✓	✓	✓	✓
Elena Barnett		✓		✓
John Burnett		✓	✓	
Patricia Parvis	✓			✓
Kovid Saxena, LEED AP				✓
David Yozzo, PhD	✓	✓	✓	✓

HDR

Ecological Studies and Design Services
Project Team Organization Chart

THE PORT AUTHORITY OF NY & NJ

Board of Experts
Werner Mueller, PE, CFM
Patrick Lawler, PE

Contract Manager
John Duschang

Quality Assurance/ Quality Control Officer
Karim Abood, PhD, PE

Wetland Delineations
Stephen Seymour, PWS

Support Staff
Barry Babcock
Christopher Cotroneo
Jack Hecht, CWB
John Roebig, PhD, RLA
Jaak Van den Sype

Water Quality Studies
Guy Apicella, PE

Support Staff
Charles Beckers, PE
Scott Lowe, PhD, PE
Frederick Schuepfer, PE
Kevin VerWeire

Essential Fish Habitat Studies
Ronald Alevras

Support Staff
Laura Csoboth
David Davis
William Saksen
Sarah Zappala

Environmental Assessments
Jennifer Curran

Support Staff
Elena Barnett
John Burnett
Patricia Parvis
Kovid Saxena, LEED AP
David Yozzo, PhD

Technical Support Staff

Dredged Material & Sediment
Noemi Santiago, PE
Michael Pucci, PE

Field Inspections/ Environmental Data Collection & Analysis
Kathy Drury
Stephen Niero

Biological Statistical Modeling
Alan Wells, PhD
John Burnett

Modeling
Guy Apicella, PE
Scott Lowe, PhD, PE
Michael Lehtinen, PG

Report Preparation
Carol Piranio

Threatened & Endangered Species
Jack Hecht, CWB

Hydrogeology
Michael Lehtinen, PG
Scott Englert

Cost Estimating
Christina Quiroz, PE
Thomas Connors, PE

Regulatory Compliance
Stuart Bassell, PE
Ann Corsetti

Environmental Chemistry
Bradley Williams, PhD

Contract Documents
Michael Pucci, PE

Public Health Risk
Michael Musso, PE
Lisa Voyce

GIS
Francisco Brilhante
Marc Korpus

Shop Drawings
Thomas Connors, PE

John Duschang

Project Role: Contract Manager

Education
B.S., Fisheries Biology, 1991

Experience
Mr. Duschang is a Senior Project Manager and Section Leader at HDR. Mr. Duschang possesses direct knowledge of Federal, state and local environmental programs, laws and regulations in the New York and New Jersey Metropolitan area, and is familiar with the requirements for environmental scoping and public outreach efforts for both State Environmental Quality Review Assessments (SEQRA) and National Environmental Policy Act (NEPA) Environmental Impact Statements (EIS). He has coordinated, implemented, and participated in public hearings and meetings with local Community Board, civil and environmental advocacy groups involving highly-charged environmental issues associated with Federally-sponsored navigation and transportation improvement projects.

PANYNJ, Bayonne Bridge Feasibility Study to Increase Navigational Clearance, New York, NY. Contract manager and environmental task leader for environmental impacts relative to regulatory and aquatic impacts for the alternatives. HDR performed this study to explore options to rehabilitate or replace the Bayonne Bridge; the study reviewed design and rehabilitation strategies, seismic analysis and bridge rehabilitation options. The study also identified right-of-way constraints, environmental considerations, costs and construction feasibility. HDR developed cost estimates and schedules for the proposed options including three main alternatives (raise the roadway, jack the arch, replace the structure), with sub-alternatives for each. Managing this vital project required intense communication with PANYNJ and timely production of the study.

PANYNJ, Goethals Bridge Replacement Program, Staten Island, NY - Elizabeth, NJ. Mr. Duschang was the contract manager for the HDR team assisting the PANYNJ to complete the NEPA Environmental Impact Statement for the proposed replacement of the Goethals Bridge that connects northwestern Staten Island, New York to Elizabeth, NJ. Specific tasks included the characterization of existing conditions for the natural resources and surface water resources; assessment of impacts associated with the proposed demolition of the existing bridge and construction of a new bridge; ecological community mapping; conducting an essential fish habitat evaluation; assisting with the public outreach and scoping component; and completing the permitting requirements.

PANYNJ, John F. Kennedy Airport State Pollutant Discharge Elimination System (SPDES) Water Quality Modeling, Queens, NY. In response to Special Condition 1 of the October 1, 2007 New York State Department of Environmental Conservation (NYSDEC) SPDES permit, HDR is assisting the PANYNJ with a Water Quality Monitoring and Modeling study to determine the impacts of stormwater discharge during the deicing season on the dissolved oxygen levels of the receiving waters adjacent to JFK. Mr. Duschang is HDR's project manager assisting the PANYNJ with the development of the Water Quality Modeling and Sampling Plan including discussions with the NYSDEC.

PANYNJ, World Trade Center (WTC) Cooling System Alternatives Evaluation and SPDES Permit Renewal, New York, NY. HDR conducted extensive water quality and hydrodynamic modeling and biological sampling studies in the lower Hudson River in conjunction with cooling system alternative designs and SPDES permit renewal for redevelopment of the World Trade Center (WTC). Mr. Duschang served as HDR's project manager and coordinated hydrodynamic modeling studies to assess current velocities and direction as related to cooling water discharges and fisheries and water quality surveys to characterize aquatic resources and potential impacts associated with cooling water withdrawals. Mr. Duschang assisted PANYNJ in responding to NYSDEC's request for additional studies and negotiating final SPDES permit conditions.

PANYNJ, John F. Kennedy Airport (JFK) SPDES Permit Renewal and Request for Information, Queens, NY. Mr. Duschang was HDR's project manager assisting PANYNJ in responding to NYSDEC's request for Information (RFI) regarding stormwater monitoring and deicing applications at JFK. The RFI was related to renewal of the JFK SPDES permit covering 23 stormwater outfalls. Mr. Duschang was responsible for developing a stormwater sampling plan and assisting PANYNJ in confirming acceptable sampling and analytical methods. HDR also assisted PANYNJ in responding to draft SPDES permit conditions and preparing for permit negotiations with NYSDEC on monitoring and water quality modeling requirements.

USACE, New York District, New York and New Jersey Harbor Deepening and EIS. Mr. Duschang assisted with a comprehensive evaluation study of navigation improvements to the New York and New Jersey Harbor; including an evaluation of deepening existing Federal and non-federal navigation channels, berthing areas, and anchorages to meet current and future navigation needs. To assess potential impacts to essential fish habitat (EFH), the team developed a three-dimensional hydrodynamic and water quality model (MIKE3) of the Harbor complex to assess deepening impacts on currents, water levels, salinity, temperature, and other parameters. Existing conditions and five project alternatives were modeled under two flow conditions.

PANYNJ, Howland Hook Marine Terminal Wharf Extension, Staten Island, NJ. Mr. Duschang assisted the Port Authority of New York/New Jersey Howland Hook Marine Terminal and in preparing an assessment of potential effects of activities related to the extension of the Howland Hook Marine Terminal Wharf on essential fish habitat (EFH). The EFH assessment was prepared in compliance with Section 305(b)(2) of the Mansuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), and included an analysis of the direct, indirect and cumulative effects of in-water construction, including dredging and blasting, on species and lifestages for which EFH was designated near the project area. The EFH assessment addressed sublittoral (depth >6ft MLW), littoral (depth <6ft MLW) and tidal wetland areas involved in dredging and filling activities.

PANYNJ, Battery Park City Ferry Terminal Expansion, New York, NY. Mr. Duschang was HDR's project manager for the Battery Park City Ferry Terminal Expansion. He was responsible for preparing environmental reports to support successful federal and state permit applications related to the terminal expansion and respond to issues raised by the local Community Board regarding *impacts to air quality, noise, pedestrian traffic congestion/safety and recreational boating.* HDR coordinated on-site monitoring and forecasting of noise levels under existing and proposed terminal operations, as well as, air emission testing and air quality modeling of existing and proposed vessels calling at the terminal. Using data from previous biological sampling and on-site data from a supplemental sampling program, HDR assessed the short- and long-term impacts of the ferry terminal expansion on aquatic resources in the project area, including potential impacts to essential fish habitat (EFH).

Karim Abood, PhD, PE

Project Role: Quality Assurance/Quality Control Officer

Education
Ph.D., Civil & Environmental Engineering, 1977 / M.S., Sanitary Engineering, 1964
B.C.E., Civil Engineering, 1961

Registrations/Certifications
Professional Engineer (NY, NJ)

Experience
Dr. Abood has more than 46 years' experience in the areas of environmental science and engineering. He has served as principal-in-charge of environmental and engineering projects including waterfront developments, dredging and dredged material placement, marine borer remediation, navigation, environmental impact, ecological investigations, environmental compliance and permitting, mathematical modeling, hazardous waste management, waterbody impact studies, environmental impact studies (EIS), aquatic impact, mitigation plans, power plant studies, salinity intrusion control, water supply, flood control, resident engineering, and sustainability. Dr. Abood has served as principal-in-charge and/or Quality Assurance/Quality Control Officer (QAO) of a number of key regional projects, including:

- JFK Airport - SPDES and SPDES Water Quality Modeling; Water Quality and Flow Monitoring; DMR Preparation and Compliance
- Newark Liberty International Airport Peripheral Ditch Odor Control; Switch House #1 UST Closure; Building 94
- Brooklyn Marine Terminal Pier 7 Gasoline Spill Investigation
- Howland Hook Marine Terminal Exit Ramp Alternatives Analysis
- Port Jersey Wind Energy Project Avian Studies
- Stewart Airport Wetland Delineation
- Teterboro Airport Habitat Delineation Studies and Airport Runway Safety Improvements
- Port of New York and New Jersey Clean Air Strategy
- Remedial Action and Report, Former Olympia Trails Bus Depot
- Critical Review and Use Assessment Due Diligence Investigation, Staten Island, NY

PANYNJ, Call-In Contracts, Various Locations. Dr. Abood is the Program Manager for eight previous and current call-in contracts since 1992 for the PANYNJ. He served as Quality Assurance Officer (QAO) for a number of site assessment studies; feasibility studies; management of dredging and disposal of dredged material projects; beneficial use of dredged material, data collection and analysis, water and sediment quality studies; environmental impact statements (EISs), environmental assessments (EAs), and permitting projects; stormwater (SWMPP) plans; SPDES; NJPDES; beneficial use of dredged material studies; spill prevention, control, and countermeasure (SPCC) plans; stormwater plans; Greenport workshops; due diligence (Stewart Airport & GATX); dredging technology, "Greenports" initiatives, and sustainability; ecological surveys; sediment budget modeling; wastewater systems and treatability studies; effluent toxicity; essential fish habitat (EFH); groundwater investigations; hazardous waste management; tank removal; de-icing investigations, port development planning, public and stakeholder analysis, interagency coordination, development of supporting publications and presentations; and health and safety studies conducted at the PANYNJ facilities. Major facilities covered by these call-in contracts (over 200 assignments) include: Airports

(JFK, Newark, LaGuardia, Stewart), Port Commerce (Newark, Howland Hook, Port Ivory, CAC Pits, Newark CDF), Other Facilities and Programs (WTC, A&A Landfill, Elizabeth Industrial Park, Holland and Lincoln Tunnels, George Washington Bridge, PST, Hoboken Ferry, WFC Ferry, CPIP, New York Harbor Navigation, HRE Restoration, Goethals Bridge, Access to Regions Core), Green Ports and Innovative Dredging technologies.

PANYNJ, Newark Liberty International Airport Peripheral Ditch Odor Control, Newark, NJ. Dr. Abood served as Quality Assurance/Quality Control Officer for this project. The Peripheral Ditch receives Combined Sewer Overflows (CSOs) from several Districts (Adams, Wheeler, Peddie, Queen and Waverly) of the City of Newark, NJ, stormwater from Newark Airport during wet weather, and blowdown discharge water from the newly completed closed cycle cooling system of the Airport Complex. The odor problem of H_2S has been exacerbated since conversion of the Airport cooling system to closed-cycle from once-through system which resulted in the longer retention time of previously discharged organic matter into the Ditch.

PANYNJ, Dredging Technology Innovation. As Principal-in-Charge, Dr. Abood assisted the PANYNJ in the development of an efficient cost-effective and environmentally sound New York & New Jersey Harbor dredging program and to secure the position of the Harbor as a world class estuary. We investigated innovative dredging and dredged material placement and beneficial use alternatives and schemes to reduce the amount of sediment requiring dredging and sediment contamination in a sustainable manner. Short-term strategies to alleviate the need to remove and dispose of both clean and contaminated sediments were also investigated.

PANYNJ, World Trade Center (WTC) Cooling Water Intake and Discharge Analysis, New York, NY. Dr. Abood evaluated several cooling water intake and discharge options for the new WTC including Best Technology Available (BTA) investigations and permits. Sustainability was one of the major criterions considered. Dr. Abood performed QA/QC for detailed three-dimensional hydrodynamic and thermal CFD modeling was done to assess the design of the cooling water intake and discharge system for the new World Trade Center Complex. The model was calibrated using HDR field survey data. The model domain extended 2,000 ft North and South of the entrance to North Cove and approximately 500 ft out into the Hudson River. The project also included aquatic studies, entrainment & impingement, and SPDES permits.

PANYNJ, Battery Park City Ferry Terminal Expansion, New York, NY. Dr. Abood was Principal-in-Charge for the planned Battery Park City Ferry Terminal Expansion. Located along the western shoreline of Manhattan, the expansion of the terminal to meet increased demand and improve the level of service involves constructing a new terminal consisting of a 32,000 ft^2 deck supported by two anchor towers constructed on 30 x 50 ft concrete base supports. HDR coordinated on-site monitoring and forecasting of noise levels under existing and proposed ferry terminal operations, as well as, air emission testing and air quality modeling of existing and proposed ferry vessels calling at the terminal.

PANYNJ, Comprehensive Port Improvement Plan. Dr. Abood performed an Environmental Impact Statement and an Environmental Assessment (EIS/EA) for the Comprehensive Port Improvement Plan (CPIP) for the Port of New York and New Jersey (the Port). The purpose of the EIS/EA was to examine the potential beneficial and adverse social, economic, and environmental effects of port and transportation improvements included in the CPIP.

Werner Mueller, PE, CFM

Project Role: Board of Experts

Education
M.S., Environmental Policy, 1999 / B.S., Civil Engineering, 1979

Registrations/Certifications
Professional Engineer (NY, NJ), Certified Floodplain Manager

Experience
Mr. Mueller's is skilled in the management of large teams undertaking complex inter-disciplinary projects. He has integrated specialists in technical disciplines, regulatory requirements, and stakeholder input to achieve successful outcomes for a variety of projects ranging from the development of port facilities and large civil works, to disaster recovery efforts. The majority of these projects required compliance with environmental legislation, environmental rules and regulations, and environmental policies. Mr. Mueller has been integrally involved in achieving environmental compliance under the National Environmental Policy Act (NEPA) for federally funded projects. He is also familiar with New York State Environmental Quality Review Act (SEQRA), as well as the environmental regulations promulgated by the New Jersey Department of Environmental Protection. The following are examples of Mr. Mueller's relevant experience:

PANYNJ, 2008-2010 Environmental Engineering Call-In Contract. Mr. Mueller is the contract manager for HDR's current Call-In contract for Environmental Design Services with the PANYNJ. Under this contract Mr. Mueller has managed staff undertaking project assignments including Newark Airport Switch House UST closure and removal, Howland Hook Marine Terminal East Bound Ramp analysis, Teterboro Runway Safety Improvements, and La Guardia Airport SPCC Plans.

PANYNJ, 2008-2010 Ecological Studies and Design Services Call-In Contract. Mr. Mueller is a designated member of HDR's "Board of Experts" under our current Call-In contract for Ecological Services. In this role, he works closely with John Duschang, HDR's Contract Manager, to ensure that the staff assignments, study methodologies, and design services for our call in assignments are appropriate to achieving the objectives set by the PANYNJ. Representative assignments include the Port Jersey Wind Energy Studies, JFK Airport SPDES analyses to assess receiving water impacts associated with glycol in stormwater runoff, and World Trade center cooling water intake studies.

PANYNJ, JFK Airport/Red Garage Stormwater Pollution Prevention Plan (SPPP), Queens, NY. As Project Manager, Mr. Mueller assisted the Port Authority in achieving compliance with new Phase II - Stormwater General Permit requirements outlined by the New York Department of Environmental Conservation. He successfully coordinated a strategy to achieve required water quality improvements on a project that is redeveloping a previously developed area. Mr. Mueller developed a SPPP document in accordance with Phase II rules.

PANYNJ, Port Newark/Port Elizabeth Express Rail Stormwater Management, NJ. As Principal-in-Charge, Mr. Mueller facilitated the development of an efficient stormwater management system that will be acceptable to the New Jersey regulatory agencies for the

Expressrail Corbin Street Intermodal Rail Facility. Analyzed existing drainage patterns and, in coordination with PANYNJ staff, develop a stormwater management plan that addresses the full build out of the referenced facility. This holistic approach will prevent fragmentation of the project and will allow a comprehensive examination of stormwater issues as well as design of an efficient system that meets regulatory targets.

NJDOT/OMR, Container Ship Terminal Development at Former MOTBY Site. Mr. Mueller was Project Manager for the development and implementation of a procurement process to design, build, operate, and maintain (DBOM) a container ship terminal within Maritime Industrial District at the Peninsula at Bayonne Harbor (former Military Ocean Terminal Bayonne). He developed a request for expressions of interest (RFEI) that defined the physical characteristics of the site, site development requirements and anticipated off-site transportation infrastructure improvements required for the successful completion of a design-build scenario. Mr. Mueller evaluated qualifications and technical submissions of prospective developers. He drafted performance specifications and contract requirements to be issued in a Request for Proposals to solicit developers for the construction and financing of the terminal. Mr. Mueller incorporated Green Port principles into the performance specifications to enhance surrounding ecosystems and reduce the impacts of development on human health and the environment.

New Jersey Department of Transportation/Office of Maritime Resources (NJDOT/OMR), Economic Analysis of Dredged Material Management, NJ. As Principal-in-Charge, Mr. Mueller was responsible for Quality Assurance/Quality Control on an Economic Analysis identifying feasible alternative management strategies for dredged material originating from New Jersey's State navigation channels and marinas. Four case studies were performed to determine cost-efficient material management strategies. He performed reviews on final project deliverables summarizing the collection of information, case study analyses, and identification of feasible material management strategies. Mr. Mueller also presented results of the study and the 2005 Marine Trades Association conference on Dredged Materials at Monmouth University.

Characterization of Dredged Materials in Confined Disposal Facilities, I BOAT NJ Grant Program. Mr. Mueller was Principal-in-Charge for a study to characterize historic dredged materials that are residing in confined disposal facilities (CDFs) along the Atlantic Coast of New Jersey. The intent of the study is to adequately define physical and chemical characteristics of the materials within CDFs so that an Alternate Use Determination (AUD) application can be filed with the NJ Department of Environmental Protection – Office of Dredging and Sediment Technology. Definition of the types of materials located in the CDFs will promote beneficial use of the material and free CDF capacity for future dredging needs.

USACE, New York District, Green Brook Flood Control, NJ. Mr. Mueller was the project manager for over ten years on this large flood control project incorporating both structural and non-structural flood control techniques. His duties included leading and supervising a multi-disciplinary project team involved in completing a general re-evaluation report incorporating preliminary design. Project tasks included a hazardous, toxic and radioactive waste (HTRW) Phase 1 and 2 site assessments of the project alignment utilizing literature research, local interviews, site inspections and intrusive investigations to determine the extent of soil and groundwater contamination.

Patrick Lawler, PE

Project Role: Board of Experts

Education
M.S., Public Health Engineering, 1966 / B.E., Civil Engineering, 1961

Registrations/Certifications
Professional Engineer (NY)

Experience
Mr. Lawler has served as principal-in-charge or project manager for a wide variety of hazardous waste projects, including HDR's contract with the U.S. Postal Service, remedial investigations/feasibility studies (RI/FS), Phase II investigations, remedial design (landfill capping, excavation of contaminated soils or wastes, groundwater treatment), and resident engineering/construction services (landfill cap, groundwater treatment). The following are Mr. Lawler's relevant project examples:

PANYNJ, Newark Liberty International Airport Peripheral Ditch Odor Control, Newark, NJ. The Peripheral Ditch receives Combined Sewer Overflows (CSOs) from several Districts (Adams, Wheeler, Peddie, Queen and Waverly) of the City of Newark, NJ, stormwater from Newark Airport during wet weather, and blowdown discharge water from the newly completed closed cycle cooling system of the Airport Complex. The odor problem of H_2S has been exacerbated since conversion of the Airport cooling system to closed-cycle from once-through system which resulted in the longer retention time of previously discharged organic matter into the Ditch. Mr. Lawler managed this project to come up with short-term/long-term solutions to the odor control.

PANYNJ, Sewer Service Surcharge Study for Newark Airport, Newark, NJ. As Project Manager, Mr. Lawler performed this study based on a scope of services he developed in consultation with the PANY/NJ. The first phase of the study examined the sewer system and a suite of possible reasons for sewer service charges that had increased dramatically in a short period of time. The study identified the design of the new sampling installation at the raw waste pump station as the most likely cause of unrepresentative samples being taken, in turn leading to the sharply increased service charges. The second phase of the study confirmed this conclusion by statistical analysis of the data and a detailed review of pump station hydraulics.

PANYNJ, John F. Kennedy Airport Wastewater Treatment Systems at the Bulk and Satellite Fuel Farms. Their wastewater is generated from stormwater runoff within and surrounding the tank farms containment areas; the fuel dewatering systems; and a contaminated groundwater recovery system. The contamination is primarily jet fuel and suspended solids. Mr. Lawler served as Project Manager for the design of identical facilities for the two fuel farms that included new pumping units from the collection tanks and a treatment train consisting of dual oil/water separators, chemical addition, dual continuously backwashed sand filters, air stripping, and sludge thickening. These systems have operated successfully since 1996.

PANYNJ, Bench-Scale Treatability Study for Elizabeth Industrial Park Wastewater, NJ. As Project Manager, Mr. Lawler developed the study, reviewed the data, decided on step-wise modifications, and directed the final data analysis and full-scale conceptual design. As designer of record for the detailed design, he was in responsible for the conversion of the conceptual design to plans and specifications and made many design decisions. Mr. Lawler also designed the conversion of an existing sump to an oil/water separator, predicting its performance based on wastewater sampling and analysis.

Rockaway Borough Superfund Site, USACE, Kansas City District/USEPA Region 2 IDC, Rockaway Borough, NJ. Senior Civil Engineer. Mr. Lawler reviewed the Remedial Action Design at the conceptual and 65% complete phases, and provided QC oversight in the preparation of the specifications.

Imperial Oil Superfund Site, USACE, Kansas City District/USEPA Region 2 IDC, Monmouth County, NJ. Mr. Lawler participated in the value engineering of the pre-existing design of this remediation, then provided remedial design services for the groundwater barrier slurry trench and deep soil mixed wall and for the contaminated groundwater treatment system. He also was the QC officer for the preparation of specifications and participated in the MCACES cost estimate for the 95% design.

Jones Sanitation NPL Site, Hyde Park, NY. Principal-in-Charge. HDR prepared the remedial design. The remediation consisted of regrading of the site, demolition of structures, consolidation of contaminated soils into the center of the site, capping, drainage control, access control, and monitoring. Mr. Lawler designed the main features of the landfill remediation. He authored several chapters of the design report and led the response to government commentary on the design aspects of the overall project. Based on the successful completion of the remediation this site was deleted from the NPL in 2005.

Harrison Sub-Residency, Westchester, NY. The first phase of this project included the closing of a landfill that had not only C&D waste, but other more environmentally impacting chemicals. The design for the closing of the fill included substantial regrading, complex surface runoff diversion, wetlands protection, and steep slope protection. Mr. Lawler led the conceptualization of the design, and was the Engineer-of-Record for the plans and specifications. The second phase included an air sparging and vacuum recovery system for the removal of volatile organics on a property formerly used as a truck service depot. Mr. Lawler reviewed the design, including the basis of spacing of piping, the selection and sizing of blowers, and the overall layout of the design.

Voluntary Cleanup Program Sites, New York, NY. Mr. Lawler acted as chief design reviewer for this extensive remediation project, the Fulton Fish Market at Hunt's Point, which won a Phoenix Award for excellence. The design included an engineered cap/extensive parking and traffic way system, and a large, under-building soil vapor extraction and air sparging system.

Stephen Seymour, PWS

Project Role: Project Manager – Wetland Delineations

Education
M.S., Public Administration, 1996 / B.S., Fishery Biology, 1989 / A.A.S., Fish & Wildlife Tech, 1978

Registrations/Certifications
Certified Professional Wetland Scientist (Society of Wetland Scientists, 1999); OSHA HAZWOPER 40 hour, Supervisor and 8 hour refresher; American Red Cross Standard First Aid and Adult CPR

Experience
Mr. Seymour is a Certified Professional Wetland Scientist and a Senior Project Manager at HDR. Mr. Seymour has more than 20 years experience conducting wetland delineations and securing wetland and waterfront permits in southern New York, New York / New Jersey Harbor, and northern New Jersey. Mr. Seymour is responsible for data collection, interpretation, report writing, and preparation of environmental impact statements. He has conducted ecological risk assessments, food chain and bioaccumulation studies, and field surveys to develop and support Remedial Investigation/Feasibility Studies. Mr. Seymour has extensive experience working with the technical, regulatory, and enforcement staffs of the U. S. Army Corps of Engineers and the NYS Department of Environmental Conservation. He attends scoping sessions, public hearings, and agency meetings associated with the National Environmental Policy Act (NEPA), New York State Environmental Quality Review (SEQR) and the New York City Environmental Quality Review (CEQR) processes. The following are Mr. Seymour's relevant project examples:

PANYNJ, Stewart International Airport Wetland Delineations, New Windsor, NY. Mr. Seymour was the project manager retained by PANYNJ to delineate state and federally-regulated wetlands on two parcels on the Stewart International Airport campus in New Windsor, Orange County, NY. He prepared Jurisdictional Determination request packages (using the post-Rapanos guidance) and accompanying functional assessments for submittal to USACE.

PANYNJ, Howland Hook Marine Terminal. Mr. Seymour prepared the Joint Application for Permit forms, CZM (NYSDOS and NYCDCP) and Coastal Zone Consistency narratives for remediation of an access bridge to the Howland Hook Marine Terminal on Staten Island and for waterborne delivery of construction materials for the JFK International Airport (Bergen Basin).

PANYNJ, Allied Signal Site, Newark Bay, Elizabeth, NJ. Mr. Seymour supervised and participated in the delineation of freshwater and tidally-influenced wetlands on a parcel bordering Newark Bay in Elizabeth, New Jersey. The wetlands were mapped using GPS and wildlife observations were recorded as part of the delineation effort. He also oversaw the preparation and submittal of a Letter of Interpretation request package to NJDEP and General Permit #4 for the removal of contaminated surficial soils from a portion of the site.

USACE NY District, Liberty State Park Restoration, Jersey City, NJ. Mr. Seymour participated in the ecological assessment and habitat mapping of a 45-acre site in Jersey City, New Jersey. He mapped upland and wetland vegetation communities, identified wildlife, and evaluated shoreline areas for restoration potential as part of an Environmental Resource Inventory. He participated in the wetland functional assessment and preparation of habitat creation (grasslands, freshwater and tidal wetlands) plans for the site.

PANYNJ, Staten Island Bridges Program, NY. HDR performed the ecological assessment of environmental impacts of the expansion proposed by PANYNJ. Mr. Seymour conducted field surveys for wildlife, vegetation, and wetlands; prepared a wetlands functional assessment (Highway Methodology) to assess existing wetlands values and to set goals for wetland mitigation and restoration efforts. Wetland field studies included verification (based on the NYSDEC tidal wetlands maps) of wetland types and boundaries and identification of impacts (wave/wake damage, invasive vegetation, and debris stranding) to the wetlands.

New Jersey Transit, Access to the Region's Core. Mr. Seymour is the Project Manager for the research and preparation of Affected Environment, Potential Impacts, and Mitigation sections of the Floodplain, Navigable Waters, Coastal Zone Consistency, and Water Quality chapters of a NEPA EIS for the proposed construction of a new rail tunnel beneath the Hudson River.

USACE, New York District/NYCDEP, Flushing Bay and Creek Restoration Project. Mr. Seymour conducted site surveys of Flushing Creek and Upper Flushing Bay and wrote a wetland restoration program for the area. He also wrote portions of the CEQR EA for the project and conducted numerous water and sediment quality studies, as well as a year-long avian census of the bay.

New York City Department of Environmental Protection (NYCDEP), Alley Park Pond Restoration and Drainage Area Improvement. Mr. Seymour prepared the state and federal permit applications for the replacement of outfall structures and the restoration of intertidal wetlands in Alley Creek, Queens, NY. He oversaw the preparation of the Essential Fish Habitat Assessment, prepared the Coastal Zone Consistency statements for the proposed work, and negotiated in-water work windows with the NYSDOS.

USACE Kansas City District/USEPA Region 2 IDC, Imperial Oil Superfund Site, Monmouth County, NJ. Mr. Seymour oversaw and reviewed the preparation of NJDEP wetland permit applications and supporting materials associated with remediation activities at the Imperial Oil/Champion Chemical Superfund Site in Morganville, NJ.

Dzus Fastener Site, Islip, NY. Mr. Seymour conducted the field studies and pathways analyses to document contaminant migration under the (1994) NYSDEC protocol for Inactive Hazardous Waste Sites. The work triggered a NYSDOH advisory (cadmium) for a downstream waterbody. Scientific collector's permits were obtained from NYSDEC for surveys of a watercourse (Sampawams Creek), a downstream impoundment (Lake Capri) and adjacent coastal waters.

Guy Apicella, PE

Project Role: Project Manager - Water Quality Studies / Modeling

Education
M.E., Environmental Engineering, Manhattan College, 1972 / B.E., Electrical Engineering, Manhattan College, 1970

Registrations/Certifications
Professional Engineer (NY, Puerto Rico)

Experience
Mr. Apicella is responsible for management of mathematical modeling primarily of surface waters, including the design of field sampling programs, data collection, development, and application of hydrodynamic, water quality, and sediment/ contaminant transport models. He has designed water quality sampling programs of surface waters and managed the collection and analysis of data to validate water quality models. He has applied these water quality models to wasteload allocations that have been used to set discharge permit limits in several states. Mr. Apicella is the author of the chapter on mathematical modeling in the Water Environment Federation's Manual of Practice on Prevention and Control of Sewer System Overflow (2nd Edition, 1999). He manages the modeling of combined sewer systems to evaluate CSO discharges and loadings, as well as the modeling of the receiving waters to evaluate impacts on water quality, particularly dissolved oxygen and bacteria. The following projects represent Mr. Apicella's experience:

PANYNJ, JFK Airport Deicing Effects on Water Quality of Jamaica Bay and Tributaries, NY. Mr. Apicella is leading a modeling study of the effects of glycol discharges from storm water outfalls during and after deicing at JFK Airport on the dissolved oxygen concentrations in Jamaica Bay, Bergen Basin and Thurston Basin.

PANYNJ, Goethals Bridge Replacement Program, NY/NJ. Mr. Apicella oversaw the preparation of the water quality section on existing conditions for the EIS which included toxic pollutants in sediment and water as well as conventional constituents. Directed the water quality impact assessment of replacing the Goethals Bridge as part of an EIS under NEPA regulations. Supervised the analysis of alternative bridge designs on the water quality of the Arthur Kill and Old Place Creek.

USACE New York District, Deepening of New York and New Jersey Harbor. Mr. Apicella was the task manager for the water quality impact assessment of deepening navigational channels as part of an EIS under NEPA regulations. Supervised the application of the MIKE3 model to evaluate the effects of project alternatives on salinity, temperature and dissolved oxygen concentrations in the harbor. Projected changes in water quality were used to assess potential impacts on ecosystem.

NYCDEP/USACE, Flushing Bay Ecological Restoration Plan, NY. Mr. Apicella managed the modeling of the hydrodynamics and water quality of Flushing Bay and Creek. HDR

performed this work for NYCDEP as their local share in USACE's overall project. The model was applied to evaluate ecological restoration alternatives. Effects of the breakwater in the bay on water and sediment quality were evaluated. Dredging and other ecosystem restoration plans were recommended to complement the water quality improvement in the creek resulting from the CSO storage facility being constructed by NYCDEP.

PANYNJ, Preliminary Toxicity Identification Study, NJ. Mr. Apicella served as Project Manager for the preliminary toxicity identification evaluation of Elizabeth Industrial Park treatment plant.

NYSDEC, Upper Hudson River Water Quality Model, NY. Mr. Apicella directed application of a steady-state dissolved oxygen model of the upper Hudson River. Model calibration, projections, and technology transfer of model to the NYS Department of Environmental Conservation.

NYSDEC, Hudson River PCB Project, NY. Mr. Apicella performed mathematical modeling of sediment and PCB transport in the Upper Hudson River using HEC-6.

NYCEDC, NYC Stormwater BMP Plan, New York, NY. Mr. Apicella managed a task order under a NYCEDC term contract to provide technical support to the Mayor's Office of Operations, Long Term Planning and Sustainability for the development of a sustainable stormwater management plan as part of PlaNYC. Services provided include conceptual BMP plans, hydrological analysis of BMP effectiveness in reducing stormwater and combined sewer overflow discharges, GIS analysis of BMP penetration and cost analysis.

United Water, Lake DeForest and Oradell Reservoir Studies, NY. Mr. Apicella performs Quality Control reviews of reservoir management modeling studies entailing proposed increases in diversions from Lake DeForest (NY) and associated effects on the safe yield of Oradell Reservoir (NJ).

Orange County (NY), Water Master Plan, NY. Mr. Apicella managed the task which documented the existing water supply capacities of and demands on the county's surface and groundwater systems. Issues affecting the future water supply such as population growth and climate change are being addressed to provide a basis for developing a county-wide water supply master plan.

NYCDEP, Kensico Action Plan Project, NY. Mr. Apicella performed for NYCDEP as a requirement of the EPA's Filtration Avoidance Determination (FAD), stormwater discharges and pollutant loadings from the Kensico watershed were assessed. GIS was used to delineate sub-basins and develop input data for WinSLAMM and SWMM. Models were calibrated and verified using flow measurements and water quality sampling data collected in streams within the Kensico watershed. Models were used to project annual loadings of TSS (turbidity) and fecal coliform bacteria, which are FAD constituents with numerical criteria. Sub-basins were evaluated and ranked based on pollutant loadings and impervious surface area. Four stormwater remediations were recommended by also considering availability of city-owned land and environmental impact.

Ronald Alevras

Project Role: Project Manager - Essential Fish Habitat Studies

Education
M.S., Fishery Science, 1970 / B.A., Science Education, 1965

Experience
Mr. Alevras has over 32 years of experience in managing impact assessment studies for projects affecting aquatic habitat. He supervises all essential fish habitat studies for HDR. His waterfront development work involves evaluation of various activities that modify shoreline habitat, including dredging, dredged material management, filling, the placement of in-water structure, the construction of over-water platforms and effects of vessel operations such as marinas and ferries. Mr. Alevras has recently led detailed Essential Fish Habitat studies for the USACE Harbor Deepening Program, and the Goethals Bridge Replacement. The following are Mr. Alevras' relevant project examples:

PANYNJ, Goethals Bridge Replacement Program, Staten Island, NY - Elizabeth, NJ. Mr. Alevras is supervising the essential fish habitat studies for the HDR team assisting the PANYNJ to complete the NEPA Environmental Impact Statement for the proposed replacement of the Goethals Bridge that connects northwestern Staten Island, New York to Elizabeth, NJ. Specific tasks include the characterization of existing conditions for the natural resources and surface water resources; assessment of impacts associated with the proposed demolition of the existing bridge and construction of a new bridge; ecological community mapping; conducting an essential fish habitat evaluation; assisting with the public outreach and scoping component; and completing the permitting requirements.

PANYNJ, Design, Environmental Assessments and Permitting Term Contract, Subchannel Placement Cells, Newark Bay, NJ. Mr. Alevras was project manager for a project proposed by the PANYNJ involving subchannel placement cells in Newark Bay for the disposal of contaminated dredged material. HDR was a third-party contractor working for the U.S. Army Corps of Engineers, under contract to PANYNJ. HDR prepared the Draft Environmental Impact Statement (DEIS) following scoping sessions with the public and resource agencies. The EIS focused on impacts on aquatic resources during construction of the cells and the discharge of dredged material into the cells. The EIS evaluated dredged material disposal alternatives, the need for capping the cells, and an implementation and monitoring plan. HDR drafted the 404(b)1 guidelines evaluation.

USACE/PANYNJ, New York /New Jersey Harbor Navigation Environmental Impact Statement and Ecosystem Studies, NY & NJ. As project biologist, Mr. Alevras participated in many planning sessions related to the Harbor Navigation Study (harbor deepening). He prepared sections of the project EIS related to impacts on fishery resources and provided technical review of fishery studies for mitigation related to the deepening work.

USACE/PANYNJ, Newark Bay Confined Disposal Facility. Mr. Alevras was Project Biologist for this EIS for the Newark Bay Confined Disposal Facility (NBCDF), which was proposed as a short-term solution for the disposal of dredged material deemed not suitable for ocean disposal. Key project components included: subsurface investigations, dredging and dredged material disposal, geotechnical characteristics of the sediments removed from the CDF, navigation interference, hydraulic and hydrodynamics characteristics of Newark Bay, and aquatic terrestrial resources. Mr. Alevras prepared assessments of the potential impact of pit construction and operation on aquatic life.

NYCEDC, East River Waterfront Development Study, New York, NY. Mr. Alevras was project manager for HDR on a planning study undertaken by NYCEDC for redevelopment of a 2 mile segment of the East River shoreline in Lower Manhattan. HDR was part of a consultant team that evaluated options for providing waterfront access, open spaces and amenities along the shoreline. The study area includes a number of existing piers, some of which are in poor condition and will likely be redeveloped. Mr. Alevras' primary role on the study team was to evaluate aquatic resource issues, coordinate with team architects on the effects of inwater structure on aquatic habitat, propose techniques to enhance aquatic habitat value using inwater structures and work with study attorneys on permitting strategies related to aquatic resources. HDR is continuing its involvement in this project in the design stage. Mr. Alevras has continued with this project in the detailed design stage. He has provided recommendations and guidance for the design of an Eco-park which is part of the conversion of Pier 35 to a public access area.

PANYNJ, Staten Island Bridges Program. As a subconsultant, HDR performed the ecological assessment of environmental impacts of the expansion proposed by PANYNJ. This assessment included an evaluation of sediment quality data and a review of the sampling and chemical bioassay testing program for contaminated sediments. HDR was also responsible for the evaluation of impacts associated with dredging and for mitigation measures to minimize sediment discharges during construction activities. Mr. Alevras prepared an assessment of the potential impact of a new Goethals Bridge span on aquatic resources.

USACE NY District, Dredged Material Management Plan. Mr. Alevras served as Project Manager for a USACE project in the New York/New Jersey Harbor. USACE, in cooperation with state and local interests, has been developing a Dredged Material Management Plan (DMMP) for the New York/New Jersey Harbor. This planning function requires a Programmatic Environmental Impact Statement (PEIS). HDR was retained to assist USACE in refining and updating the PEIS following initial comments from the DMMP work group. The thrust of the EIS was to present the disposal options and alternatives (options grouped into a course of action) and then evaluate impacts so that the options and alternatives could be compared. The PEIS is a complex presentation of numerous options and alternatives encompassing a broad potential implementation area and covering all major resource categories. The PEIS summarizes large databases on aquatic resources, modeling studies, a risk assessment, and other elements. This project also included summarizing comments received on the DEIS in a Public Involvement Appendix.

Jennifer L. Curran

Project Role: Project Manager - Environmental Assessments

Education
M.S., *Marine Environmental Science*, 2001 / B.S., *Environmental Science* (Natural Resource Concentration), 1996

Experience
Ms. Curran specializes in leading multi-discipline teams conducting environmental assessments and environmental restoration projects. She has spent the majority of her career studying natural systems and processes and their relationship with human influences. She has over eleven years' experience in the environmental science field, specifically in environmental assessment and monitoring programs, environmental regulatory compliance, dredged material management, public outreach, wetland delineation, biological surveys, essential fish habitats, technical report production and project management. The following are Ms. Curran's relevant project examples:

PANYNJ, Port Jersey Wind Energy Project Avian Studies. Ms. Curran is serving as the project manager for the assessment of potential impacts to birds and bats that may result from the construction of eight to twelve 1.5 MW turbines on the Port Jersey peninsula in the city of Bayonne, NJ. The PANYNJ is soliciting a wind energy developer to construct a wind project in the location of an active container terminal in Bayonne and Jersey City, NJ. The PANYNJ is initiating the permitting process for the project during the solicitation process. Consideration to the project's potential impacts to birds and bats is a requirement of the application process for a New Jersey Department of Environmental Protection (NJDEP) Waterfront Development Permit. HDR is assisting the PANYNJ to negotiate a pre-construction avian monitoring plan for the project with the NJDEP, and conducting wildlife surveys on the site to determine the sites usage by birds for migratory stopover habitat, breeding and foraging habitat, and overwintering habitat.

PANYNJ, Bayonne Bridge Environmental Screening and Alternatives Analysis. In preparation for the potential for post-Panamax vessels to call on the Port of New York & New Jersey, the PANYNJ is evaluating alternative scenarios that would allow these vessels to navigate through the Kill van Kull to reach the container terminals at Port Newark and Port Elizabeth in New Jersey and Howland Hook in New York. The Bayonne Bridge's current navigational clearance would restrict access to these ports by post-Panamax vessels. The environmental, navigational and socioeconomic constraints for each alternative are being evaluated and screened as a first step in the tiered National Environmental Policy Act process for the project. Ms. Curran served as the Task Leader for the GIS studies and her responsibilities included assisting with the development of the environmental screening criteria and identifying geospatial data sources to complete the evaluation. She was also responsible for completing the screening and summary report for the potential impacts to natural resources.

PANYNJ, Howland Hook Marine Terminal Eastbound Ramp Configurations Alternatives Analysis. Ms. Curran is assisting the PANYNJ to conduct an Alternatives Analysis for two alternate eastbound ramp configurations for access to the Howland Hook Marine Terminal from the Goethals Bridge. The PANYNJ plans to design and construct a new eastbound ramp from

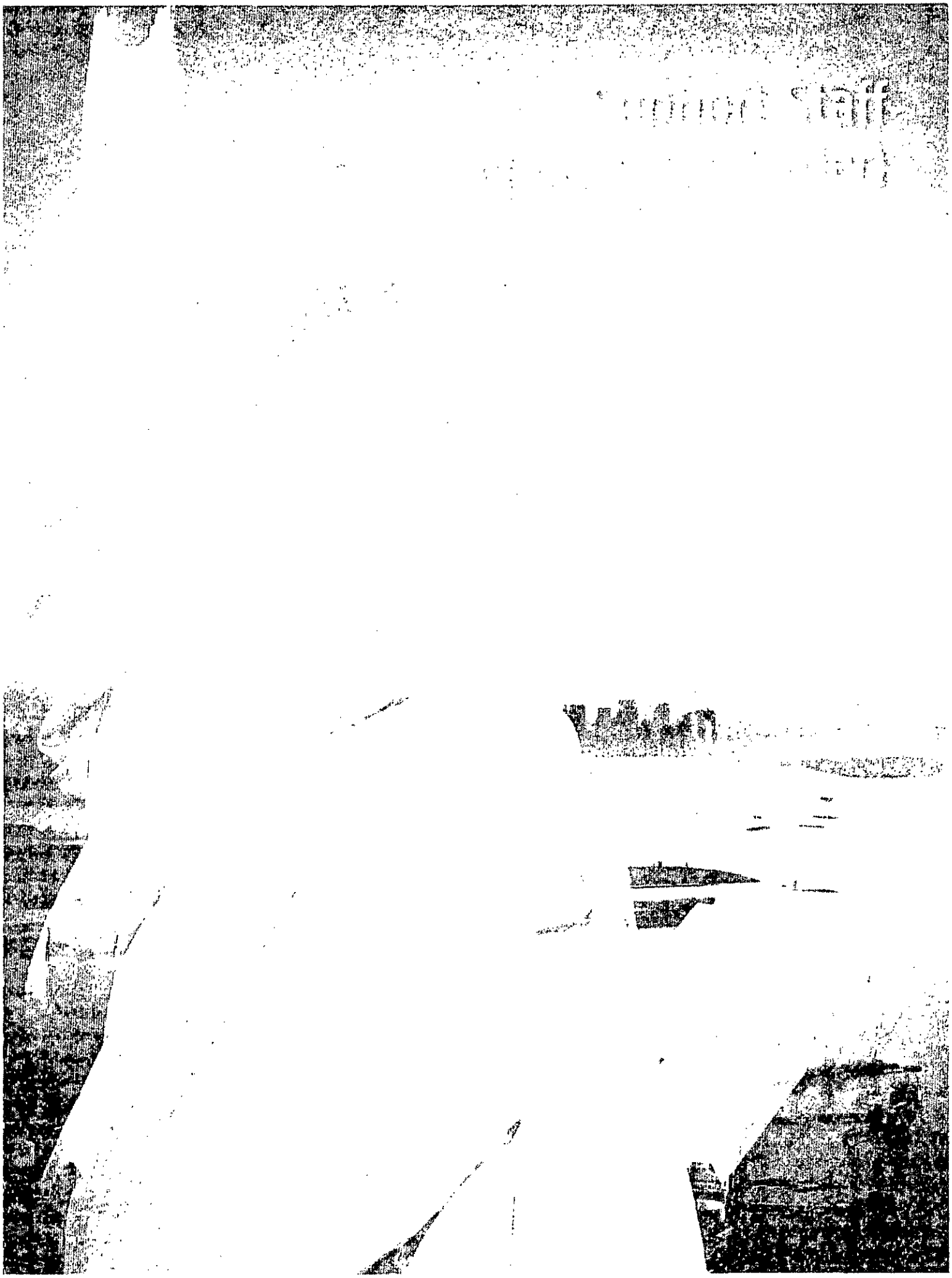
the Goethals Bridge to ease local traffic congestion resulting from trucks entering the New York Container Terminal. To assist with the selection of the preferred alternative, HDR conducted an environmental assessment to compare the alternatives in terms of regulatory, environmental, traffic and socioeconomic constraints, and conducted a cost-benefit analysis for each of the alternatives. HDR is also responsible for developing a permitting strategy to guide the PANYNJ through the permitting process for the project in an efficient manner.

Lafarge Ravena Modernization Program, Ravena, NY. Ms. Curran served as the task leader in the development of the Natural Resources and Surface Water Resources sections of the State Environmental Quality Review Environmental Impact Statement for the modernization of a cement plant in Ravena, NY. The plant improvements called for the installation of a 526-foot tower in Hudson River valley, an area that serves as a migratory corridor for birds. The NYSDEC expressed concerns about the potential for birds to collide with the tower during nocturnal migration, and requested additional information about the migratory movements over the project site. Because birds are at a higher risk of collision during nights with cloud cover because they fly at lower elevations below the clouds, HDR evaluated the weather data to quantify the average number of hours that the birds would be forced to fly below the cloud cover during the fall and spring migration seasons.

United Water New York, Hudson River Water Treatment Plant at Haverstraw Environmental Impact Statement. United Water New York (UWNY) is planning for the construction of a desalination plant on the Hudson River in Haverstraw, New York to provide up to 7.5 million gallons per day of potable water to the residents of Rockland County, New York. HDR assisted UWNY to plan for the project and to develop an Environmental Impact Statement pursuant to the New York State Environmental Quality Review Act. Ms. Curran was the task leader responsible for the technical studies and reporting that were included in the Environmental Impact Assessment. The project team consisted of jr. and sr. environmental scientists, aquatic ecologists, geologists, wildlife biologists, wetland scientists, traffic engineers, water resource engineers, noise and air quality specialists, water quality modelers, planners specializing in land use and environmental justice issues, and quality assurance reviewers.

PANYNJ, Goethals Bridge Replacement Program, Staten Island, NY - Elizabeth, NJ. Ms. Curran is leading the HDR team assisting the PANYNJ to complete the NEPA Environmental Impact Statement for the proposed replacement of the Goethals Bridge that connects northwestern Staten Island, New York to Elizabeth, NJ. Specific responsibilities include the characterization of existing conditions for the natural resources and surface water resources; assessment of impacts associated with the proposed demolition of the existing bridge and construction of a new bridge; ecological community mapping; conducting an essential fish habitat evaluation; assisting with the public outreach and scoping component; and completing the permitting requirements.

PANYNJ, Port Elizabeth Roadway Realignment, Port Elizabeth, NJ. Ms. Curran led the HDR team that assisted the PANYNJ to complete the New Jersey Department of Environmental Protection permitting requirements for the impacts to wetlands associated with the proposed realignment of McLester Street in Port Elizabeth, NJ. Specific responsibilities included wetland delineation, evaluation of wetland functions, ecological community mapping, development of an environmental report to include in an Individual Freshwater Wetlands and Stream Encroachment Permit application.



Barry Babcock

Project Role: Wetland Delineations Support

Education
A.A.S., Natural Resources Conservation, 1975

Registrations/Certifications
The Rutgers University Wetland Delineator Program; Principles and Practices of Erosion and Sedimentation Control; Permit Required Confined Spaces, 29 CFR 1910.146(g)(1); Attendant, Entrant and Entry Supervisor Competency; Health and Safety at Hazardous Waste Sites, 29 CFR 1910.120; 40-Hour and 8-Hour Supervisory; American Red Cross; Adult CPR and Standard First Aid.

Experience
Mr. Babcock is an Environmental Scientist whose responsibilities include wetland delineation; threatened and endangered species surveys; permit preparation, updating, and compliance; field investigation and inspection; fisheries projects; light construction inspection and oversight; chemical and petroleum tank closure; field sampling of groundwater, drinking water, sanitary sewage, industrial discharges, terrestrial and aquatic systems. He has completed wetlands delineations for a wide variety of industrial, commercial and municipal clients. Some wetland delineations were completed as part of an environmental constraints analysis. Environmental constraints analysis activities performed have included inventories of wetlands, upland terrestrial ecosystems, aquatic biota, and rare and endangered species. The following are Mr. Babcock's relevant project examples:

PANYNJ, Stewart International Airport Wetland Delineations, New Windsor, NY. HDR was retained by PANYNJ to delineate state and federally-regulated wetlands on two parcels on the Stewart International Airport campus in New Windsor, Orange County, NY. Mr. Babcock performed the delineations, assisted with the Jurisdictional Determination request packages (using the post-Rapanos guidance) and accompanying functional assessments for submittal to USACE.

PANYNJ, Allied Signal Site Wetland Delineation, Elizabeth, NJ. Mr. Babcock completed a wetland delineation survey for the Allied Signal Site.

PANYNJ, Teterboro Airport Habitat & Wetland Delineation Studies, Teterboro Airport, NJ. Mr. Babcock assisted with the tree survey and wetland delineation for the PANYNJ at Teterboro Airport. He conducted field surveys and compliled a tree inventory of potential Indiana bat habitat on the property. He also assisted with the preparation of the LOI package of the wetland delination for submission to NJDEP.

USACE New York District, Liberty State Park Ecosystem Restoration Project, NJ. Mr. Babcock completed wetland delineations, bird and plant transect surveys, and vegetative community mapping and flagging.

PANYNJ, Spill Prevention Plan, LaGuardia Airport, Queens, NY. Mr. Babcock has completed field inspections and preparation of the SPCC plan for LaGuardia Airport.

Middlesex County, New Brunswick Landing Wetlands Restoration, Piscataway, NJ. Mr. Babcock provided construction oversight of brush and invasive species removal, herbicide spraying, deer fence installation, grading/disking and planting of native wetland species.

New York City Department of Environmental Protection (NYCDEP), Tree Survey for Co-op City, Bronx, NY. Mr. Babcock completed a tree survey including species identification, DBH and GPS location.

St. Lawrence Cement, Wetland Restoration, Hudson, NY. Mr. Babcock provided construction oversight of debris removal, excavation, grading and planting of native wetland species.

Canadian Pacific Railway, Wetland Delineation, Saratoga, NY. Mr. Babcock completed a wetland and watercourse delineation survey along both sides of a two mile section of track scheduled to be upgraded to a double track system.

Lehigh Valley Industrial Park (LVIP), Wetland Delineation, Bethlehem, PA. Mr. Babcock completed a wetland and watercourse delineation survey and threatened and endangered species agency letters for the LVIP, Bethlehem Steel site.

Town of Orangetown, Rockland County Psychiatric Center, Wetland Delineation, Pearl River, NY. Mr. Babcock provided a wetland delineation survey for proposed subdivision and development.

Sterling Forest Corporation, Wetland Delineation, Tuxedo, NY. Mr. Babcock provided wetland delineation for a proposed golf course and housing development.

Hyde Park Regional Center, Wetland Delineation, Hyde Park, NY. Mr. Babcock completed a wetland delineation survey for proposed multiuse development, including new parking facilities, a farm market and a drive-in theater.

General Electric, Wetland Delineation, Fort Edward, NY. Mr. Babcock completed a wetland and watercourse delineation survey along the Champlain Canal access road for future expansion of barge docking facilities.

Dansome Development, Tree Survey for South Nyack Subdivision, South Nyack, NY. Environmental Scientist. Mr. Babcock completed a tree survey including tree species identification, diameter at breast height (DBH), height estimates, general condition assessments and global positioning system (GPS) location.

Ramapo Sewer District, Tree Survey, Rockland County, NY. Mr. Babcock completed a tree survey including species identification, DBH and GPS location.

Elena Barnett

Project Role: Environmental Assessments Support

Education
M.S., Environmental Engineering, 1998 / B.S., Environmental Engineering, 1997

Registrations/Certifications
EIT, 2004

Experience
Ms. Barnett is a project manager with over 12 years of environmental assessment and planning experience in the preparation of federal and state-required environmental documents for solid waste, transportation, development and infrastructure projects. Ms. Barnett is also responsible for the acquisition of environmental permits and approvals, dredging feasibility studies, site investigation plans and technical reports, odor compliance protocols, and design/construction drawings and specifications for a diverse number of projects. She has led the effort of reviewing air quality and noise analyses in environmental review documents submitted to the New York City Department of Environmental Protection (NYCDEP). The following are Ms. Barnett's relevant project examples:

NYCEDC, South Brooklyn Marine Terminal, NY. Ms. Barnett is the project manager on the SBMT project to provide environmental services, including permitting, for the development of the South Brooklyn Marine Terminal. Ms. Barnett is responsible for the technical oversight and administration for the preparation of a sediment sampling plan for proposed dredging, the preparation of a Joint Application for Permit to the U. S. Army Corps of Engineers (USACE) and the New York State Environmental Conservation (NYSDEC) and the preparation of a Supplemental Environmental Assessment to identify and determine the magnitude of the environmental effects associated with the proposed relocation of the Rail Transfer Span to SBMT from the 65th Street Rail Yard. The Supplemental EA will be based on available information and developed in accordance with the federal National Environmental Policy Act (NEPA) and State of New York and New York City Environmental Quality Review (S/CEQR) Technical Manual guidelines.

Lafarge North America, Inc. Ravena Plant Modernization, Ravena, NY. Ms. Barnett is the Project Manager for the Ravena Plant Modernization project responsible for obtaining the environmental approvals and permits necessary to modernize the Lafarge cement manufacturing plant in Ravena, New York. The modernization project under consideration entails the replacement of the existing two wet kilns with a single dry precalciner kiln line. The Environmental Impact Statement will be prepared in accordance with the requirements of the State Environmental Quality Review Act and its implementing regulations ("SEQRA"). Ms. Barnett is responsible for the management of the EIS which will include but is not limited to potential impacts on: air, noise, visual impact, traffic, wetlands, terrestrial, water, land use, community and socio-economic conditions. In addition, assistance with the following permit applications and agency reviews are anticipated: SPDES permit modification, SPDES stormwater permits (construction permitting including development of a SWPPP plan and

modification of the existing site stormwater plan), Part 360 solid waste management facility permit modification, FAA and local permits and approvals.

NYCDEP, Office of Environmental Policy and Assistance (OEPA), Environmental Impact Statement/ Environmental Assessment Services (EIS/EAS), NY. Ms. Barnett is the project manager for the NYCDEP's Office of Environmental Planning and Assessment (OEPA) to provide assistance conducting technical reviews of air and noise analyses included in Environmental Impact Statements/ Environmental Assessment Statements (EISs/EASs) submitted to the NYCDEP's OEPA for review under State Environmental Quality Review Act/City Environmental Quality Review (SEQRA/CEQR). The analyses reviewed are based on ISCST3, CAL3QHCR, Mobile 5B/6.0/6.2 and Part 5 air quality models (including PM2.5 analyses), and Federal Highway Administration's Traffic Noise Model (FHWA's TNM) version 2.0/2.5. Ms. Barnett led the reviews and comments to agencies and their consultants for the American Stevedoring EAS.

Village of Haverstraw, Haverstraw Ferry Terminal Project, Haverstraw, NY. Project Manager. Ms Barnett is the project manager for the Haverstraw Ferry Terminal Project, a Locally Administered Federal Aid Project, consisting of relocating ferry service from its current temporary site in the Village of Haverstraw to a new permanent site in the Village. The development of the new ferry service site will include a new ferry pier, surface parking and a shelter for ferry passengers and dedication of land for a promenade. Ms. Barnett is responsible for the technical oversight and coordination of the development of a Design Report/ Environmental Assessment, in accordance with the New York State Environmental Quality Review Act and National Environmental Policy Act (NEPA) and the evaluation of dredging alternatives and associated impacts on Haverstraw Bay.

Department of Sanitation, Environmental Impact Statement, NY. As assistant project manager, Ms. Barnett's efforts included technical oversight and administration for preparation of an Environmental Impact Statement (EIS) in accordance with SEQRA/CEQR requirements for conversion of eight MTSs to containerize waste. She manages mobile and stationary air quality (using ISCST3, CAL3QHCR, Mobile 5B/6.0 and Part 5 models and includes an evaluation of PM2.5 impacts), odor, noise and traffic analyses conducted by technical staff, meetings and discussions with the New York City Department of Transportation and the New York City Department of Environmental Protection, and subconsultant oversight for up to 13 other analyses required under CEQR. She is responsible for scheduling and coordinated all analyses between HDR and 11 offices/subconsultants. She participates in review of air quality analyses and results, noise monitoring and analysis methodology, traffic routing and analysis methodology, lead development and implementation of the odor sampling and analysis methodology and collection, and preparation of the technical analyses summaries for air quality, odor, noise and traffic. In addition, she is responsible for the management of a Commercial Waste Management Study required by Local Law 74 in New York City.

Stuart Bassell, PE

Project Role: Regulatory Compliance

Education
M.S., Urban Planning, 1973 / B.S., Civil Engineering, 1971

Registrations/Certifications
Professional Engineer (NY, NJ); OSHA HAZWOPER 40 hour, Supervisor and 8 hour refresher; New Jersey Department of Environmental Protection Remediation STAR Program; American Red Cross Standard First Aid and Adult CPR

Experience
Mr. Bassell is a regulatory expert with over 35 years of experience. Mr. Bassell's responsibilities include project management, project analyses, development of work programs, report writing, project interviews, information assembly, economic analyses, industrial site environmental surveys, and incorporation of public participation into project activities - including presentations at workshops, meetings, and hearings. Mr. Bassell has coordinated (with subcontractors) over 20 asbestos abatement projects and several projects involving lead-based paint abatement. Assignments completed by Mr. Bassell have been in the following technical areas: RCRA; air permitting and assessment; New York State Pollutant Discharge Elimination System (SPDES); New Jersey Pollutant Discharge Elimination System (NJPDES), National Pollutant Discharge Elimination System (NPDES) permits; oil spills and petroleum bulk storage; spill control and response plans; other hazardous materials assessments for real estate transfers and financing; remedial investigations/feasibility studies/remedial design (RI/FS/RD), including site remediation development (Brownfields); right-to-know; New York State Environmental Quality Review Act (SEQRA); environmental impact assessments; industrial pretreatment programs; and solid waste. Mr. Bassell has substantial experience in petroleum spill response, ranging from discovery to reporting, remedial design, and site assessment. The following are Mr. Bassell's relevant project examples:

PANYNJ, SPCC Plan for LaGuardia Airport. Mr. Bassell managed the initial preparation of the plan for the several PANYNJ facilities at this site. In 2010, he completed the update and recompilation of the plan to comply with the new federal regulations. As part of both efforts, he assessed compliance of the tank systems with New York State and federal PBS regulations. An outgrowth of the compliance work, physical upgrades and additional procedures were specified in the SPCC plan. Mr. Bassell also reviewed and commented on SPCC plans for the bulk fuel farm and public utility-owned transformer facility, prepared by other contractors.

PANYNJ, SPCC Plan for JFK Airport. Mr. Bassell also managed the initial preparation of the plan for the PANYNJ facilities at JFK airport, and in 2010, completed the update and recompilation of the plan. Again, he assessed compliance of the tank systems with New York State and federal PBS regulations, and specified physical upgrades and additional procedures. Updated monthly inspection check lists were prepared to allow PANYNJ staff to complete their own future inspections. Mr. Bassell also reviewed and commented on SPCC plan for the bulk and satellite fuel farms, prepared by other contractors.

PANYNJ, SPCC Plan for Newark Airport. As part of Mr. Bassell management of the preparation of SPCC plan Newark Airport, he assessed facility compliance against New Jersey PBS and federal PBS regulations. He provided recommendations to comply with SPCC regulation and plan requirements, as well as good engineering practices. For the Port Authority's Newark staff, he conducted the initial SPCC training.

U.S. Postal Service, Environmental Term Contract. Mr. Bassell managed the environmental term contract that covered the lower Hudson River multi-county district (referred to as the Westchester District). The term contract entailed 60 assignments during a 10-year period. He provided environmental engineering services and regulatory compliance for the closure of USTs, installation of new ASTs, UST testing, spill cleanup and assessment, SPCC plan preparation, hazardous materials inventories, and feasibility studies for converting heating systems from oil to natural gas. Through a subcontractor, he managed lead-based paint and asbestos sampling and abatement monitoring projects at several district postal facilities.

Phase I Environmental Site Assessments and Due Diligence, Various Locations. Mr. Bassell is responsible for reviewing and signing Phase I due diligence reports issued out of HDR' New York offices. His clients have included PANYNJ, electric utility companies, developers, municipalities, banks, attorneys, colleges, and manufacturers. He has managed or personally completed approximately 100 such efforts, which have included industrial, commercial, residential, and agricultural sites. One such effort included an examination of a hazardous waste site, licensed for the construction of a new 800 MW merchant electric cogeneration facility; this project included not only the standard ASTM elements, but also an audit of the environmental permits, licenses, and approvals issued for the project.

Client Confidential, Due Diligence and Compliance Audit. Mr. Bassell managed the Phase I and Phase due diligence assessments and the environmental compliance audit of a New York manufacturing site. The audit assessed compliance with RCRA, PBS and SPCC regulations, air emission regulations, SPDES requirements, NY Chemical Bulk Storage regulations, EPCRA and right-to-know, pesticides application, and NY Health Department drinking water regulations of the site's self supply. Several deficiencies were identified and resolved with the seller and buyer to allow the transaction to close.

NJDEP, Williams Property Superfund Site. Mr. Bassell prepared the design work plans, Field Sampling and Testing Plan (FSTP), Quality Assurance Project Plan (QAPP), Health and Safety Plan (HASP), and completion of various field programs: soil gas, monitoring well construction and sampling, pump tests, on-site pilot-scale treatability testing (air stripping, activated carbon, filtration) and bench-scale testing (metals removal and biological treatment). He completed the environmental permit and permit-equivalent applications (air, NJPDES-DGW, water diversion, Department of Community Affairs, and road cut). All permits were issued.

Client Confidential, RCRA Part B Application. Mr. Bassell managed and was the primary author for this application at a RCRA TSD facility for a computer manufacturer. As part of this project, he assessed compliance of the facility's current practices against RCRA regulations.

Charles Beckers, PE

Project Role: Water Quality Studies Support

Education
M.S., Physical Oceanography, 1971 / B.S., Physics, 1966

Registrations/Certifications
Professional Engineer (RI); United States Coast Guard Licensed Master, 100 Gross Tons, Near Coastal, Motor & Sail

Experience
Mr. Beckers is a senior project manager and water quality expert at HDR. In this role, he has managed or provided technical input to a number of relevant hydrodynamic and hydrothermal modeling projects within or for the City of New York. The following are Mr. Beckers' relevant project examples:

PANYNJ, Various Projects Related to Permitting of Stormwater Discharges from Airports, NY & NJ. Mr. Beckers was a project manager providing guidance to staff developing information to assist the Port Authority in negotiation of permits for various New York City-area airports.

PANYNJ, World Trade Center SPDES Permit Services Project, New York, NY. Mr. Beckers served as project manager on this multiyear project to study biological, thermal and chlorination impacts in the Hudson River related to withdrawal and discharge of air conditioning cooling water for the *original* World Trade Center. The project included field data acquisition, entrainment/ impingement studies, in-plant monitoring, and discharge plume modeling.

New Jersey Department of Environmental Protection, Passaic Nutrient TMDL Project, Water Supply Tasks, TRC-OmniEnvironmental. Mr. Beckers served as Project Manager for the analyses of water supply impacts in establishment of TMDL for phosphorus in the non-tidal Passaic River watershed. The focus of HDR' work was evaluation of appropriate phosphorus end points for the several water supply diversions in the Passaic watershed, as well as the impacts on water availability resulting from proposed phosphorus limits. HDR provided plans for conduct of a dye study to determine the interaction between the Two Bridges Sewer Authority discharge and the Wanaque South Pump Station drinking water intake, and conducted a field study of the new Passaic Valley Water Authority filtration plant to estimate process impacts of phosphorus in the raw water. The analyses included impacts on water availability and cost to treat.

NYCDEP, Kensico Reservoir Water Quality Modeling Tasks, Kensico-City Tunnel, NY. Mr. Beckers provided technical guidance to staff updating and applying the Kensico Water Quality Model for use in evaluating water quality associated with operation of a candidate reservoir outlet structures for the Kensico-City Tunnel.

Museum of the Hudson Highlands, Restoration of Tidal Flows to Manitou Marsh, Putnam County, NY. Mr. Beckers conducted a field survey to determine soil elevations within Manitou Marsh and to estimate the effect of railroad culverts on relative tides in the Hudson and the

marsh. Mr. Beckers then developed a Visual BASIC model to evaluate the potential for restoring tidal influence in the region immediately to the south of the road across the marsh, by reconstructing collapsed culverts under the roadbed. Mr. Beckers presented a paper on the project to an annual meeting of the Society of Wetland Scientists.

Montgomery-Watson / Town of Newton, Nutrient Modeling of Paulinskill River, Newton, NJ. Mr. Beckers conducted a field survey of the Paulinskill River to develop a data set for calibration and verification of the QUAL-2e model. The water quality data included diurnal dissolved oxygen, carbonaceous BOD, nitrogenous BOD, phosphorus, and temperature. A dye study was also done to determine time of travel. The QUAL-2e model was calibrated and verified, and used to evaluate proposed nutrient limits in the NJPDES permit for the Town of Newton wastewater treatment plant. Mr. Beckers also prepared responses to comments from New Jersey Department of Environmental Protection.

Connecticut Department of Environmental Protection, Thames River Water Quality Modeling Study, CT. Project Manager. Mr. Beckers was the project manager overseeing the application of CE-QUAL-W2 to model the estuarine hydrodynamics and water quality of the Thames River. The purpose of the study was to evaluate alternatives for elimination of eutrophication in the upper reaches of the estuary related to CSO, point, and nonpoint sources. In addition to technical oversight of the project, Mr. Beckers served as interface between the project and a public advisory committee organized by the Southeastern Connecticut Regional Planning Agency.

Davis Polk Wardell / Warner Pharmaceuticals, Modeling of Heavy Metals and Dissolved Oxygen in the Rio Cibuco, Puerto Rico. Project Manager. As project manager, Mr. Beckers applied the RMA-2 and RMA-4 models to the Rio Cibuco and tributaries in Puerto Rico to evaluate constraints on discharge of heavy metals and oxygen-demanding substances, in support of a NPDES permit renewal for a pharmaceutical plant.

Knolls Atomic Power Laboratory, Study of Cooling Water Discharge, Schenectady County, NY. Project Manager. As project manager, Mr. Beckers conducted a study of chlorine concentrations in the cooling water discharge from the Knolls Atomic Power Laboratory, and the ability to comply with a New York State SPDES permit limit.

Massachusetts Water Resources Authority, Preliminary Evaluation – Nut Island Emergency Discharge, Boston, MA. Mr. Beckers employed CORMIX modeling to evaluate the potential water quality impacts in Boston Harbor resulting from activation of an emergency discharge point for a cross-harbor sewage force main.

Battery Park City Authority, Marina Permitting Review, New York, NY. Mr. Beckers evaluated the permitting requirements for a proposed marina on the Hudson River at the northern end of Battery Park City, Manhattan County, New York.

NYC Department of Corrections, Impacts of Prison Barge Mooring, New York, NY. Mr. Beckers evaluated the effects of circulation changes resulting from docking a New York City Department of Correction prison barge on sedimentation patterns in the East River.

Francisco Brilhante

Project Role: GIS

Education
B.E., Electrical Engineering, 1991 / M.E., Environmental Engineering, 1993

Experience
Francisco Brilhante is a technical leader of Geographical Information Systems (GIS) and GPS systems at HDR. As a technical leader for GIS and GPS technology, Mr. Brilhante maintains and updated the GIS and GPS systems and trains others in the use and application of these technologies. HDR's Northeast Regional GIS coordinator Mr. Brilhante can deploy the appropriate GIS resources to any given task. Mr. Brilhante is also a mathematical modeler and project manager at HDR. He has over 15 years experience using models to simulate CSO and stormwater discharges and pollutant loads as well as 2D and 3D hydrodynamic and water quality models. His experience in the application of these models includes input development, calibration/verification, simulation of pollutant loading and hydrodynamics. The following are Mr. Brilhante's relevant project examples:

PANYNJ, Bayonne Bridge Feasibility Study to Increase Navigational Clearance, New York, NY. HDR performed this study to explore options to rehabilitate or replace the Bayonne Bridge; the study reviewed design and rehabilitation strategies, seismic analysis and bridge rehabilitation options. The study also identified right-of-way constraints, environmental considerations, costs and construction feasibility. Mr. Brilhante was the GIS Analyst responsible for developing a GIS database for use in the Environmental Screening Analysis for three main alternatives (raise the roadway, jack the arch, replace the structure), with sub-alternatives for each.

PANYNJ, John F. Kennedy Airport State Pollutant Discharge Elimination System (SPDES) Water Quality Modeling and Permit Modification. In response to Special Condition 1 of the October 1, 2007 New York State Department of Environmental Conservation (NYSDEC) SPDES permit, HDR is assisting the PANYNJ with a Water Quality Monitoring and Modeling study to determine the impacts of stormwater discharge during the deicing season on the dissolved oxygen levels of the receiving waters adjacent to JFK. Mr. Brilhante assisted the PANY/=NJ with development of the Water Quality Modeling Plan including discussions with the NYSDEC. Using GIS Mr. Brilhante determined suitable water quality sampling locations both in Jamaica Bay and on airport property. As part of the SPDES permit modification process for JFK airport, the NYSDEC submitted a Request for Information (RFI) to the PANYNJ to examine the potential pollutants being discharged from airport stormwater into adjacent receiving waters during deicing events. Mr. Brilhante assisted in the development of a NYSDEC approved water quality monitoring plan to characterize the pollutant loads from all airport outfalls.

USACE New York District, Hudson Raritan Estuary (HRE) Comprehensive Restoration Plan. Mr. Brilhante served as the GIS Task Leader in support of the development of HRE Comprehensive Restoration Plan. He developed a series of GIS suitability models and analyses to identify restoration opportunities for the aquatic and terrestrial habitat types considered Target

Ecosystem Characteristics for the restoration plan. Mr. Brilhante also helped develop a pilot project to determine suitable locations for Coastal Wetland restoration in the HRE, using ArcGIS 9.2, Spatial Analyst extension, and the ModelBuilder interface. Responsibilities included model conceptual design, data collection (vector, raster, and aerial photography), cartographic production, metadata creation, and coordination with the USACE New York District.

NYCDEP, East River CSO Facility Planning Project. He modeled the drainage area and collection systems for CSO outfalls in New York City's Tallmans Island and Bowery Bay service areas using the U.S. Environmental Protection Agency's (EPA) Stormwater Management Model (SWMM). He applied SWMM to the entire Tallmans Island Collection system to evaluate various methods to optimize flow in the drainage network. He is applying XP-SWMM to the Hunt's Point collection system to evaluate the use of in-line storage for CSO abatement. He has applied the HydroWorks model to the Newton Creek collection system and implemented various levels of real-time control to optimize storage in the system.

NYCDEP, Flushing Bay Water Quality Facility Plan. Mr. Brilhante molded Flushing Bay using RMA 2 and 4 for the investigation of CSO control alternatives. Recently, he updated and developed model schematics of Flushing Bay for the application of RMA 11 (a 3D Model) to Flushing Bay. Mr. Brilhante used various sources of data such as aerial photos, NOAA charts and NOAA bathymetric data to develop the model schematic using HDR' GIS system.

Neptune Regional Transmission Systems, Neptune Energy Transmission. Mr. Brilhante providec GIS support in planning the Neptune Regional Transmission Systems submarine cable. He assembled data from various sources needed to plan and permit the cable route. He also assisted with GPS surveying, mapping and spatial analysis of the subterranean/submarine cable route. Mr. Brilhante also aided in the setup and coordination of multiple instruments and crews for a 24-hr continuous TSS monitoring program during submarine cable laying operations. He also helped develop a database for all TSS data and data analysis, plume mapping and writing the final report.

City of New York, Technical Support for New York City Stormwater BMP Plan. Mr. Brilhante provided technical support to the Mayor's Office of Operations, Long Term Planning and Sustainability for the development of a sustainable stormwater management plan as part of PlaNYC. Services provided include conceptual BMP plans, hydrological analysis of BMP effectiveness in reducing stormwater and combined sewer overflow discharges, GIS analysis of BMP penetration and cost analysis.

City of Newark CSO, Newark, NJ. Mr. Brilhante developed, calibrated and verified a Visual Hydro (SWMM) model of the Newark CSO collection system. He used GIS to develop land use classifications and percent imperviousness for input to the model. Mr. Brilhante conducts field sampling and application of landside drainage and collection system models. He also conducted the field sampling and the landside modeling for the Newark CSO Characterization Study.

PSEG, Brayton Point Generating Station. Mr. Brilhante created input data for a RAMAS GIS population dynamics model of Mount Hope Bay to aid in the assessment of thermal impacts from the Brayton Point generating station. Mr. Brilhante used ArcInfo to convert output from a hydrodynamic model to RAMAS input data.

John Burnett

Project Role: Environmental Assessments Support / Biological Statistical Modeling

Education
M.S., Environmental Science and Forestry, 2001 / B.S., Biology, 1995

Experience
Mr. Burnett is a senior environmental scientist at HDR. He specializes in environmental assessment, biological modeling and assisting Power and Energy clients achieve regulatory compliance for cooling water intake and discharge systems which are regulated under Clean Water Act §316(a) and (b). Typical projects involve development of multi-year, on-site surveys evaluating fish losses (entrainment and impingement) at the facilities, development of reports analyzing and presenting the collected data, and practicability assessments of alternative fish protection technologies including evaluation of engineering feasibility, cost, and biological efficacy. Mr. Burnett has worked with the Equivalent Recruit Model, Empirical Transport Model, Empirical Impingement Model and RAMAS population modeling software in the assessment of power plant impacts on fish populations. The following are Mr. Burnett's relevant project examples:

PANYNJ, Verification Monitoring Plan for the World Trade Center Redevelopment Site Cooling Water Intake, NY. Mr. Burnett is the project manager for the development of a verification monitoring plan for the World Trade Center Redevelopment Site Hudson River cooling water intake. The objective of this work is to develop monitoring plans to evaluate compliance of the updated cooling water intake system with State Pollution Discharge Elimination System Permit required reductions in entrainment and impingement. The verification monitoring plan, including standard operating procedure manuals, will be submitted to the NYS Department of Environmental Conservation for its review and approval.

PSE&G, Optimal Sampling Allocation, NJ. Mr. Burnett determined the frequency and optimal temporal allocation of entrainment and impingement samples required to calculate annual numbers of organisms entrained and impinged at the Salem Generating Station at predefined confidence levels using the Neyman Allocation statistical technique.

PSE&G, Trawl Avoidance, NJ. Mr. Burnett evaluated the relative gear avoidance exhibited by finfish for the primary pelagic and bottom trawls used in the Salem Generating Station Baywide Abundance Monitoring Program surveys. The study developed species- and length-specific probability of avoidance functions for each trawl that are used to improve estimates of finfish abundance and distribution in impact assessment models.

PSE&G, Gear Correction Factors, NJ. Mr. Burnett developed species- and length-specific algorithms to scale ichthyoplankton catches in the PSE&G baywide sampling nets to estimate absolute abundance. These algorithms accounted for reductions in catch efficiency attributable to avoidance of and extrusion through the PSE&G ichthyoplankton sampling gear.

New York City Department of Environmental Protection, Biological Summary Reports, NY. Mr. Burnett produced biological summaries of New York-New Jersey Harbor area water ways

including the Bronx River and Jamaica Bay. Tasks included summarizing biological data collected by the New York City Department of Environmental Protection (NYCDEP) as well as existing information on wetlands, water usage, and shoreline development. These summaries will be included in NYCDEP standards attainment reports related to combined sewer overflow (CSO) impact abatement.

Ecology and Environment Inc., Fisherman Outreach Program, NY. Mr. Burnett developed a fisherman outreach program in Long Island Sound to collect information on commercial and recreational fishing activities as they related to the construction of a liquefied natural gas terminal in Long Island Sound.

USGen New England Inc., Fish Abundance Trends Analysis, MA. Mr. Burnett performed statistical comparisons of fish abundance trends in Mount Hope Bay and Narragansett Bay using a number of resource management agency and utility company trawl surveys to determine whether differences in abundance in these two areas might be attributable to Mount Hope Bay's Brayton Point Generating Station. Statistical methodologies included Analysis of Variance (ANOVA), Analysis of Covariance (ANCOVA), power analysis, and maximum likelihood. This work was accepted for publication in a peer-reviewed scientific journal.

USGen New England, Inc., §316(b) Demonstration, MA. Mr. Burnett played a key role in the preparation of the §316(b) Demonstration for Brayton Point Station. Mr. Burnett implemented many of the technical analyses underlying the Demonstration, including calculation of entrainment and impingement losses accounting for through-plant and on-screen survival for selected species, conditional entrainment and impingement mortality rates, equivalent recruit losses through incorporation of fishing rates and age-specific vulnerabilities to the fishery. This work culminated in the development of a RAMAS age-structured stock-assessment analysis for winter flounder that projected future stock levels under varying scenarios of intake and discharge plant effects, fishery losses, and ambient temperature effects. Other important tasks related to this work included the development of vital rates (i.e., life tables), life history summaries, and physical tolerance data for approximately 25 species.

USGen New England Inc., §316(a) Technical Review, MA. Mr. Burnett conducted a technical review of EPA Region 1's analysis of the impact of the Brayton Point Station thermal plume on aquatic resources in Mount Hope Bay. The technical review involved a literature review of thermal tolerance temperatures of winter flounder, determination of the equanimity of the biothermal criterion relied on by EPA in its analysis, and recommendation of alternative methods for assessing biothermal effects. Mr. Burnett's written comments were incorporated into the administrative record in support for ongoing litigation regarding the Station's §316(a) and (b) permit.

Thomas Connors, PE

Project Role: Cost Estimating / Shop Drawings

Education
M.B.A., Finance, 2001 / M.S., Environmental Engineering, 1994 / B.S., Civil Engineering, 1992

Registrations/Certifications
Professional Engineer (NJ, NY, PA); OSHA HAZWOPER 40 hour, Supervisor and 8 hour refresher

Experience
Mr. Connors has 19 years of environmental consulting experience. Mr. Connors' work experience includes preparation of design construction plans, technical specifications, cost estimates, engineering reports, construction bid documents, construction management, shop drawing review and approval, and permit applications. Mr. Connor's responsibilities include project management, site (soil and groundwater) investigation and remediation, remedial system design including strategic planning to evaluate remedial alternatives, regulatory compliance review, providing technical support and construction oversight, and coordination with regulatory agencies. The following are Mr. Connors' relevant project examples:

NYSDEC, Former Raeco Products, Standby Engineering Contract (D006129), Rochester, NY. As remedial engineer, Mr. Connors authored a feasibility study for a five-acre industrial facility with VOC, SVOC, and metal contamination in both soil and groundwater. Mr. Connors completed a detailed evaluation of the remedial investigation data, identified and screened remedial technologies and developed and evaluated soil and groundwater remedial alternatives including preparation of detailed cost estimates for each alternative.

NYSDEC, New Cassel Industrial Area, Standby State Superfund Contract (D006129), New Cassel, NY. Mr. Connors is project manager for the remedial design of a pump and treat system to address an off-site groundwater CVOC plume. Mr. Connors is developing and coordinating the implementation of a pre-design investigation (PDI), including installation of seven additional monitoring wells and coordinating a 72-hour pump test and treatability/pilot test. The remedial design includes evaluation of all existing data and PDI results and establishing a site conceptual model to optimize the remedial design. The work will involve characterization of properties within and adjacent to the off-site study to identify potential locations for the groundwater treatment plant and discharge of the treated effluent. The design package will include construction drawings, technical specifications, cost estimates, and bid documents. The project duration is anticipated to be from September through March 2011.

NYSDEC, Pappas Dry Cleaners, Standby Engineering Contract (D006129), Dansville, NY. Mr. Connors is project manager for the design of a remedial excavation of approximately 7,500 tons of CVOC-impacted soil at this 0.4 acre former dry cleaner site. Professional services include conducting a pre-design investigation, preparing a remedial design package, and providing bid assistance. The pre-design investigation includes a lead-based paint and asbestos survey of the existing one-story building, geo-probe boring program to delineate soil impacts and collect a pre-

construction property survey. The selected remedial action includes demolition of the one-story building and excavation and off-site disposal of impacted soil, including perimeter sheet pile. A dewatering system to facilitate excavation and site restoration were part of the project. The remedial design includes preparation of an engineering design report, construction drawings, technical specifications, engineer's cost estimate, and construction bid package.

USACE Kansas City District/USEPA Region 2, NJ. Mr. Connors provides Senior Regulatory Specialist for the Imperial Oil Superfund Site, Monmouth County, NJ, which is currently in the RA phase. The RA consists of removal and off-site disposal of approximately 200,000 tons of LNAPL, PCB, TPH, VOCs, SVOCs, and metal impacted soils. Mr. Connors reviewed and approved the shop drawings for the project. Mr. Connors also provides senior technical support to the Rockaway Borough Superfund Site, Rockaway Borough, NJ including design, installation oversight and operation of a SVE system in the source area and evaluation of the 230-gpm pump and treat system. He completed an aquifer pump test on three extraction wells and monitoring draw down (capture zone) in the surrounding monitored well network via continuous logging pressure transducers. As part of the RD evaluation, he was able to optimize the mass removal of the system by relocating extraction wells and performed a sensitivity analysis on the plant components to demonstrate the adequacy of the design allowing the project to move forward on schedule.

Confidential Client, Ringwood, NJ. Mr. Connors provided senior technical support for $24.6M paint sludge removal project supervising a construction manager and two field staff. The 400 acres site was located on a former iron mine and included a closed landfill. Paint sludge was located within and around two former mine pits and a closed municipal landfill. The sludge was intermixed with drums, industrial plant waste and municipal solid waste. Due to the potential for subsurface voids associated with the former mining operations at the site, geophysical seismic surveys and vibration monitoring were conducted. A comprehensive investigation was completed at the site including excavation of over 100 site wide test pits as well as 30 test trenches. Fourteen groundwater wells were installed using air rotary and rotosonic drilling techniques. Directional borings were advanced into the former mine pits to a depth of 120 and 200 feet bgs. Packer testing/sampling was performed in the open rock bedrock groundwater wells. Design activities completed by Mr. Connors included preparation of GP-4 wetlands permit application, Soil Conservation District permit application, construction plans, technical specifications, detailed cost estimates, budget tracking, financial analysis, and report preparation.

Automobile Assembly Facility, Edison, NJ. Mr. Connors authored a preliminary assessment as part of the ISRA process for this automobile assembly facility. Responsibilities included a site walk, review of historical records, client communications, and interaction with regulatory agencies. Over 130 areas of concern were identified and investigated at this 1.4 million square foot facility. Mr. Connors developed the remedial design strategy and prepared a detailed remedial action cost estimate including a cash flow analysis as part of a GRiPTM proposal. Mr. Connors provided oversight for the installation and operation of a Soil Vapor Extraction/Air Sparge (SVE/AS) system to remediate VOCs impacts in groundwater. The system consisted of 11 air sparge wells, 3 vacuum recovery wells, 12 pressure and vacuum monitoring points, and an activated carbon air treatment system.

Ann Corsetti

Project Role: Regulatory Compliance

Education
M.E., Environmental Engineering, 1987 / B.E, Chemical Engineering, 1986

Registrations/Certifications
OSHA HAZWOPER 40 hour, Supervisor and 8 hour refresher; American Red Cross Standard First Aid and Adult CPR

Experience
Ms. Corsetti is a Project Manager at HDR. Her primary responsibilities include the management and administration of projects and budgets as well as the execution of engineering studies, interpretation of environmental regulations (CWA, CAA, RCRA, SARA) and the preparation of permit applications and reports for industrial, commercial and public utility clients. Projects include managing NPDES permit applications, major permit modifications, permit renewals and participating in permit negotiations; developing best management practices plans and stormwater pollution prevention plans. Additionally, Ms. Corsetti is responsible for the preparation of annual EPA EPCRA TRI reports, management of NYSDEC Title V air permit applications; preparation of NYSDEC Part 373 hazardous waste permit applications for TSDFs, and finalization of multimedia audits. The following are Ms. Corsetti's relevant project examples:

Private Industrial Client Environmental Compliance Programs, Poughkeepsie, NY. Ms. Corsetti is responsible for resource allocation and budgets for the oversight of site's compliance with NYSDEC State Facility Air permit, SPDES permit RCRA Part 373 TSDF permit and onshore major oil storage facility license. Ms. Corsetti is currently assessing the feasibility and cost impacts of optimizing the on-site industrial wastewater treatment operations. Past assignments have included preparing major SPDES permit modification applications; designing and implementing auditing procedures to ensure compliance with Federal, state, and local air regulations.

Private Client, Air Emissions Inventory, Poughkeepsie, NY. Ms. Corsetti designed and implemented auditing procedures to ensure compliance with Federal, state, and local air regulations at a large electronics manufacturer with over 100 permitted emission for comparison to NYSDEC Air Guide limits. Her background in chemical engineering and mathematical modeling is applied to process and impact analyses.

Private Client, RCRA TSDF Permit, Port Ewen, NY. As Project Manager, Ms. Corsetti was responsible for the preparation and review of RCRA TSDF permit application for facility's permitted storage and treatment operations. She developed and conducted RCRA self-auditing programs at such facility to ensure compliance with hazardous waste regulations.

Central Hudson Gas & Electric, SPDES Permit Renewal, Newburgh, NY. As Project Engineer, Ms. Corsetti was responsible for the preparation of State Pollutant Discharge Elimination System (SPDES) permit renewal applications for two Central Hudson Gas &

Electric power plants (Roseton and Danskammer). Tasks included gathering, organizing, and compiling statistical analyses from effluent monitoring data and determining additional sampling requirements.

Tesa Tape Inc., Stormwater Permitting, Various Locations. Ms. Corsetti developed strategies for filing both a group and an individual stormwater permit application for a permitted Resource Conservation and Recovery Act (RCRA) treatment, storage, and disposal facility (TSDF) and for three coating manufacturing facilities. For each permit application she coordinated and executed sampling during wet-weather conditions; gathered and organized the additional information required by each facility's applications, and evaluated the presence of nonstormwater discharges by conducting field investigations.

Private Client, Industrial Site Survey, Poughkeepsie, NY. Ms. Corsetti performed a comprehensive industrial site survey of pipe connections to sanitary and stormwater sewer systems at a large electronics manufacturer. The survey included identification of connections from boilers, cooling towers, process lines, sinks, and lavatories for approximately 30 buildings ranging in age from over 50 years to recent construction. Piping drawings were reviewed and pipeline dye studies were performed. As part of this project, Ms. Corsetti developed a set of protocols and a standard questionnaire to ensure accurate and complete documentation of information collected for each building.

Private Client, Groundwater Investigation, Kingston, NY. Ms. Corsetti served as Project Manager responsible for coordinating and executing a field investigation of solvent-contaminated groundwater at a manufacturing facility. The study entailed preparation of a sampling plan for the site's stormwater sewer system; organization of field personnel, sampling equipment, and the laboratory analyses; and verification of building connections to the stormwater sewer system based on as-built drawings, revised piping drawings, and field verification. Results of the field investigation were used to evaluate remedial measures.

Florida Power and Light Corporation, Evaluation of Wastewater Treatment Options, Miami, FL. As Project Engineer, Ms. Corsetti was responsible for gathering, organizing, and compiling statistical analyses from effluent monitoring data collected from six Florida Power and Light Corporation electric power plants. Based on the data, reviewed, evaluated, and recommended wastewater treatment options to meet Federal and state NPDES requirements.

Lafarge North America, Inc., Ravena Plant Modernization, Ravena, NY. Ms. Corsetti prepared the NYSDEC SPDES permit renewal application for current facility operations and is also assisting the facility in preparing a permit modification for a proposed modernization of Lafarge's cement manufacturing facility located in Ravena, NY. Project responsibilities include preparing a water supply and wastewater discharge engineering assessment and cost analysis. Ms. Corsetti also assisted with State Environmental Quality Review Act (SEQRA) EIS for the modernized plant.

Christopher Cotroneo

Project Role: Wetland Delineation Support

Education
B.A., Environmental Studies, 2008 / A.A., Liberal Arts, 2003

Experience
Mr. Cotroneo is an Environmental Scientist at HDR. He is an ecologist with particular interest in fish communities of freshwater ecosystems. He has conducted research on fish species-habitat associations in the Hudson River watershed. Chris has participated in environmental surveys associated with habitat restoration projects for PANYNJ, USACE-NYD, NYCDEP, NYSDEC, and private firms. He is currently pursuing a Master of Arts in Biology and Environmental Science at Queens College. The following are Mr. Cotroneo's relevant project examples:

PANYNJ, Stewart International Airport Wetland Delineations, New Windsor, NY. HDR was retained by PANYNJ to delineate state and federally-regulated wetlands on two parcels at the Stewart International Airport. He prepared Jurisdictional Determination request packages (using the post-Rapanos guidance) and accompanying functional assessments for submittal to USACE.

PANYNJ, Howland Hook Marine Terminal Exit Ramp Alternatives Analysis, Staten Island, NY. Mr. Cotroneo assisted the PANYNJ to conduct an Alternatives Analysis for two alternate eastbound ramp configurations for access to the Howland Hook Marine Terminal from the Goethals Bridge. The PANYNJ plans to design and construct a new eastbound ramp from the Goethals Bridge to ease local traffic congestion resulting from trucks entering the New York Container Terminal. To assist with the selection of the preferred alternative, HDR evaluated the alternatives in terms of regulatory, environmental, traffic and socioeconomic constraints. HDR was also responsible for developing a permitting strategy to guide the PANYNJ through the permitting process for the project in an efficient manner.

PANYNJ, Port Jersey Wind Energy Project Avian Studies, NJ. Mr. Cotroneo conducted field surveys for the assessment of potential impacts to birds and bats that may result from the construction of eight to twelve 1.5 MW turbines on the Port Jersey peninsula in the city of Bayonne, NJ. The PANYNJ is soliciting a wind energy developer to construct a wind project in the location of an active container terminal in Bayonne and Jersey City, NJ. To maintain the schedule requirements to be considered for ARRA funds, the PANYNJ is initiating the permitting process for the project during the solicitation process. Consideration to the project's potential impacts to birds and bats is a requirement of the application process for a New Jersey Department of Environmental Protection (NJDEP) Waterfront Development Permit. HDR is assisting the PANYNJ to negotiate a pre-construction avian monitoring plan for the project with the NJDEP, and conducting wildlife surveys on the site to determine the sites usage by birds for migratory stopover habitat, breeding and foraging habitat, and overwintering habitat. Many threatened and/or endangered species (TES) are known to use the habitats along the shoreline of the peninsula, and eleven TES species have been observed by HDR on the site.

NOAA Woodbridge Creek Salt Marsh Monitoring, NJ. Mr. Cotroneo is the wetland biologist leading monitoring activities at the Woodbridge Creek Salt Marsh (WCSM) in Woodbridge, NJ. The WCSM was selected to serve as partial compensation of injured natural resources associated with the Exxon Bayway Oil Spill that occurred on January 2, 2000. Restoration construction activities at the WCSM site were completed in June 2007. Restoration activities consisted of sediment excavation, berm removal, enhancing tidal flows, Phragmites australis removal, and vegetation planting. HDR was hired to qualitatively and quantitatively characterize conditions and changes over time for sediment characteristics, vegetation, nekton, and tidal hydrology at the WCSM site and a nearby reference marsh. Surface and pore-water salinity, pore-water sulfide, plant community composition, marsh sediment characteristics, nekton, and hydrology during two non-consecutive years.

NYCDEP, Alley Park Pond Restoration and Drainage Area Improvement, NY. Mr. Cotroneo assisted with the restoration program to mitigate for impacts to shallow wetland habitat associated with upgrading a Combined Sewer Overflow on Alley Creek in Queens, NY. A mitigation plan was required by the New York State Department of Environmental Conservation (NYSDEC), New York City Department of Parks and Recreation (NYCDPR), and USACE. Mr. Cotroneo assisted in the wetland monitoring program., including the final erosion monitoring report for a tidal creek/salt marsh restoration and CSO improvement project in Queens, NY.

NYCDEP, Ecological Design Services for the Construction of Ecological Restoration Pilot Projects, New York, NY. Mr. Cotroneo developed methods for ribbed mussel habitat creation in a Jamaica Bay tributary, and authored the work plan and joint permit applications for the ribbed mussel biofiltration pilot study.

NYCDEP, Kensico Action Plan Stormwater Management Facilities, Westchester County, NY. Mr. Cotroneo performed field surveys for invasive plant species, rare plant species, winter tree survey, and assisted with a stream restoration existing conditions study. He co-authored the Kensico Action Plan Invasive Species Removal Management Manual for submittal to NYCDEP, which included GIS analysis.

WCI Communities, Hopewell Crossing Community Development. Mr. Cotroneo assisted in characterizing ecological communities and verified wetland delineations on a 132 acre parcel, and authored the Final Report to the client.

NYCDEP, Kensico Action Plan Permit Applications. Mr. Cotroneo researched available stream restoration methods for several tributaries to NYCDEP's Kensico Reservoir. He assisted in writing the final permit applications for submittal to the towns of Valhalla and Mount Pleasant, USACE and NYCDEP.

New York City Department of Parks and Recreation, Monitoring of Shellfish Restoration Sites, Bronx, NY. Mr. Cotroneo has assisted the Senior Technical Advisor on the review/development of monitoring protocols and finfish characterization studies performed in support of NRG's two created oyster reef s located in the lower Bronx River, NY.

Laura Csoboth

Project Role: Essential Fish Habitat Studies Support

Education
M.S., Zoology, 2006 / B.S., Natural Resource Management, 2002

Experience
As an environmental scientist with HDR, Ms. Csoboth has worked on USACE biological surveys and technical reports, as well as other public sector sponsored waterfront and marine-related projects. Some of these studies have included field sampling to document physical, chemical, and biological conditions at the project sites. Ms. Csoboth has experience with aquatic sampling, including collection and processing of benthic macroinvertebrate samples, zooplankton samples, and fisheries samples. She brings with her knowledge of fisheries ecology, field and lab techniques, as well as technical writing and data analysis skills. Ms. Csoboth is also knowledgeable of the State and New York City environmental review process.
The following are Ms. Csoboth's relevant project examples:

USACE New York District, Harbor Deepening Project. USACE supervises an annual aquatic biological sampling program in New York and New Jersey Harbor to assess potential impacts of navigation channel improvements. The 10-year program has involved a variety of gear-types to sample shoal, berthing areas and channel habitat in harbor. Recent efforts have focused on collecting egg, larval, and adult winter flounder between to determine the utilization and significance of Harbor habitat designated as essential fish habitat for early life stages and to determine spawning areas and periodicity by analyzing the sex ratio of winter flounder adults. Ms. Csoboth's responsibilities include statistical analysis of data, technical writing, and preparation of annual reports. She is also the database manager for this project.

New York City Department of Parks and Recreation, Bronx River Oyster Restoration. The City of New York Department of Parks and Recreation Natural Resources Group (NRG) recently constructed artificial oyster reefs in the lower Bronx River to document the ecological role of reefs within an urbanized estuary. HDR has assisted in this effort by conducting a late summer/fall post-installation fisheries monitoring program. NRG's monitoring program also includes characterizing the benthic invertebrate community, development of the epifaunal/oyster spat, and sediment deposition within the project area. Ms. Csoboth has coordinated and participated in the field sampling effort, lab processing, data analysis, and technical writing of the monitoring report.

NYCDEP, Ecological Design Services for the Construction of Ecological Restoration Pilot Projects, New York, NY. Ms. Csoboth is the project manager for the planning, design, construction and monitoring of several innovative ecosystem demonstration projects within Jamaica Bay, including oyster reef construction, eelgrass transplants, ribbed mussel bed bio-filtration studies, and harvesting of nuisance macroalgae. The purpose of these "pilot" projects is to evaluate the feasibility of habitat restoration alternatives as a means of improving water quality and enhancing estuarine habitat in the Bay, which has experienced cultural eutrophication and direct

habitat degradation as a result of decades of human impacts, including nutrient and pollutant loadings for combined sewer overflows (CSOs).

NYCEDC, East River Waterfront Development Study, New York, NY. Ms. Csoboth assisted in post-project monitoring for the redevelopment of the shoreline, which includes assessing potential impacts to fish and invertebrate habitat that may result from constructing recreational and ferry piers at the project site. She also assisted with evaluating the finfish and invertebrate utilization of the structural marine habitat (i.e., reef balls) and evaluating sediment erosion and accretion patterns around the new in-water structures. Her responsibilities included field sampling, data and GIS analysis, and technical writing.

NYCDEP, Combined Sewer Overflow (CSO) Facility Plans, NY. Ms. Csoboth assisted in preparing the fish and aquatic life sections of waterbody/watershed facility plans for the East River and open water habitats of Upper and Lower New York bays. Ms. Csoboth was responsible for analyzing existing water quality and aquatic biological data in order to establish baseline data for use in NYC CSO facility planning. She assessed potential impacts to fish and invertebrate communities and habitats that may be the result of poor water quality.

USACE New York District, Comprehensive Restoration Plan for the Hudson-Raritan Estuary. HDR is assisting USACE in planning for and implement a restoration strategy for the Hudson-Raritan Estuary. Ms. Csoboth is assisting USACE to produce a Comprehensive Restoration Plan (CRP) and establish a strategy for successful restoration that can be holistically implemented in the estuary. The CRP incorporated stakeholder input, which refined the restoration strategy, and identified where Target Ecosystem Characteristics could be restored in the HRE through a GIS analysis of harborwide data. She also updated a Public Involvement Plan for the USACE to use when implementing the CRP.

New York City Department of Parks and Recreation (NYCDPR), PlaNYC Rockaway Beach Park, NY. NYCDPR proposes to redesign the Rockaway Beach Park, located in Far Rockaway, Queens. HDR is performing engineering, traffic, and environmental services for the project. Ms. Csoboth was an assistant project manager coordinating the environmental tasks. For these tasks, HDR assisted in developing an ecological strategy to guide the park reconstruction during early planning phases, which will minimize environmental impacts to at-risk beach habitats and endangered species and will facilitate the permitting process. HDR also prepared the Environmental Assessment Statement (EAS) for the proposed park reconstruction, following the City Environmental Quality Review (CEQR) format. The EAS included in-depth vegetation and seasonal wildlife sampling as well as a Phase I Environmental Site Assessment.

Neptune Regional Transmission System™ RTS. HDR is currently providing environmental permitting, planning, engineering design and environmental compliance services for development and construction of the Neptune Regional Transmission System (Neptune RTS), a 54-mile 600-MW high-voltage direct current (HVDC) submarine electric transmission cable between Sayreville, New Jersey and Hempstead, New York. Ms. Csoboth is assisting with the pre- and post-installation monitoring of shellfish and finfish to determine the possible impacts to these communities from the submarine cable installation. She has assisted with field sampling, data analysis, and technical writing.

David Davis

Project Role: *Essential Fish Habitat Studies Support*

Education
B.S., Biology 1988 / M.A, Journalism: Science & Environmental Reporting Program

Experience
Mr. Davis is an environmental scientist and project manager on the staff of HDR. He has more than 20 years experience in the biological monitoring and environmental assessment of estuarine habitat and coastal ecosystems. Mr. Davis has worked on a variety of navigation improvement projects for the U.S. Army Corps of Engineers – New York District (USACE-NYD) as well as other public and private sector programs relating to natural resource assessment, habitat enhancement/restoration, and permitting. His experience includes scientific report writing and technical editing responsibilities relating to NEPA, EA and EIS documents including essential fish habitat (EFH) assessments. The following are Mr. Davis's relevant project examples:

PANYNJ, Entrainment and Impingement, World Trade Center (WTC) Complex Cooling System Alternative Evaluation. Mr. Davis led a crew that conducted weekly ichthyoplankton sampling in the Hudson River as part of the continuing effort of PANYNJ to characterize the vertical distribution and diurnal variation of ichthyoplankton in the vicinity of the proposed intake location as currently conceptualized for the WTC site.

USACE New York District, Aquatic Biological Survey (ABS), Technical Coordination and Support for Winter Flounder EFH, NY. HDR is currently providing USACE-NYD with technical support, evaluations and expertise when coordinating with Federal and State regulatory/resource agencies in regards to winter flounder EFH. Mr. Davis is the Project Manager for the Aquatic Biological Survey program to assess the spatial and temporal distribution abundance of both early life stage (Ichthyoplankton Program) and adult (Bottom Trawl Program) winter flounder in NY Harbor. He oversees the field data collection program, data processing and analysis, and the preparation of a yearly draft and final program report. In addition, Mr. Davis has prepared and presented PowerPoint presentations relating to program results and EFH impacts at both scientific conferences and for resource agencies including the National Marine Fisheries Service.

USACE New York District, Near-Field Turbidity Pilot Study, Harborwide Water Quality/Total Suspended Solids (WQ/TSS) Monitoring & Silt Curtain Pilot Study, NY. HDR is currently assisting USACE-NYD with the assessment of potential impacts of navigational improvements in NY Harbor. One of the program's primary goals is to determine the effect of sediment disturbance from dredging on the overlying water column and near-shore aquatic communities. Mr. Davis is currently a member of the HDR technical team working on the design of a Silt Curtain Pilot Study to evaluate the effectiveness of a silt curtain at limiting the transport of dredging induced re-suspended sediment. In addition, Mr. Davis is in the final stages of completing a Total Suspended Solids (TSS) and turbidity pilot study that evaluated the use of dredge bucket and barge mounted turbidity sensors during monitoring of dredging operations in the Harbor.

Mr. Davis has worked closely with USACE-NYD and scientists from the U.S. Army Engineer Research and Development Center (ERDC) on developing the two pilot programs, conducting field operations, preparing draft and final reports, and responding to comments submitted by lawsuit settlement Plaintiffs. Mr. Davis has also worked with USACE in developing a Harborwide Water Quality/TSS monitoring program to assess suspended sediment plumes associated with both navigation dredging and deep-draft vessel traffic using a variety of techniques including the collection of TSS water samples and the tandem deployment of moored turbidity sensors and mobile Acoustic Doppler Current Profiler (ADCP) surveys.

Neptune Regional Transmission System, LLC, Sayreville, NJ/North Hempstead, NY. HDR has provided environmental permitting, planning, engineering design and environmental compliance services for the development and construction of a 600-MW high-voltage direct-current (HVDC) electric transmission cable between Sayreville, New Jersey and Hempstead, New York. Mr. Davis worked as a member of the technical team involved in the planning, execution and final report writing of the suspended sediment and water quality monitoring program associated with 51-mile long submarine portion of the installation. To meet the permit requirements, the monitoring effort involved the coordination of various sub-consultants and the execution of a 24-hour per day/seven day per week monitoring program that involved the collection of water samples and the use of optical (OBS) and acoustic (ADCP) surveying equipment. In addition, Mr. Davis worked on the data analysis and report writing associated with the pre- and post-installation surveys of benthic macro-invertebrate, shellfish, and fishery communities to determine the possible impacts from the submarine cable installation. Mr. Davis also coordinated with a sub-consultant on the final preparation and submittal of the as-built design drawings for the submarine project.

USACE New York District, Harbor Deepening Project (HDP), Newark Bay Study Area Environmental Assessment, NJ. Mr. Davis worked with USACE-NYD in the preparation and writing of an environmental assessment (EA) on the potential impacts of the HDP on the U.S. Environmental Protection Agency's Remedial Investigation/Feasibility Study (RI/FS) in the Newark Bay Study Area. Mandated by the Court and required as part of NEPA, the EA evaluates the impacts of the HDP on the RI/FS through particle transport modeling and surface sediment chemical analyses associated with the proposed action.

NYCEDC, West Harlem Waterfront Redevelopment Project, Hudson River, NY. Mr. Davis has worked extensively on this habitat enhancement program by developing and implementing a pre- and post-installation monitoring plan to evaluate finfish and invertebrate utilization of structural marine habitat (i.e. reef balls) installed at the Hudson River site. In addition to his field sampling responsibilities, his duties include writing reports and health and safety documentation as well as client and internal coordination, and the researching of grant opportunities for this award-winning (ACEC Gold Award) program.

Kathy Drury

Project Role: Field Inspections / Environmental Data Collection & Analysis

Education
B.S., Wildlife Biology, 1999

Experience
Ms. Drury is a project coordinator/senior field scientist at HDR. Within her more than ten years of service, she has worked on projects involving SPDES permit compliance, 316(b) studies, water quality monitoring, and waterfowl management, serving as project manager, project coordinator and field crew chief/scientist. The following projects represent Ms. Drury's experience:

PANYNJ, JFK International Airport, SPDES Water Quality Modeling & Monitoring, NY. Ms. Drury led the water quality monitoring field program at JFK Airport, in response to PANYNJ-JFK's SPDES permit – Special Condition 1. The monitoring of JFK's storm water outfalls aided in a water quality model that will determine whether deicing substances used at the airport during the winter and discharged into the surrounding water bodies has an effect on dissolved oxygen levels. Ms. Drury has been one of the key personnel conducting on-site sampling during winter storm events, investigating dry weather flows, collecting invert locations/depths using GPS, conducting continuous water quality monitoring in some outfalls and in Jamaica Bay, and documenting each outfall site with photos. Ms. Drury has also taken the role of project manager on many of this project's sub tasks.

PANYNJ, JFK International Airport, SPDES DMR & Special Condition 2 Compliance, NY. In support of PANYNJ-JFK's Environmental Services group, Ms. Drury has been responsible for the completion of monthly Discharge Monitoring Reports (DMR) and quarterly/annual reports for submission to NYS DEC, as required by their SPDES permit. Work included receiving and reviewing data from monthly monitoring at the airport, as well as deicing application data from the various airline tenants. Monthly data was reported to the NYSDEC via DMR forms. Deicing and storm data was compiled and reported in the annual Deicing Summary Report and the Summary of Sampling Events Report. Ms. Drury has acted as project manger on this project since 2008.

PANYNJ, JFK International Airport, SPDES Permit Renewal and Request for Information (RFI), Queens, NY. Ms. Drury conducted field monitoring in support of the NYSDEC's RFI in regards to storm water discharges during winter deicing events. Work included collecting samples at airport storm water outfalls during storm events, as well as recording basic water quality parameters.

PANYNJ, World Trade Center, Cooling Water Intake Study, Hudson River, NY. Ms. Drury was involved with ichthyoplankton surveys in the Hudson River for a baseline study to determine the potential impact on a proposed wedge wire screen intake for the World Trade Center. Samples were collected, preserved and returned to the HDR Nyack laboratory to be analyzed.

City of Newark, Department of Water & Sewer Utilities, Tier A Municipal Stormwater Discharge Permit & Pollution Prevention Plan, NJ. Ms. Drury worked as project coordinator and on the field crew that surveyed Newark's storm water outfalls within its separate sewer system areas throughout the city. The survey involved locating storm water outfalls, marking each outfall using GPS, recording dimensions and physical characteristics of each outfall, documenting with photos, and noting dry weather flow. When dry weather flow was noted, samples were collected and returned to the HDR Nanuet Lab for analysis. Ms. Drury also assisted in compiling all data collected in the field for the annual report.

Public Service Enterprise Group (PSEG), Baywide Program, Delaware Bay/River, Delaware. As part of this project conducted for PSEG, Ms. Drury served as captain and crew chief on bottom trawl, pelagic trawl and ichthyoplankton surveys throughout Delaware Bay and the lower reaches of the Delaware River. At each sampling site, samples were collected, fish species identified and measured to estimate fish populations, and water parameters recorded, including temperature, dissolved oxygen, salinity and conductivity. Ms. Drury has been Project Manager of this project since 2007.

New York City Department of Environmental Protection (NYCDEP), Waterfowl Management Program, New York City Reservoirs. For this project conducted for NYCDEP, Ms. Drury supervises coordinates and schedules field crews. She is responsible for checking all data and summarizing weekly data for presentation to the client. In the field, Ms. Drury records data including the enumeration and identification of all waterfowl present on the reservoir system. She is also responsible for the operation, training and maintenance of equipment and motorboats.

AES, New York Generating Stations 316(b) Studies, NY. Ms. Drury acted as crew chief on a number of surveys including hyrdoacoustics, bottom trawls, beach seines, ichthyoplankton tows, entrainment, and impingement studies conducted at four New York power plants. Surveys require collecting, identifying, and measuring fish species, as well as recording physical-chemical properties of water at study sites.

New York Power Authority, Charles Poletti Power Plant 316(b) Studies, NY. Ms. Drury worked on the field survey crew that sampled the Hudson River, NY Harbor, Lower Bay, East River and Long Island Sound. Various sampling techniques were used including fish traps for mark-recapture study, epibenthic ichthyoplankton sleds, tucker trawls and beam trawls. At each randomly selected site, water parameters were measured including temperature, dissolved oxygen and salinity.

Scott Englert

Project Role: Hydrogeology Support

Education
M.A., Hydrogeology, 1997 / B.A., Geology, 1993

Registrations/Certifications
OSHA HAZWOPER 40 Hour, Supervisor and 8 Hour Refresher

Experience
Mr. Englert is a hydrogeologist with HDR and has worked on numerous subsurface investigations and remedial activities. Mr. Englert has been involved in a number of drilling and subsurface investigation assignments as site geologist on a standby contract with New York State Department of Environmental Conservation (NYSDEC). In addition to the NYSDEC assignment, Mr. Englert has served as project geologist for a number of NYSOGS term contract and NYSDOT projects involving subsurface investigations of petroleum spills, groundwater and soil sampling associated with the spills, and evaluation and implementation of remedial measures. The following are Mr. Englert's relevant project examples:

NYSDOT, Stewart International Airport, Southern Landfill Investigation, Newburgh, NY. Mr. Englert conducted site investigation of landfill along the airport perimeter. Tasks included drilling program oversight for test borings and monitoring well installation as well as soil and groundwater sample collection and screening. He also coordinated test pit excavation and performed soil inspection/logging to characterize a portion of the landfill as well as performed in-situ hydrogeologic tests and interpreted data for several monitoring wells in the landfill area.

NYSDOT, Stewart International Airport, Tank Farm Closure, Newburgh, NY. Mr. Englert assisted in conducting a site investigation of a petroleum spill at a decommissioned jet fuel tank farm and an associated tanker truck-loading area. Tasks included drilling program oversight for test borings and monitoring well installation as well as soil and groundwater sample collection and screening. He also provided oversight for dismantling and closure of the tank and associated piping. In addition, Mr. Englert coordinated test pit excavation and performed soil inspection/logging during removal of fuel farm piping as well as providing oversight during remedial excavation activities.

NYSDEC, Standby Engineering Contract (D006129), Albertson Area Plume, Albertson, NY. Mr. Englert is project manager for the Albertson Area Plume track down site characterization which is being conducted on several properties south of the Albertson Water District supply well field. Professional services consist of work plan and health and safety plan development, providing bid assistance, and acting as technical advisor for field crews conducting various phases of the site characterization, including a geophysical survey, membrane interface probing, soil and groundwater probe sampling, and soil gas sampling. During and after completion of the site characterization field activities, Mr. Englert will conduct analytical quality assurance and quality control activities. He will assist with preparation of a site characterization report detailing the findings of the various sampling programs.

NYSDEC, Standby Engineering Contract (D006129), Former Artco Industrial Laundries, Rochester, NY. Mr. Englert is the project hydrogeologist assigned to this phased off-site RI in the vicinity of this former industrial laundry. Professional services include acting as a project hydrogeologist for a detailed off-site characterization program that consisted of a soil vapor intrusion investigation and pressure field extension testing on an existing depressurization system at surrounding properties, a large-scale overburden and bedrock well drilling program, which included the installation of a network of wells with multi-level screens, and a comprehensive groundwater sampling program. He also provides analytical quality assurance and quality control for sampling data. Mr. Englert assisted in development of the work plan and health and safety plan for the off-site RI and prepared a draft off-site RI report which was submitted to NYSDEC in December 2009.

NYSDEC, Standby Engineering Contract (D006129), Pappas Dry Cleaners, Dansville, NY. Mr. Englert is the project hydrogeologist for a soil boring and sampling program for a pre-design investigation (PDI) as part of a detailed design of comprehensive remedial actions for the former dry cleaner site. Professional services consisted of field coordination for the PDI, including acting as site contact for the lead-based paint and asbestos survey subcontractor and developing the health and safety plan for site activities. Mr. Englert also served as field geologist during the direct push probe sampling phase of the PDI, which was conducted to further delineate the extent of impacted soil and collect pre-excavation confirmatory samples, as well as providing analytical quality assurance and quality control support for data collected during the PDI.

NYSDEC, Standby Engineering Contract (D006129), New Cassel Industrial Area (NCIA), New Cassel, NY. Mr. Englert is a project hydrogeologist assigned to the remedial design project for a pump and treat system to address an off-site groundwater CVOC plume associated with NCIA. Project responsibilities include assisting in work plan and health and safety plan development for the PDI as part of a detailed design of comprehensive remedial actions for the project and preliminary site activities, Mr. Englert acted as technical advisor for field crews assigned to installing a pre-design groundwater level monitoring network at existing wells and assisted in field verification of proposed drilling locations. He provided analytical quality assurance and quality control for data collected during the PDI.

NYSOGS, Rome Maintenance Facility, Rome, NY. Mr. Englert assisted with subsurface investigation, including soil and groundwater sampling, at this petroleum spill site under a Term Contract with NYSOGS. He also supervised in-situ hydrogeologic testing to determine aquifer parameters at the site.

NYSOGS, Former Ogdensburg Barracks. Mr. Englert supervised subsurface characterization and conducted soil and water sampling under a NYSOGS Term Contract related to a petroleum spill at this site. Upon completion of the characterization phase Mr. Englert assisted in evaluating remedial alternatives for further action at the site.

NYSOGS, Catskill Barracks. Mr. Englert continued a subsurface investigation associated with a petroleum spill at this NYSOGS Term Contract site. Specific tasks included monitoring well installation and abandonment along with groundwater sampling from monitoring and supply wells on the site.

Jack Hecht, CWB

Project Role: Wetland Delineations Support / Threatened & Endangered Species

Education
M.S., Vertebrate Biology, 2004 / B.S., Wildlife Biology, 1971

Registrations/Certifications
Certified Wildlife Biologist; USFWS Approved Bog Turtle Surveyor in New York

Experience
As project biologist, Mr. Hecht is responsible for field surveys of vertebrates in conjunction with environmental impact statements (EIS) and environmental assessment statements (EAS) for resource and land use plans, including hydroelectric developments, waterfront developments, right-of-ways, wetlands, aquatic marine resources, and housing and industrial developments. Recent efforts have been directed toward studies on occurrence, distribution, and habitat requirements of endangered and threatened species, including timber rattlesnakes, northern cricket frogs, peregrine falcons, eastern wood rats, Indiana bats, tiger salamanders, bog turtles, and red-shouldered hawks. As project manager and/or biologist he has been responsible for preparing reports, permitting, and impact statements as required by Federal and state environmental laws and regulations (e.g., Endangered Species Act, National Environmental Policy Act [NEPA], State Environmental Quality Review Act [SEQRA]) and Section 7 consultations. Terrestrial, aquatic, and marine survey responsibilities include initial site setup, gear and net designs, sampling methodology, habitat suitability, data collection and analysis, reports, and budgets. The following are Mr. Hecht's relevant project examples:

PANYNJ, Port Jersey Wind Energy Project Avian Studies. Mr. Hecht is the project biologist for the assessment of potential impacts to birds and bats that may result from the construction of eight to twelve 1.5 MW turbines on the Port Jersey peninsula in the city of Bayonne, NJ. Consideration to the project's potential impacts to birds and bats is a requirement of the application process for a New Jersey Department of Environmental Protection (NJDEP) Waterfront Development Permit. HDR is assisting the PANYNJ to negotiate a pre-construction avian monitoring plan for the project with the NJDEP, and conducting wildlife surveys on the site to determine the sites usage by birds for migratory stopover habitat, breeding and foraging habitat, and overwintering habitat. Many threatened and/or endangered species (TES) are known to use the habitats along the shoreline of the peninsula, and eleven TES species have been observed by HDR on the site.

PANYNJ, Bayonne Bridge Environmental Screening and Alternatives Analysis. In preparation for the potential for post-Panamax vessels to call on the Port of New York & New Jersey, the PANYNJ is evaluating alternative scenarios that would allow these vessels to navigate through the Kill van Kull to reach the container terminals at Port Newark and Port Elizabeth in New Jersey and Howland Hook in New York. Mr. Hecht is assessing potential constraints to the project permitting due to existing ecological communities, wetlands, wildlife, and ETS.

PANYNJ, Howland Hook Marine Terminal Eastbound Ramp Configurations Alternatives Analysis. Mr. Hecht assisted in an Alternatives Analysis for two eastbound ramp configurations for access to the Howland Hook Marine Terminal from the Goethals Bridge.

PANYNJ, Goethals Bridge Replacement Environmental Impact Statement. Mr. Hecht is project biologist for ETS and wildlife studies to complete the NEPA requirements for the replacement of the Goethals Bridge, which connects northwestern Staten Island, NY to Elizabeth, NJ. Evaluating potential project related impacts to the natural resources on the project site, and preparing portions of the natural resources section of the environmental impact statement. Of particular concern for the project is that the bridge spans across an expansive salt marsh which provides habitat for several species of wading birds that nest on nearby islands. The peregrine falcon nested on the Goethals Bridge.

PANYNJ, Comprehensive Port Improvement Project (CPIP). Mr. Hecht conducted surveys for ETS and other wildlife at seven port facilities. Results of site surveys were included in the existing environmental inventory report.

PANYNJ, Staten Island Bridges. Mr. Hecht was Project Biologist for wildlife studies for the assessment of environmental impacts of the proposed Staten Island Bridge Project expansion (a parallel crossing of the Arthur Kill between Staten Island, New York, and Elizabeth, New Jersey), which was done for the Port Authority of New York and New Jersey; Brookhaven National Laboratory (sitewide wildlife inventory of the 5000-acre site); and Sterling Forest Corporation (draft EIS preparation and threatened and endangered species surveys on 18,000 acres). He was project biologist for New York State Department of Environmental Conservation (NYSDEC) striped bass collections in the lower Hudson River and for Brayton Point entrainment survival studies. He was also project biologist for the Thruway Authority Ferry Project linking Rockland County with Manhattan that included Section 7 consultations and permitting. Mr. Hecht was on the NYSDEC Threatened and Endangered Species working group.

NYSDOT, Former Military Defense Site Environmental Assessment & Design Services, Stewart Int'l Airport, Newburgh, NY (Ongoing). Mr. Hecht conducted a subsurface soil delineation investigation at a former military fuel farm as part of an ongoing remedial investigation at this portion of the project site. Soil samples were collected and examined & screened with field instrumentation in the field to determine the vertical and horizontal extent of smear-zone contamination in this area. Samples were also processed and submitted to a contract laboratory for analysis of the contaminants of concern to provide confirmatory data. Based on the results of this investigation a remedial excavation work plan was prepared and potential "hot spot" or source areas of contaminated soils were removed.

Sterling Forest Corp. LLC, Environmental Studies, NY. Mr. Hecht surveyed red-shouldered and Cooper's hawks using playback recordings. Habitat assessments and systematic searches for timber rattlesnakes using suitable habitats were conducted. Radio-telemetry studies were conducted to monitor the movements and habitat use of seven rattlesnakes with surgically implanted transmitters and 20 with external (taped on) transmitters. Several reports were prepared consisting of habitat assessments, movements, home range, habitat selection, movements, and assessments on potential project related impacts on rattlesnakes and their habitat.

Marc Korpus

Project Role: GIS

Education
B.E., Electrical Engineering, 1991 / M.E., Environmental Engineering, 1993

Experience
Mr. Korpus is a geographic information systems (GIS) analyst, providing professional GIS support for environmental science, water and wastewater, and general engineering services at HDR, together with consultation, training and trouble-shooting for other GIS users. Mr. Korpus has eight years experience in the compilation, organization, and creation of geographic data, spatial analysis, and map creation in support of a broad range of activities, including urban mass transit and highway planning and construction, military base maintenance, urban and watershed planning, environmental baseline and impact analysis and open space acquisition. Mr. Korpus' technical capabilities include advanced use of ESRI's suite of GIS software products, including ArcGIS, ArcIMS, and ArcSDE, model building and scripting using Visual Basic, importation and use of CADD data into the GIS environment, spatial analysis, deployment of ArcIMS map services using XML, metadata creation under FGDC standards, geographic database creation under SDSFIE, GIS quality control methods, and integration of GIS with Access and SQL Server databases. The following are Mr. Korpus' relevant project examples:

PANYNJ, Bayonne Bridge Feasibility Study to Increase Navigational Clearance, New York, NY. Mr. Korpus provided an extensive series of maps illustrating the potential impact on the human and physical environment of several alternative designs for replacement or modification of the Bayonne Bridge. This effort required compilation and reconciliation of geographic data from federal, New Jersey, New York State and municipal source and translation of design data into GIS format.

PANYNJ, Water Quality Modeling and Monitoring, John F. Kennedy International Airport. As GIS analyst using ArcGIS tools and map algebra methods, Mr. Korpus has converted airport storm water system CADD data to GIS framework, created airport-wide land use/land cover layer, provided elevation/landform analysis, and provided a three-dimensional GIS depiction of Jamaica Bay to support modeling and monitoring of runoff of de-icing chemicals from airfield to bay.

Evergreen Environmental, LLC, Hackensack River Mitigation Bank, Ridgefield, NJ. As primary GIS analyst in connection with the environmental investigation and design of a wetland mitigation bank within the New Jersey Meadowlands, Mr. Korpus was responsible for managing the importation of design, survey and sampling data, compiling and mapping public GIS themes across a broad spectrum and accurate determination of estimated available mitigation credits using GIS analytical tools.

New York City Department of Transportation, Design Services for Bus Rapid Transit Line (1st and 2nd Avenues), New York, NY. *Mr. Korpus planned and implemented an innovative* method for creating a complete GIS representation of curbside parking signs and parking

regulations along these heavily travelled Manhattan thoroughfares. The GIS will be used in planning and designing a new rapid travel bus route along the corridor.

Norfolk Southern Corporation, Capital Region Intermodal Facility, Mechanicville, NY. As principal GIS analyst for environmental review and permitting for this major rail facility development, Mr. Korpus has been responsible for compilation of public geographic data, wetland, watershed, and streamflow analysis, interpretation and mapping of field-collected GPS data and property impact analysis.

NYCEDC, Stormwater Best Management Practices, New York, NY. Mr. Korpus has assisted the Mayor's Office of Long Term Planning and Sustainability in measuring the potential impact, citywide and by watershed of policies to encourage best management practices to capture and detain excess stormwater flows, such as permeable sidewalks and streets and green roofs. Mr.Korpus used GIS analysis to identify potential (citywide) potential locations for roadside drainage swales and parkside sidewalks that could be replaced with permeable paving.

New York City Department of Parks & Recreation, Rockaway Beach Park. Mr. Korpus provides GIS support for urban planning and environmental analysis of this coastal urban park restoration project by compiling geographic data from multiple sources at different scales to create a picture of beachfront erosion, ecological and urban land use impact, and flood potential.

United Water of New Jersey, Princeton Meadows I & I Study, Plainsboro, NJ. Using ArcInfo geocoding tools and database queries executed in Microsoft Access, Mr. Korpus related water supply customer listings in spreadsheet form to geographic location to provide a depiction of freshwater supply flows throughout a municipal water service area.

New Jersey Transit Authority, River Line and Hudson-Bergen Light Rail Line. Using ArcGIS methods, including geodatabase annotation, Mr. Korpus provided map books consisting of hundreds of sheets for compliance with New Jersey notice filing requirements. The maps created by Mr. Korpus depicted environmental conditions along the routes of two newly constructed light rail transit systems.

Washington Metropolitan Area Transit Authority, Extension to Dulles International Airport, Fairfax and Loudoun Counties, Virginia. Working with software engineers, Mr. Korpus assembled a unified thematic geographic database from state, county, and federal sources and developed an ArcIMS/ArcSDE implementation to provide an interactive map module for a custom-built community relations and planning application. The resulting product was used by the consortium in building a 22-mile extension to the Washington Metro in northern Virginia.

Northeast Maryland Waste Disposal Authority, Force Main Location Study, Joppatowne, MD. As GIS analyst, Mr. Korpus developed contacts with state and local officials for data acquisition, integrated public and public data into a consistent geographic data structure, and used ArcInfo GIS analytical tools to provide measurements of the potential impacts and advantages of potential different routes for a proposed underground force main against ecological, human environment, cost, and other criteria.

Michael Lehtinen, PG

Project Role: Hydrogeology / Modeling

Education
M.S., Hydrogeology, 1991 / B.S., Environmental Sciences, 1987

Registrations/Certifications
Professional Geologist (PA); Environmental Professional (CT); American Red Cross Workplace Training First Aid and CPR; OSHA HAZWOPER 40 hour, Supervisor and 8 hour refresher

Experience
Mr. Lehtinen is a Senior Hydrogeologist responsible for project management and technical oversight of various projects for government and private clients. Specific areas of technical expertise include spill site investigations, tank closures, subsurface investigations, groundwater flow modeling, evaluation of remedial options, and remedial design/construction, and operation, maintenance and monitoring (OM&M) at hazardous waste and petroleum spills sites. The following are Mr. Lehtinen's relevant project examples:

USACE KC District/USEPA Region 2 IDC, Imperial Oil Superfund Site, Monmouth County, NJ. Support for the Remedial Design and Remedial Action for Operable Unit 3 at the Imperial Oil/Champion Chemical Superfund Site – specific tasks assigned and completed by Mr. Lehtinen include evaluation of existing remedial design and groundwater flow model, estimating dewatering requirements, evaluation of remedial options for floating product, development of the scope and costs to complete the geotechnical investigation to aid in the evaluation of the most appropriate excavation support and hydraulic barrier design. Mr. Lehtinen also oversaw the project field personnel and subcontractors, reviewed the DQCRs, and completed a FQCA during the geotechnical investigation field activities. The geotechnical investigation included a subsurface exploration consisting of 10 deep soil borings with associated soils testing and analysis for the hydraulic barrier design.

NYSDEC, Standby State Superfund Contract (D006129), Various Work Assignments, Statewide, NY. Under the direction of the Contract Manager, Mr. Lehtinen serves as the Program Manager for the current HDR Standby Engineering Contract. In this role, Mr. Lehtinen provides hands-on, day-to-day project monitoring, program management, and project manager mentoring for all work assignments. He is also the project manager for the first assignment, Artco Industrial Laundries RI in Rochester, NY. Mr. Lehtinen directed the development of the Field Activities Plan (FAP), Quality Assurance Plan (QAP), and Health and Safety Plan (HASP). The work includes preparation of the 2.11 Schedule, project scoping, subcontractor procurement, and M/WBE utilization plans for each assignment. Mr. Lehtinen continuously monitors the scope of work to ensure it is in accordance with the approved scope and contract terms. He monitors approved work assignment budgets and expenditures, and directs the preparation of a monthly report to the NYSDEC, preparation of monthly Consultant Application for Payment (CAPs), and M/WBE utilization reports.

NYSOGS, Environmental Remediation Term Contract (S9488 & S2447), Various Sites, Statewide, NY. Mr. Lehtinen was the Program Manager for two recently completed NYSOGS

environmental remediation and project management term contracts to provide New York State with cost-effective environmental cleanup and professional services related to petroleum bulk storage and petroleum spills. The contracts included work orders for a variety of NYSOGS client agencies, including NYSDEC, NYSDOT, OMH, DSP, SUNY, and DCS at various State-owned facilities. The work included: tank closures/installations, petroleum spill investigations and reporting, environmental sampling/analysis, evaluation of remedial options, preparation of corrective action plans, remedial design, OM&M, SPCC plans, and negotiations with various regulatory agencies on behalf of NYSOGS clients. Mr. Lehtinen built and executed effective systems for program management, scoping, planning, technical quality control, project costing, reporting, deliverable review, invoicing, and contract compliance.

NYSDOT, Term Agreement Assignments. Mr. Lehtinen has also worked on various NYSDOT term agreement assignments primarily serving as project manager on a number of small assignments and as project hydrogeologist where detailed or complex groundwater assessments were needed. Specific projects include the Farragut Service Station where Mr. Lehtinen assisted in the design and installation of the groundwater recovery trench, the Taconic State Parkway Bryant Pond Road site investigation (on-going) and the Route 27 Drainage Improvement Project in Babylon, New York. This project included issues associated with contaminated soils at the site and a study of the interactions of the basin with the groundwater under various seasonal and storm conditions.

NYSDOT, Harrison Sub-Residency Remediation, Harrison, NY. Mr. Lehtinen assisted in the development and oversight of the subsurface and hydrogeologic investigation. He also examined contaminant fate and transport at the site, specifically the potential that the sites groundwater contamination might impact the nearby Kensico Reservoir.

NYSDEC, Mohonk Road Industrial Plant, Standby State Superfund Contract (D002676), High Falls, NY. Mr. Lehtinen served as project manager for the Preliminary Site Assessment (PSA) and task manager for the RI/FS at the Mohonk Road Industrial Plant site. The PSA included sampling various environmental media to locate the source of contamination. An accelerated site assessment with on-site analysis located several source areas that were subsequently characterized during the RI. The RI included installation and sampling of bedrock monitoring wells, sampling of residential wells, and sampling of surface water bodies in the area. A detailed groundwater investigation was conducted during the RI and included a geophysical study, two long-term aquifer tests, and a groundwater flow model. A large number of private residents were impacted by this chlorinated solvent contamination, resulting in the site being added to the National Priorities List (NPL) and the U.S. Environmental Protection Agency (EPA) assuming the primary role in addressing this site.

Lehigh Valley Industrial Park, Bethlehem Steel Brownfields Redevelopment, Bethlehem, PA. Mr. Lehtinen serves in an advisory role in the assessment of contaminant fate and transport at this site. Specific tasks include review of the previous groundwater and contaminant transport modeling conducted at the site and assisting the team in assembling a comprehensive site database including subsurface/lithological data for future fate and transport modeling.

Scott Lowe, PhD, PE

Project Role: Water Quality Studies Support / Modeling

Education
Ph.D., University of Wollongong, 1990/ B.E., Civil Engineering, University of Wollongong, 1986

Registrations/Certifications
Professional Engineer (NY)

Experience
Dr. Lowe is a senior project manager at HDR. His areas of expertise include hydrodynamic/hydraulic modeling, water quality modeling, watershed modeling, air quality modeling and treatment plant process modeling. Dr. Lowe has taught a two day course on Water Quality Modeling for the American Society of Civil Engineers throughout the country. Additionally Dr. Lowe is an Associate Professor in the Civil & Environmental Engineering Department at Manhattan College where he teaches courses at the Graduate and Undergraduate level. The following are Dr. Lowe's relevant project examples:

PANYNJ, SPDES Permit Modification, JFK Airport. Dr. Lowe is working on the SPDES renewal for JFK Airport in Queens, NY. This project includes extensive analysis of the JFK stormwater collection system, storm event sampling and receiving water quality monitoring in Jamaica Bay. Additionally a three dimensional hydrodynamic and water quality model of Jamaica Bay will be developed using the MIKE FM model. This model will be used to predict water quality impacts under projected worst case scenarios.

PANYNJ, Jamaica Bay Hydrodynamic and Water Quality Model. Dr. Lowe is currently leading a team that developed a three dimensional hydrodynamic and water quality model of Jamaica Bay, NY. The model was developed using the unstructured, flexible mesh (FM) version of the DHI MIKE modeling platform. The model is being used to examine the effect of storm water discharges from JFK Airport.

PANYNJ, CFD World Trade Center Cooling Water Intake and Discharge Analysis. Detailed three dimensional hydrodynamic and thermal CFD modeling was done to assess the design of the cooling water intake and discharge system for the new World Trade Center Complex. The model was calibrated using HDR|LMS field survey data. The model domain extended 2000 feet North and South of the entrance to North Cove and approximately 500 feet out into the Hudson River.

PANYNJ, Newark Bay Sediment Balance. Dr. Lowe was the Project Manager of a study to determine a sediment balance of Newark Bay. This work included determining the amount of additional sediment accumulation that would occur in the navigation channels and berth areas after dredging operations had increased the channel depths to 53'. Both external and internal sediment balances were completed. The three-dimensional model of the Harbor developed by HDR for the U.S. Corps of Engineers was also utilized.

United Water NY/NJ, Hudson River Hydrodynamic Model. Dr. Lowe helped develop a three dimensional hydrodynamic model of the Hudson River in NY. The model used was MIKE FM. The model was developed to assist in the siting of the intake and discharge locations for a desalination plant. The model extended from the Battery near the tip of Manhattan, to the Federal Dam at Troy, just past Albany.

New York Power Authority, Poletti Power Project Thermal Discharge Analysis. Dr. Lowe was the Project Manager of a study to determine whether the thermal discharge from the Charles Poletti Power Project would meet the SPDES requirements. The study used the flexible mesh version of the MIKE 3 hydrodynamic model. The model was calibrated to field data and then run for worst case conditions to show permit compliance.

USACE NY District, NY-NJ Harbor Navigation Study. Dr. Lowe was the technical lead on the development on the water quality sections of a three-dimensional hydrodynamic and water quality/sediment transport model of New York Harbor. This model includes over 225,000 computational cells with a domain extending up the Hudson River to the Federal dam at Troy in the North, down to Atlantic City in the South, and the end of Long Island Sound in the East. This model has since been used on various projects, including evaluating the water quality effects of dredging operations, navigational channel deepening and evaluating sediment and turbidity plumes from marine cable laying operations.

USACE, Kill Van Kull Hydrodynamic Analysis. Dr. Lowe used the existing MIKE 3 hydrodynamic model of NY-NJ Harbor to develop particle tracking of particles released in the vicinity of Kill Van Kull. The particles were used to represent sensitive organisms that spawn in the shallows adjacent to KVK. The model showed how the organisms would move over several tidal cycles in the vicinity of KVK and the Narrows.

United Water New York, Lake DeForest Reservoir, Hackensack River SWMM Model. Dr. Lowe developed a SWMM model of the upper portion of the Hackensack River from the Lake DeForest Reservoir to the USGS gauging station in Rockland County. The model was used to determine travel times of releases from the reservoir to the USGS gage.

NYCDEP, Sediment Transport Modeling in Flushing Bay. Dr. Lowe was part of a team that conducted sediment deposition and transport modeling of Flushing Bay, Queens, for NYCDEP as part of Flushing Bay CSO study. Dr. Lowe evaluated the HDR three-dimensional finite element model results to determine areas of potential deposition or scour. These areas were mapped temporally and spatially through numerous tidal cycles. This information was used to determine projected impacts of dredging portions of the inner bay.

NYCEDC, CFD Modeling of Lower East River Shoreline and Piers. Dr. Lowe was responsible for the development and application of a CFD model of the Lower East River. As part of plans for the redevelopment of Lower Eastside of Manhattan, comprehensive hydrodynamic and sediment transport analysis was completed to evaluate the effect of alternative piling and caisson arrangement on the local marine environment. Computational fluid dynamics (CFD) models were made of a two mile section of the East River. These models included over 6000 piles in the existing piers and contained 400,000 computational cells.

Michael Musso, PE

Project Role: Public Health Risk Support

Education
M.P.H, Environmental Health Sciences, 2007 / M.S., Environmental Engineering, 1996
B.S., Civil Engineering, 1991

Registrations/Certifications
Professional Engineer (NY); MCACES, 2nd Generation (MII) Basic Training (3-Day course given by Project Time & Cost, Inc.) November 2008; OSHA HAZWOPER 40 hour, Supervisor and 8 hour refresher; NJ UST Subsurface; 5-day Short Course: Hierarchical/Multi-objective Approach in Water Resources Planning and Management

Experience
Mr. Musso is a civil/environmental engineer with over 15 years experience in environmental engineering, consulting, and regulatory compliance. He has had hands-on experience with chemical and hazardous and solid waste management operations at industrial facilities. He has a working knowledge of toxicological and public health aspects of chemical development and use, along with an understanding of applicable state and Federal regulations. He is experienced in conducting human health risk assessments and exposure analyses. Mr. Musso is very familiar with the development and oversight of health and safety programs, and he has much knowledge in field procedures and environmental monitoring activities.

Mr. Musso performed baseline human health risk assessments and exposure pathway analyses for industrial, landfill, and proposed re-development sites. He reviewed and statistically analyzed data from several environmental media. Mr. Musso researched toxicological profiles (carcinogenic and noncarcinogenic effects) for numerous contaminants, and evaluated exposure scenarios for different environmental medial at various sites (including fish ingestion and contact with surface waters during recreation). He characterized levels of risks for various human receptors in current and future use scenarios. The following are Mr. Musso's relevant project examples:

NYSDEC, New Cassel Industrial Area, Long Island, NY. Mr. Musso prepared qualitative human health exposure pathway analyses under NYSDEC review. These analyses consisted of identifying site-specific contaminants of concern and potential exposure points for human receptors (direct contact, drinking water). He developed remedial investigation/feasibility studies (RI/FSs), including conceptual designs of soil, dry well, and groundwater remediation systems, cost estimates, data analyses, and reports. Remedial alternatives that were identified and assessed (based on feasibility, cost, and other CERCLA parameters) included: Soils- excavation + off-site disposal; soil vapor extraction (SVE); monitored natural attenuation (MNA); Groundwater – air stripping/soil vapor extraction (AS/SVE); In-Well circulation/vapor stripping systems (emerging technology); pump and treat with activated carbon, and MNA.

USEPA Region 2 RAC, Gowanus Canal RI/FS, Brooklyn, NY. Mr. Musso is currently serving as HDR's PM for the Remedial Investigation/Feasibility Study (RI/FS) for the Gowanus Canal Proposed Superfund Site under the Region 2 Remedial Action Contract. The Gowanus Canal is a 1.8 mile controlled waterway that has been the receiving water of centuries of

industrial, stormwater, and combined sewer overflow (CSO) pollution. Mr. Musso will also prepare the human health and ecological risk assessments, draft RI and FS and final RI and FS report documents. HDR will continue to participate in the public outreach activities and stakeholder coordination. This project is on-going and the FS is anticipated to be completed near the end of 2011.

USEPA Region 2 RAC, Peninsula Boulevard RI/FS, Nassau County, NY. Mr. Musso is serving as task leader for USEPA Region 2 RAC assignments, including the Governors Canal proposed Superfund site in Brooklyn and the Peninsula Boulevard Groundwater Plume Superfund Site in Nassau County, NY. Mr. Musso is involved in human health risk assessment, community involvement and review of field activities. For the Governors Canal site, Mr. Musso is involved with developing work plans and costs for various RI activities, including data gap analysis and sediment coring. For the Peninsula Boulevard site, Mr. Musso is reviewing alternate groundwater sampling approaches, such as multilevel wells and continuous multi-tunnel tubing (CMT) wells. Mr. Musso is involved with HHRA and EPA coordination on the RAC assignments.

Sullivan International, Site 32 HHRA, Treasure Island, San Francisco, CA. Performed baseline human health risk assessments and exposure pathway analyses for this former U.S. Navy site in compliance with Navy, State (OEPA) and USEPA requirements (RAGS). The work was conducted on behalf of the U.S. Navy for an approximate 4.5 acre parcel ("Site 32") on Treasure Island (former Naval Base located in San Francisco, California). Mr. Musso evaluated exposure scenarios for adult and child residents along with commercial/industrial workers and construction workers for different environmental media. He characterized levels of cancer/non-cancer risks for all identified human receptors in current and future land use scenarios. Dermal, ingestion, and inhalation pathways were evaluated. Inhalation pathway assessments including the implementation of vapor intrusion and open trench volatilization models. Mr. Musso also conducted the overall uncertainty analysis for this HHRA. The TI Site 32 risk assessment work will be used in the ultimate remedy selection process for appropriate risk management at the site.

Town of Salina/NYSDEC, Salina Landfill Risk Assessment, Salina, NY. Mr. Musso performed the baseline human health risk assessment and exposure pathway analyses for this site in compliance with State and USEPA requirements. Tasks included the appropriate exposure/risk assessment scoping with NYSDEC and USEPA case managers at the initiation of the project to determine level-of-effort. Reviewed and statistically analyzed data from several environmental media, while comparing chemical concentrations to project-specific criteria and standards (e.g., soil and shallow sediment values were assessed against NYS RSCOs, EPA Region 3 SSLs/RBCs, and EPA Region 9 PRGs). Researched EPA IRIS and ATSDR toxicological profiles (carcinogenic and noncarcinogenic effects) for all contaminants of concern, identifying the appropriate RfD and CSF for each chemical of interest across different exposure routes (dermal/incidental ingestion vs. inhalation). Mr. Musso evaluated exposure scenarios for adult and children for different environmental media by developing exposure concentrations, frequencies, and durations. He also characterized levels of risks for receptors in current and future land use scenarios. Results of the risk assessment were incorporated into the feasibility study and ultimate remedy selection process for appropriate risk management.

Stephen Niero

Project Role: Field Inspections / Environmental Data Collection & Analysis

Education
B.S., Biology, 1999

Experience
Mr. Niero is an Environmental Scientist with more than 10 years experience at HDR. Mr. Niero has extensive experience as a crew chief and crew member on numerous field projects. In addition, Mr. Niero is in charge of the Environmental Measurements chemistry lab conducting analyses on water samples for a number of water quality parameters. Mr. Niero's duties as field crew chief include overseeing field crews during fish impingement, entrainment and ichthyoplankton sampling, intake screen survival studies, trawling, gill net and trap net sampling, fish tagging, water velocity studies and water quality collections, overseeing the collection of macroinvertebrate samples using ponar and Smith McIntyre dredges, placement and retrieval of multiplate samplers (i.e., Hester Dendy Multiplate samplers). The following projects represent Mr. Niero's experience:

PANYNJ, JFK International Airport, SPDES Water Quality Modeling & Monitoring, NY. Mr. Niero has played a role in the water quality monitoring at JFK Airport, in response to PANYNJ-JFK's SPDES permit – Special Condition 1. The monitoring of JFK's storm water outfalls aided in a water quality model that will determine whether deicing substances used at the airport during the winter and discharged into the surrounding water bodies has an effect on dissolved oxygen levels. Mr. Niero has been one of the key personnel conducting on-site sampling during winter storm events, investigating dry weather flows, collecting invert locations/depths using GPS, conducting continuous water quality monitoring in some outfalls and in Jamaica Bay, and documenting each outfall site with photos. Ms. Drury has also taken the role of project manager on many of this project's sub tasks.

PANYNJ, World Trade Center, Cooling Water Intake Study, Hudson River, NY. Mr. Niero was involved with ichthyoplankton surveys in the Hudson River for a baseline study to determine the potential impact on a proposed wedge wire screen intake for the World Trade Center. Samples were collected, preserved and returned to the laboratory in Nyack to be analyzed.

USACE New York District, Harbor Deepening, New York. For the past 10 years, Mr. Niero has conducted field bottom trawl and ichthyoplankton collection as well as laboratory ichthyoplankton identification for the Aquatic Biological Survey for the United States Army Corps of Engineers' New York/New Jersey Harbor Program.

City of Newark, Department of Water & Sewer Utilities, Tier A Municipal Stormwater Discharge Permit & Pollution Prevention Plan, NJ. Mr. Niero worked as project coordinator and on the field crew that surveyed Newark's storm water outfalls within its separate sewer system areas throughout the city. The survey involved locating storm water outfalls, marking

each outfall using GPS, recording dimensions and physical characteristics of each outfall, documenting with photos, and noting dry weather flow. When dry weather flow was noted, samples were collected and returned to the HDR Nanuet Lab for analysis. Mr. Niero also assisted in compiling all data collected in the field for the annual report.

Mirant Lovett CAMF Part 360 Post Closure Monitoring Project at the Lovett Generating Station. Groundwater Monitoring Well Sampling and Reporting Project; Monthly Inspections for the CAMF; Monthly Data collection and reporting for leachate volumes and rainfall; Retention basin release, sampling and reporting for the CAMF SPDES project.

Bethlehem Energy Center (formerly the Albany Steam Generating Station), Entrainment and Hudson River Ichthyoplankton Monitoring Program. Mr. Niero conducted weekly sampling included 24-hr entrainment samples to determine diel occurrence patterns for dominant ichthyoplankton species and life stages, including river herring, American shad, striped bass and white perch; as well as source-water sampling (bottom trawls and ichthyoplankton tows) to determine spatial ichthyoplankton distributions upstream, downstream and in the immediate vicinity of the cooling-water intake.

NYCDEP, Kensico Waterfowl Management Program, Kensico Reservoir. Field/Wildlife Technician for the Kensico Waterfowl Management Program. Responsibilities included bird identification, enumeration, hazing and data collection and recording. Has conducted water side (boat) activities and land circuits associated with all aspects of the WMP program. In addition, participated on As Needed field efforts at the Rondout Reservoir in Ellenville, NY and the Hillview Reservoirs in Yonkers, NY.

Keyspan Far Rockaway and Ravenswood Entrainment Programs. Laboratory ichthyoplankton identification for the Keyspan Far Rockaway and Ravenswood Entrainment Programs.

WISVEST *Connecticut*, LLC. *Entrainment, impingement, harbor ichthyoplankton, return* effectiveness evaluation and survival study sampling surveys at the WISVEST Connecticut, LLC. Marine Biological Monitoring Services New Haven Harbor.

Conectiv Edge Moor Power Plant, Entrainment & Impingement Sampling, Delaware River. Entrainment and impingement sampling and return effectiveness evaluation surveys at the Conectiv Edge Moor Power Plant on the Delaware River.

NYPA, Ichthyoplankton Collection Charles P. Poletti Power Plant, New York Harbor. Field tucker trawl and ichthyoplankton collection for the New York Power Authority's Charles P. Poletti Power Plant in New York Harbor and Long Island Sound.

NYSDEC, Hudson River Estuary Black Bass Study. Field tag and release work as well as tournament fish monitoring for the New York State Department of Environmental Conservation's Hudson River Estuary Black Bass Study.

Patricia Parvis, LSRP

Project Role: Environmental Assessments Support

Education
M.S., Environmental Studies, 1994 / B.F.A., Fine Arts, 1985

Registrations/Certifications
Licensed Site Remediation Professional (LSRP), NJDEP, June 2010; Subsurface Evaluator and Cleanup Star, New Jersey Dept. of Environmental Protection, 2002 and 2005; New York State Certified Asbestos Inspector, 2001

Experience
Ms. Parvis is a Senior Project Manager with 16 years experience. Ms. Parvis has worked on projects in the Brownfield and Voluntary Cleanup Programs in both New Jersey and New York, and in Pennsylvania's Act 2 program. Ms. Parvis is proficient in performing permitting, Phase I and Phase II Environmental Site Assessments, petroleum spill investigation/remediation, underground storage tank (UST) closure and removal oversight, and coordination with regulatory agencies (USEPA, NJDEP, NYSDEC, PADEP, and local health departments). The following are Ms. Parvis' relevant project examples:

PANYNJ, Newark Liberty International Airport/JFK International Airport, Newark, NJ. Ms. Parvis completed the Spill Prevention Control and Countermeasure Plans (SPCC) for Newark Liberty International Airport, Newark, New Jersey and John F. Kennedy International Airport, Queens, NY. She performed all of the field work and report preparation, and coordinated with PANYNJ site representatives.

PANYNJ, (GATX) Critical Review and Use Assessment Due Diligence Investigation, Staten Island, NY. Ms. Parvis managed a team of senior technical experts to assist PANYNJ in a potential acquisition of over 600 acres of waterfront property in Staten Island. Ms. Parvis also prepared the real estate/easements section of the report incorporating research of over 100 historic and current utility easements.

PANYNJ, Remedial Action and Report, Former Olympia Trails Bus Depot, Elizabeth, NJ. Ms. Parvis was the Project Manager for engineering services during remedial construction and also prepared the remedial action report being conducted under the purview of NJDEP.

PANYNJ, UST Closure and Report, Newark Airport Building 94, Newark, NJ. Ms. Parvis was the Project Manager for UST closure oversight, post-excavation sampling and reporting for UST removal. Work was conducted under the purview of NJDEP.

PANYNJ, Pier 7 Gasoline Spill Investigation, Brooklyn, NY. Ms. Parvis assisted PANYNJ with a continued investigation of a gasoline spill at Pier 7. As Project Manager, Ms. Parvis wrote the scope of work, supervised field personnel and reviewed the final report on the investigation results.

PANYNJ, Remedial Investigations and Remedial Actions, George Washington Bridge, Lincoln Tunnel and Holland Tunnel Sites, NJ. Ms. Parvis was the Project Manager assisting the PANYNJ in obtaining closure for open remedial cases at these three bridge and tunnel facilities.

PANYNJ, Former Allied Signal Property, Site Investigation, Elizabeth, NJ. Ms. Parvis participated as technical reviewer in the assessment of the former Allied Signal property in Elizabeth, New Jersey for PANYNJ. She reviewed approximately 10 years of remedial investigation work performed by other consultants and incorporated this review into recently obtained sampling data in order to provide a summary overview and recommendations relative to property conditions for PANYNJ.

PANYNJ, Comprehensive Port Improvement Plan Environmental Impact Statement, NY/NJ Harbor. Ms. Parvis participated in the preparation of draft scoping documents, public outreach materials, hazardous materials existing conditions, and coordinated GIS work between the prime consultants for a NEPA Environmental Impact Statement; the Comprehensive Port Improvement Plan, for PANYNJ.

NYCEDC, Brooklyn Piers 7-12 Hazardous Materials Assessment - Environmental Impact Statement, Brooklyn, NY. As part of the preparation of the hazardous materials chapter of an EIS, Ms. Parvis managed the preparation of Phase I and Phase II Environmental Site Assessments for acquisition of 120+ acres of waterfront property by the City of New York. The Phase II included the collection of almost 200 soil, groundwater and soil vapor samples. The work was reviewed by both the NYSDEC and NYCDEP.

New York City Department of Parks and Recreation, Far Rockaway Beach Phase I and Hazardous Materials Section of EAS, Queens, NY. Ms. Parvis was the Task Manager and prepared the Phase I and hazardous materials, land use and community facilities sections of the EAS.

NYCEDC, Leggett Avenue Phase I and Geophysical Survey, Bronx, NY. Ms. Parvis prepared a Phase I ESA and managed a follow-up geophysical survey for a potential purchase of a warehouse property in the Hunt's Point section of the Bronx.

NYCEDC, Willets Point Phase I, Queens, NY. Ms. Parvis prepared three Phase I ESAs for industrial properties to be taken by eminent domain and redeveloped as part of the Willets Point redevelopment initiative.

Phase I and Phase II ESAs, Former Printing Facility, Armonk, NY. Ms. Parvis provided Phase I ESA, supervision of geophysical surveying, and soil sampling at a former printing facility in Armonk, New York for HSBC Bank.

Phase I ESAs, Site Investigations, and Remedial Actions for Commercial Property Transactions, Long Island, Westchester County, and New York City. Ms. Parvis was the Primary Project Manager for a long-term contract with FleetBoston Financial to perform due diligence services for its commercial property lending division. Ms. Parvis was responsible for Phase I and/or Phase II ESAs at over 75 properties; many of which also had remedial actions. In addition, she managed the same activities at Fleet's own branches on Long Island.

Carolyn Piranio

Project Role: Report Preparation

Education
B.A., English with a Journalism Concentration, 1987

Experience
Ms. Piranio has been the technical editor for HDR's New York offices for 18 years and has more than 23 years of experience in writing and editing. She has been involved in editing various documents, including environmental impact statements, environmental assessments, interim remedial measures and supplementary site assessment work plans, remedial action work plans, Part 360 and Title V permits, and annual, quarterly and environmental compliance reports for waste-to-energy facilities. The following are Ms. Piranio's relevant project examples:

Bristol Resource Recovery Facility Operating Committee, Bristol, Connecticut. Ms. Piranio is responsible for editing the annual, quarterly and environmental compliance reports with regard to the 650-ton-per-day Bristol Resource Recovery Facility. These technical reports compare the facility's performance and operations to previous years and quarters as well as monitor the facility's compliance with environmental regulations.

Department of Sanitation NY (DSNY), Environmental Impact Statement, New York, NY. Ms. Piranio worked on the more than 3,000-page Environmental Impact Statement, a public document, for the Department of Sanitation, assisting the lead editor in presenting technical information in a clear and concise manner. The EIS provided a comprehensive environmental review of the potential environmental impacts of site/facility combinations of waste transfer facilities to support DSNY's long-term export program.

Also for DSNY, Ms. Piranio edited the Interim Remedial Measures (IRM) Work Plan for the 13-acre parcel at the former Brooklyn Navy Yard. The IRM consisted of removing a transformer at the site as well as obtaining soil samples. Ms. Piranio edited the IRM Report which discussed the IRM activities and the results of the soil sampling. Ms. Piranio worked with the engineers involved in the project. After the IRM, the Supplemental Site Assessment (SSA) Work Plan followed. This task involved surface and subsurface soils and installing shallow and deep wells for groundwater sampling. Ms. Piranio also edited the SSA Report, which included the analyses of these areas.

Ms. Piranio was the editor of the Staten Island Solid Waste Transfer Station Part 360 Permit Application for DSNY.

Dutchess County Resource Recovery Facility, Poughkeepsie, NY. Ms. Piranio is the editor for the Dutchess County Resource Recovery project. She has edited the Operations and Maintenance Manual for the facility as well as various environmental reports. Ms. Piranio was involved in editing the updates to the facility's Part 360 permit which was submitted to the New York State Department of Environmental Conservation. Ms. Piranio edited technical portions of financial documents as well.

Lafarge Building Materials, Inc., Lafayette, Georgia (Project Sponsor). Ravena Plant Modernization Project Draft Environmental Impact Statement - New York State Department of Environmental Conservation (Lead Agency). Ms. Piranio edited this 30-chapter Draft Environmental Impact Statement for the modernization of a concrete plant in upstate New York. Work entailed comparing figure and table information in text, ensuring all information matched the text where referenced in the document. Work also included presenting technical information in a clear and concise manner.

MacArthur Resource Recovery Facility, Ronkonkoma, NY. Ms. Piranio has edited all documents pertaining to the MacArthur Resource Recovery Facility owned by the Town of Islip Resource Recovery Agency. Documents have included an electrical capacity utilization study and annual inspection reports. She has been involved in the Part 360 and Title V permit submittals to the New York State Department of Conservation.

Middlesex County Improvement Authority, Cranbury, NJ. Ms. Piranio was the editor of the Raritan River Strategy Plan for the Middlesex County Improvement Authority. The Strategy Plan examined the potential of improving the navigability of the Raritan River for increased recreational and boating traffic. Ms. Piranio was charged with ensuring that all portions of the Strategy Plan, including the technical areas, were clear, concise and able to be understood by a broad audience. With the acceptance of the Strategy Plan, the Middlesex County Improvement Authority is now embarking on a project to place a dock in the New Brunswick area of the Raritan River. Called the New Brunswick Landing Waterfront Development Project, Ms Piranio edited permit applications submitted to the U.S. Army Corps of Engineers and the New Jersey Department of Environmental Protection. These permits include the U.S. Department of the Army Permit, including an Essential Fish Habitat Assessment and a 404(b) 1 Evaluation Report, as well as the New Jersey Department of Environmental Protection's Waterfront Development Permit.

Millennium Homes, Legacy Ridge Subdivision, Village of Woodbury, NY. Ms Piranio is organizing and editing the Final Environmental Impact Statement (FEIS) for this project. The task entails coordinating the responses to comments (from more than 10 authors) and organizing the document. This involves working very closely with the project managers and assuring quality and consistency of responses. Ms. Piranio is also charged with ensuring that the document is clear so that all, professionals and the general public alike, can easily understand its contents. Ms. Piranio also verifies that all comments made during the EIS process are addressed in the FEIS.

Monmouth County Materials Processing and Recovery Facility, Tinton Falls, NJ. Ms Piranio was responsible for editing the quarterly inspection reports of the Monmouth County Materials Processing and Recovery Facility (MPRF). The facility is operated for the County by an outside vendor. The quarterly inspection reports monitored the performance of the facility with respect to a construction and operation agreement, as amended, between the County and the vendor to verify compliance with the agreement, note deficiencies and identify areas in need of improvement. Ms. Piranio was responsible for assuring the inspection reports were written in a clear and concise manner and rewrote any portions of the reports that needed clarification. Ms. Piranio was responsible for editing and updating the project guide on an annual basis as well as editing monthly progress reports.

Michael Pucci, PE

Project Role: Dredged Material & Sediment / Contract Documents

Education
B.S., Civil Engineering, Lehigh University, 1992

Registrations/Certifications
Registered Professional Engineer (CT, GA, NJ, NY)

Experience
Mr. Pucci has more than 18 years of experience in civil engineering specializing in projects related to civil design, water resources, planning, transportation, and construction administration. His experience includes project management, preparation of contract documents, quality assurance/control, project scheduling, and all aspects of engineering design, permitting and construction support services for various federal and municipal projects. His computer skills include HEC-RAS; HEC-HMS; AutoCAD R2005i; Land Development Desktop (LDD) and Civil Design Modules; Hydraflow Hydrographs and Hydraflow Storm Sewers. The following represent Mr. Pucci's relevant project experience:

PANYNJ, Holland Tunnel Granite Rehabilitation, NY. Mr. Pucci provided civil engineering design to the PANYNJ for storm drain and grading modifications necessary to correct drainage problems at the Holland Tunnel entrances and exits as part of granite rehabilitation to portal walls. Mr. Pucci has been responsible for civil design including site modifications; re-grading and redesign of storm drain systems.

National Park Service (NPS) Val-Kill Pond Restoration Design and Construction Report, Eleanor Roosevelt National Historic Site, Hyde Park, NY. Mr. Pucci assisted the NPS in determining the accuracy of the government estimate prepared for the restoration of the Val-Kill Pond, helped determine if the methodology of construction is feasible, and presented alternative potential construction methods for achieving the Pond Restoration Project. The study evaluated potential sediment dredging and dewatering methods. In addition, HDR performed additional sediment sampling of the Pond and recommended hydraulic dredging and rapid on-site mechanical dewatering as the preferred construction alternative for the Pond Restoration Project. HDR also prepared a cost estimate for the recommended preferred construction alternative.

Middlesex County, NJ, New Brunswick Landing Waterfront Development Project. Mr. Pucci has managed all aspects of permitting and design for the New Brunswick Landing Project which includes the development of a 24 slip floating dock for recreational boats along the Delaware and Raritan Canal Towpath which borders the Raritan River that will provide direct pedestrian access into downtown New Brunswick. The project also includes dredging for dock access by extending a 60' wide Federal navigational channel approximately 3,000 linear feet to a depth of 8 feet below MLW correlating to a nominal volume of about 35,000 CY. Navigational aids will also be placed to designate the channel locations and a no-wake zone. Additionally, park improvements will include hardscape features, landscaping, lighting and interpretive signs to be installed from the dock

connection on the canal towpath to the proposed New Jersey Department of Transportation (NJDOT) Richmond Street pedestrian bridge. Work included preparation of contract documents.

USACE KC District/USEPA Region 2 IDC - Imperial Oil Superfund Site, Monmouth County, NJ. Mr. Pucci is managing civil design for the Imperial Oil/Champion Chemical Superfund Site in Morganville, NJ which includes demolition, decontamination, and disposal of below ground and above ground structures; removal and off-site disposal of floating product and excavation and off-site disposal of impacted soil and other secondary waste streams. Work included preparation of contract documents.

USACE New York District, Guthrie Medical Clinic Expansion, Fort Drum, Watertown, NY. Mr. Pucci is the Senior Civil Engineer for all utility and civil design for the Fort Drum Guthrie Medical Clinic Expansion estimated at $26M. The project included design of all site and utilities to support the 50,000 SF building expansion and renovation and preparation of contract documents for bidding. Civil work entailed grading of 25 acre site, relocation of major utilities and creation of over 800 parking spaces while meeting NYSDEC stormwater requirements.

USACE New York District, PHS&T Center, Picatinny Arsenal, NJ. Mr. Pucci is managing all aspects of civil design for the development of the Packaging, Handling, Storage and Transportation (PHS&T) Center at Picatinny Arsenal. The project entails design of a new weapons laboratory which is being relocated from Earle Naval Station to Picatinny Arsenal. Civil design includes special emphasis on building siting, relocation of major utilities, permitting with NJDEP environmental remediation and preparation of contract documents.

Town/Village of Harrison, Municipal Complex, NY. Mr. Pucci serves as the Project Manager in helping the Town/Village of Harrison to develop the Proposed Municipal Complex to be built on an existing town owned 35-acre site (formerly a Nike Missile base) which includes preparing contract documents for a 2,500-ton salt dome, deicing tank, sand storage area, fueling station, fire training center, vehicle canopy, fueling station and a recreational component which features a baseball field and a playground, all with respective parking. Mr. Pucci's responsibilities, in addition to providing civil design, and coordinating with the town, include managing all design disciplines including architectural, structural, mechanical and electrical as well as survey and geotechnical subconstultants in preparing contract documents for construction. Mr. Pucci also managed the Needs Allocation Study for the Gleason Ave Garage to determine space and program requirements based on DPW needs necessary for possible expansion and renovation.

Christina M. Quiroz, PE

Project Role: Cost Estimating

Education
B.S., Civil Engineering, Manhattan College, 2003

Registrations/Certifications
Professional Engineer, NY; MCACES, 2nd Generation (MII) Basic Training

Experience
Ms. Quiroz is a project engineer and has experience in civil engineering specializing in projects related to land development civil design, water resources, transportation, and construction administration. Her experience includes civil engineering design, design improvements for a wastewater treatment facility, cost estimation, permitting and construction support services for commercial, residential, recreational, industrial and public works type projects. Ms. Quiroz's experience ranges from preparing preliminary planning plans and reports to developing civil engineering construction cost estimates, construction documents and hydrology studies. Her engineering design experience has consisted of road, site, storm drainage, sanitary sewer, waterline, site grading, earthwork calculations, erosion and sediment control, and detention pond design. Her computer skills include MCACES MII Cost Estimating System, SpecsIntact, AutoCAD 2005; Land Development Desktop Module; Hydraflow Hydrographs; Hydraflow Storm Sewers; Microsoft Word, Microsoft Excel and Microsoft PowerPoint. The following projects represent Mrs. Quiroz's experience:

USACE Kansas City District, Rockaway Borough Well Field Superfund Site, Morris County, NJ. Ms. Quiroz provided support with the remedial design services as part of Operable Unit (OU) 3 at the Rockaway Borough Well Field (RBWF) Superfund Site in Rockaway Borough, Morris County, New Jersey. She participated in completing design submittals including writing sections of the design report, compiling USACE specifications, and preparing preliminary cost estimates.

USACE Jacksonville District/South Florida Water Management District, C-44 Reservoir and Stormwater Treatment Area Project. Cost Estimator. Mrs. Quiroz prepared the cost estimation report for the C-44 project, one component of the Indian River Lagoon South Project, which will attenuate flows and improve the quality of the Southern Indian River Lagoon. HDR's role, which began in late 2004, has included developing the project from site evaluation to the basis of design, as well as the detailed design and specifications (1,000 plan sheets and 2,000 pages of specifications), which was completed in 2007. Ms. Quiroz converted the project cost estimate from Microsoft Excel format to the MCACES MII format utilizing the Department of Army Standards for Civil Works projects. The estimate for the project is approximately $29 million dollars.

USACE Picatinny PHS&T Parametric Design, Picatinny Arsenal, NJ. Mrs. Quiroz is providing civil engineering services as a member of the Military Planning Team for the development and preparation of the Civil and Landscape Design of the Packaging, Handling, Shipping and Transport Facility at Picatinny Arsenal. Her responsibilities included site layout, grading, drainage, hydrologic and hydraulic analysis, and cost estimation. All site design and

other engineering services for the design, including Design Analysis and Construction Cost Estimates for the PHS&T Facility at Picatinny Arsenal are in accordance with UFC3-710-01.

USACE Wilmington District, Dredged Material Management Plan (DMMP), Manteo (Shallowbag) Bay, North Carolina. Ms. Quiroz is the lead engineer providing environmental services, consisting of the preparation of a 20-year DMMP for the Manteo (Shallowbag) Bay. Ms. Quiroz is responsible for preparation of the DMMP Report, including evaluation of disposal alternatives with regards to engineering, and environmental aspects of dredging and disposal. She is also responsible for preparing the MCACES cost estimates for preferred plan.

Middlesex County, New Brunswick Landing Park Improvement Project, New Brunswick, NJ. Mrs. Quiroz provided civil engineering services as a project engineer for the development of the dock, park, and navigational aids. The project includes a 24 slip floating dock for recreational boats along the Delaware and Raritan Canal Towpath which borders the Raritan River. The dock will provide direct pedestrian access into downtown New Brunswick. Additionally, park improvements will include hardscape features, landscaping, lighting and interpretive signs to be installed from the dock connection on the canal towpath to the New Jersey Department of Transportation (NJDOT) New Street overpass. Ms. Quiroz was also responsible for renewing and revising all permits necessary for the docks, park, and navigational aids.

USACE Kansas City District/USEPA Region 2 IDC, Imperial Oil Superfund Site, Monmouth County, NJ. Ms. Quiroz is providing civil engineering assistance in support of the Remedial Design and Remedial Action for Operable Unit 3 (OU3) at the Imperial Oil/Champion Chemical (Imperial Oil) Superfund Site in Morganville, New Jersey. USEPA issued a ROD for OU3 in September 1999 which includes demolition, decontamination, and disposal of below ground and above ground structures; the removal and off-site disposal of floating product and the excavation and off-site disposal of impacted soil and other secondary waste streams at the site. In addition the remedy will include shoring, excavation dewatering, water treatment, and restoration of the site and impacted wetlands, as well as other areas disturbed during the course of the remediation. Tasks under this assignment include conducting a comprehensive review of historical data and the 95% complete submission prepared by a consultant to the State of New Jersey, conducting a Value Engineering (VE) screening of the 95% design which included an independent cost estimation to compare and assess the potential for cost savings, and completion of a detailed design for the implementation of the requirements specified in the September 30 1999 OU3 ROD.

South Florida Water Management District, C-44 Reservoir and Stormwater Treatment Area Project. Mrs. Quiroz prepared the cost estimation of the C-44 project. The C-44 Project is one component of the Indian River Lagoon South Project which will attenuate flows and improve the quality of the Southern Indian River Lagoon. HDR's role, which began in late 2004, has included developing the project from site evaluation to the basis of design, as well as the detailed design and specifications (1,000 plan sheets and 2,000 pages of specifications). Mrs. Quiroz converted the project cost estimate from Microsoft Excel format to the MCACES MII format utilizing the Department of Army Standards for Civil Works projects.

John Roebig, PhD, RLA

Project Role: Wetland Delineations Support

Education
Ph.D., Natural Resource Conservation, 1979 / M.L.A., Landscape Architecture, 1973
B.L.A., Landscape Architecture, 1970

Registrations/Certifications
Registered Landscape Architect (NY); River Morphology and Applications from Wildland Hydrology, Inc., 2004; Certification in Wetland Functions & Values, Wetland Training Institute, Chincoteague, Virginia, November 1992

Experience
Dr. Roebig offers environmental consulting in aquatic and terrestrial ecology, wetland and estuarine analysis (delineation, functional assessment, restoration and creation), environmental impact analysis, permitting issues, and watershed management. He is a licensed landscape architect and terrestrial ecologist, with more than 30 years of experience in wetland habitat analysis, functional assessment, permitting, design, and mitigation. He also serves as project manager for studies involving watershed planning, stream restoration, wetland function and values, resource inventories and habitat mapping. The following are Dr. Roebig's relevant project examples:

NYCDEP, Alley Park Pond Restoration and Drainage Area Improvement. Dr. Roebig was responsible for preparing an estuarine/salt marsh restoration plan as mitigation for impacts to shallow wetland habitat. A mitigation plan was required by the New York State Department of Environmental Conservation (NYSDEC), New York City Department of Parks and Recreation (NYCDPR), and USACE. Dr. Roebig prepared a series of habitat restoration plans, including intertidal saltmarsh, wildflower meadow, and deciduous woodland restorations. Dr. Roebig prepared design drawings, specifications and engineering bid cost estimates for both wetland and upland habitat restorations.

USACE New York District, Liberty State Park Restoration. Dr. Roebig served as the Environmental Task Leader for the Liberty State Park reference site, directing and coordinating all environmental studies conducted in support of the restoration effort, which included vegetation, wetlands, threatened and endangered species, water quality, wildlife, bio-benchmarking, and functional assessment. Dr. Roebig managed and conducted the vegetation survey of the 250-acre area, classifying vegetation groups and flagging plant communities of forests, shrubs and grasslands. In addition, Dr. Roebig coordinated the preparation of the conceptual plans and alternatives for the 45-acre salt marsh and the freshwater wetland system.

Evergreen Environmental, LLC, Evergreen Hackensack River Mitigation Bank, Ridgefield, NJ. Dr. Roebig is designing a 45-acre tidal wetland mitigation bank adjacent to the Hackensack River in Ridgefield, NJ. The plan involves regarding the site to improve tidal connection and flow through a degraded marsh and replanting the site with native, low and high marsh communities, a scrub-shrub wetland and upland habitats. The planned habitat improvements were optimized to improve wetland functions and yield the maximum number of mitigation credits while maintaining cost-effectiveness of the project.

NYSDEC, Arverne Urban Renewal Area EIS, Vegetation and Wetland Mapping. HDR is assisting the NYSDEC to conduct vegetation and wetland mapping on a coastal site in Far Rockaway as part of the Urban Revitalization Program. Scope of work included designing a sampling plan, conducting on-site monitoring of vegetation and subsequent classification of vegetation communities. Dr. Roebig conducted field studies to locate existing wetland habitat in the project area and inspected the entire site area for potential wetland mitigation and restoration sites. In addition, habitat for endangered bird species (piping plover and least tern) and endangered butterflies (blue-checkered butterfly) were also mapped. The final report will be used in the analysis for redevelopment to determine open space and mitigation options.

G. Roesch Arch. & Landscape Arch., Restoration of Salt Marsh, Pelham Bay, NY. Dr. Roebig provided technical assistance to R.G. Roesch Architects and the New York City Parks Department for the restoration of a degraded salt marsh in Pelham Bay Lagoon, in the Bronx. Dr. Roebig carried out a comprehensive monitoring program to analyze water quality, tidal conditions, ground water depth and community distribution and abundance. The restoration effort involved a conceptual plan and then final contract drawings and specifications. Dr. Roebig is currently providing construction quality control for rough grading and final grading.

Middlesex County, New Brunswick Landing Wetland Mitigation, New Brunswick, NJ. Dr. Roebig conducted the field studies and prepared the mitigation plan for the New Brunswick Landing Waterfront Development Project for the development of a 24 slip floating dock for recreational boats along the Delaware & Raritan Canal Towpath which borders the Raritan River. He also conducted the biological inventory, hydrologic budget, wetland functional assessment, prepared the migration monitoring plan associated with the mitigation project. He also conducted an environmental screening (wetlands, vegetation, steep slopes, and watercourses) of other potential mitigation sites owned by Middlesex County. Dr. Roebig prepared all aspects of the design including the preparation of construction documents, mitigation plans and specifications.

USACE Buffalo District, Wetlands Mitigation and Stream Relocation Oversight, New Hartford, NY. Dr. Roebig was selected to serve as the USACE's independent inspector to oversee the construction of the wetland mitigation areas and tributary relocation at Consumer Square in New Hartford, NY. The 100 acre project involves the filling of 6.6 acres of wetland and the creation of 10.27 acres along with the relocation of 4,626 linear feet of stream. The special conditions of the permit required the developer to appoint a scientifically qualified independent individual to oversee the work and represent USACE on site.

Cornell University Lab of Ornithology, Wetland Mitigation and Enhancement. Currently, Dr. Roebig is responsible for the conceptual and final design of a freshwater wetland mitigation and enhancement project for Cornell University arising from the building of a new research and education building at the Lab or Ornithology. The site design includes monitoring of groundwater hydrology, a functional assessment of impacted wetland and developing a maintenance and monitoring plan for the created wetlands.

Westchester County, NY, Restoration of Maple Moor Pond and Stream Reach. Dr. Roebig provided technical assistance to Westchester County Parks Department the restoration of a degraded pond and stream in the City of White Plains, NY. Dr. Roebig carried out a river assessment and sediment sampling to analyze water quality and stream condition. The restoration effort involved a conceptual plan and final contract drawings and specifications and will eventually include construction supervision.

William Saksen

Project Role: Essential Fish Habitat Studies Support

Education
B.A., Natural Science and Mathematics, 1981

Experience
Mr. Saksen is a Senior Project Scientist at HDR with 29 years of experience evaluating impacts to fisheries from cooling water intake systems in the context of Research and Development and 316(b) demonstrations. He has developed Hudson River Biological Monitoring Programs for the Hudson River Utilities as Part of the Hudson River Settlement Agreement. These programs include but are not limited to The Long River Icthyoplankton Monitoring Program, Fall Shoals Beach Seine Program, Hudson River Impingement Monitoring Programs, White Perch Stock Adult, Sub-adult Monitoring Program and Power Plant Icthyoplankton, in Plant Sampling Programs. In addition to developing and managing these programs, Mr. Saksen has conducted field collections for each one of the studies. In addition to these responsibilities Mr. Saksen provides support for environmental permitting and environmental due diligence.The following are Mr. Saksen's relevant project examples:

PANYNJ, Entrainment and Impingement, World Trade Center (WTC) Complex Cooling System Alternative Evaluation. Mr. Saksen assisted in estimating aquatic impacts (impingement and entrainment including alternatives with wedge-wire screens) due to cooling water withdrawal of a proposed open-cycle cooling system at the new WTC Site.

PANYNJ, Species Abundance Field Study, WTC Ichthyoplankton Sampling Program. The Ichthyoplankton Sampling Program was conducted as part of the continuing effort of PANYNJ to characterize biological compositions in the vicinity of the WTC site. The purpose of the ichthyoplankton sampling was to document the vertical distribution and diurnal variation of ichthyoplankton in the vicinity of the proposed intake location as currently conceptualized for the WTC redevelopment site. In addition, it was designed to relate biological information with typical water quality parameters by concurrent measurements with each ichthyoplankton sample. Mr. Saksen's main responsibility was to develop the scope of work and to evaluate the field efforts needed for the ichthyoplankton sampling program and at the WTC intake facility site.

PANYNJ, Request for Information JFK Airport, State Pollutant Discharge Elimination System (SPDES) Permit. The New York State Department of Environmental Conservation requested that specific parameters relative to de-icing events be collected from stormwater outfalls during storm events. Mr. Saksen participated in the preparation of the stormwater sampling plans participated in project meetings and oversaw the field data collection efforts.

USACE New York District, Harbor Deepening Project Total Suspended Solids Monitoring. HDR has been assisting the USACE with assessing potential impacts of navigational improvements in the New York/New Jersey Harbor. One of the program's primary goals is to determine the effect of sediment disturbance from dredging on the overlying water column and nearshore aquatic communities. Mr. Saksen is involved in aspects of monitoring the total

suspended solids (TSS) resulting from dredging operations in contaminated areas of the Harbor. Mr. Saksen oversees the coordination of field sampling efforts and analysis.

NEPTUNE Regional Transmission System™ (RTS). HDR is currently providing environmental permitting, planning, engineering design and environmental compliance services for development and construction of the Neptune Regional Transmission System (Neptune RTS), a 54-mile 600-MW high-voltage direct current (HVDC) submarine electric transmission cable between Sayreville, New Jersey and Hempstead, New York. As a member of the environmental permitting team, HDR' experience and intimate understanding of marine resources and local, state and federal regulatory requirements was critical in identifying and evaluating alternative submarine cable routes and installation methods early in project development. HDR also evaluated potential impacts of cable installation along the alternative cable routes and proposed cable installation methods to avoid or minimize impacts to significant coastal fish and wildlife habitats, commercial and recreational fish and shellfish resources, and short and long-term channel improvement projects within the New York and New Jersey Harbor, including the planned deepening of several federally maintained navigation channels. In addition to being part of the permitting team, Mr. Saksen was responsible for staffing data collection and sample analysis during the around the clock sampling program during cable installation.

Constellation Energy, Proposal for Information Collection (PIC). Mr. Saksen was Project Manager and the preparer of the PIC required to be submitted as part of the Clean Water Act 316 (b) rule. Mr. Saksen was responsible for preparing the PIC for five of Constellations Generating Stations. As part of the PIC he assessed all applicable cooling water intake technologies, developed compliance strategies and preparation of biological sampling plans.

AES, Proposal for Information Collection (PIC). Mr. Saksen is Project Manager and the preparer of the PIC required to be submitted as part of the Clean Water Act 316 (b) rule. He was responsible for preparing the PIC for four of AES Generating Stations. As part of the PIC he assessed all applicable cooling water intake technologies, developed compliance strategies and prepared biological sampling plans. Mr. Saksen also is Project Manger responsible for the implementation of all field sampling programs and the preparation of the Comprehensive demonstration Study.

Noemi Santiago, PE

Project Role: *Dredged Material & Sediment*

Education
M.S., Environmental Engineering, 2004 / B.S., Environmental Engineering, 2000

Registrations/Certifications
Professional Engineer (NY); OSHA HAZWOPER 40 hour and 8 hour refresher; OSHA, Certified 10-hour Construction Training

Experience
Ms. Santiago is a senior project engineer at HDR. She has diverse experience, including noise monitoring and noise analysis, permitting, site assessment, site sampling, site remediation, dredging, procurement, cost estimating, and telecommunications. The following are Ms. Santiago's relevant project examples:

USACE Wilmington District, Dredged Material Management Plan (DMMP), Manteo (Shallowbag) Bay, North Carolina. Ms. Santiago is the New York project manager on the DMMP project to provide environmental services, consisting of the preparation of a 20-year DMMP for the Manteo (Shallowbag) Bay. Ms. Santiago is responsible for the technical oversight and administration for the preparation of the DMMP Report, including evaluation of disposal alternatives with regards to engineering, and environmental aspects of dredging and disposal.

New Brunswick Landing Waterfront Development Project, Middlesex County, NJ. Ms. Santiago was the task leader for the preparation of the New Jersey Department of Environmental Protection (NJDEP) Waterfront Development Permit and the United States Army Corps of Engineers (USACE) Permit for the New Brunswick Landing Waterfront Development Project in the Raritan River in New Brunswick, New Jersey. She was involved in the preparation of the Strategy Plan for the Raritan River from the Raritan Bay to the Albany St. Bridge in New Brunswick, which included participating in numerous meetings with the Stakeholders of the Raritan River. Ms. Santiago was also responsible for obtaining a NJDEP Sampling Plan and for sampling activities, including the procurement of contractors, to perform a Sediment Characterization of the material to be dredged. Ms. Santiago is responsible for managing the tasks related to performing mitigation for the disturbance of intertidal/subtidal shallows resulting from the dredging. These tasks include: mitigation site search, site reconnaissance, site investigation, subcontractor coordination, coordination with regulatory agencies, preparation of the mitigation plan and contract documents for procurement.

NYCEDC, South Brooklyn Marine Terminal (SBMT). Ms. Santiago is the project manager on the SBMT project to provide environmental services, including permitting, for the development of the SBMT. Ms. Santiago is responsible for the technical oversight and administration for implementation of a sediment sampling plan for proposed dredging, the preparation of a Joint Application for Permit to the USACE and the New York State Environmental Conservation (NYSDEC), and a mitigation plan for impacts to tidal wetlands.

New York City Department of Sanitation (DSNY), NY. Ms. Santiago is the task leader for all noise analyses being conducted for an Environmental Impact Statement and Commercial Waste Study for the NYCDOS. This information will be used for the new New York City Solid Waste

Management Plan (SWMP). She is responsible for conducting noise screening, noise monitoring and noise analyses in accordance with the New York City Environmental Quality Review (CEQR) Technical Manual, as well as the New York City Administrative Noise Code and Zoning Performance Code. Ms. Santiago is responsible for managing all other noise work performed by subcontractors. She also participates in meeting's that are with held with the Client and/or the NYCDEP for approval of the noise protocol. In addition, Ms. Santiago was also involved in the preparation of Site Investigation Work Plans for three of the New York City Incinerator sites.

NYSDOT, Bus Rapid Transit System, NY. Ms. Santiago is the task leader for the noise and vibration assessment being conducted in accordance with the New York City Environmental Quality Review (CEQR) Technical Manual and the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact and Assessment.* The noise and vibration assessment is being conducted to fulfill the requirements of the Categorical Exclusion with documentation (CE(d)) in conformance with the National Environmental Policy Act (NEPA) guidance for the implementation of a Bus Rapid Transit System (BRT) along the Nostrand Avenue and Rogers Avenue corridor in Brooklyn, New York. In addition, Ms. Santiago is responsible for coordinating the air quality analyses being conducted in accordance with CEQR and federal conformity standards.

NYCDEP, NY. Ms. Santiago provided assistance conducting technical reviews of noise analyses included in Environmental Impact Statements/Environmental Assessment Statements (EISs/EASs) submitted to the NYCDEP's Office of Environmental Planning and Assessment (OEPA) for review under State Environmental Quality Review Act/City Environmental Quality Review (SEQRA/CEQR). The analyses reviewed were based on on-site stationary equipment analyses and the Federal Highway Administration's Traffic Noise Model (FHWA's TNM) version 2.0/2.5 for off-site mobile analyses.

NYCDEP, Bronx CSO Storage Facility, NY. Ms. Santiago was the task leader for the noise assessment conducted for the construction and post-construction phases of a proposed Combined Sewer Overflow Storage Facility in Bronx, New York. This information was used by the prime consultant to support an Environmental Assessment Statement for the project. She was responsible for conducting noise screening, noise monitoring and noise analyses in accordance with the New York City Environmental Quality Review (CEQR) Technical Manual.

Westchester County Airport, NY. Ms. Santiago was involved in conducting a Phase II Site Investigation at a former New York Air National Guard (NYANG) Site, which is a New York State Department of Environmental Conservation (NYSDEC) Voluntary Cleanup Program Site. Her responsibilities included procurement of the necessary Subcontractors and preparation of the Phase II Site Investigation Work Plan, which was reviewed by the NYSDEC. In addition, she was involved in the on-site management of field activities and the preparation of the Phase II Site Investigation Report.

Kovid Saxena, AICP, LEEP AP

Project Role: Environmental Assessments Support

Education
M.S., Urban Planning, Columbia University, 2004
Bachelor of Architecture (with honors), University of Mumbai, 1999

Registrations/Certifications
American Institute of Certified Planners, No. 022351; LEED Accredited Professional

Experience
Mr. Saxena is a Planner in HDR's New York offices, with 11 years of experience in environmental-land use-transportation planning, public policy, and development in complex urban environments. His broad expertise includes preparation of environmental documentation conforming to the National Environmental Policy Act (NEPA), New York State Environmental Quality Review Act (SEQRA) and the New York City Environmental Quality Review (CEQR); analysis of environmental impact categories including greenhouse gas emissions, land use, and socioeconomic conditions; economic development; real estate market analysis; community planning; public outreach; and application of Geographic Information Systems for transportation planning and environmental constraints analysis. Mr. Saxena has worked on projects in New York and internationally. The following projects represent Mr. Saxena's experience:

New York City Department of Transportation (NYCDOT), Brooklyn-Queens Expressway Project Scoping Report, Brooklyn, NY. Mr. Saxena is responsible for preparing environmental documentation (Tiered Environmental Impact Statement) in conformance to NEPA and SEQRA, and agency and public outreach in conformance to Section 6002 of the Safe Accountable Flexible Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU) for the proposed rehabilitation, reconstruction or replacement of a 1.5-mile segment of the Brooklyn-Queens Expressway (Interstate 278). The project includes evaluation of transit alternatives and strategies. The Federal Highway Administration is the federal lead agency for the project.

NYCDOT, Bus Rapid Transit on First and Second Avenues, Brooklyn, NY. As deputy project manager for environmental tasks, Mr. Saxena is responsible for preparing environmental documentation (Categorical Exclusion (d)) conforming to NEPA and CEQR for the construction and operation of a 9.3-mile Bus Rapid Transit system in Brooklyn. Specific areas of analysis include cumulative impacts, environmental justice, socioeconomic impacts, land use, zoning and public policy. The Federal Transit Administration is the federal lead agency for the project.

NYCDOT, Bus Rapid Transit on Nostrand and Rogers Avenues, Manhattan, NY. As deputy project manager for environmental tasks, Mr. Saxena is responsible for preparing environmental documentation (Categorical Exclusion (d)), conforming to the NEPA and CEQR for the construction and operation of an 8.5-mile Bus Rapid Transit system in Manhattan. Specific areas of analysis include cumulative impacts, environmental justice, socioeconomic impacts, land use, zoning and public policy. The Federal Transit Administration is the federal lead agency for the

project.

Canadian Pacific Railway, Canadian Pacific Ballston Spa-Saratoga Springs Double Track, Saratoga, NY. Mr. Saxena lead the preparation of environmental documentation (Categorical Exclusion (d)) for the construction of a 2-mile long railroad track funded by the American Reinvestment and Recovery Act of 2009 (ARRA) in conformance with NEPA and SEQRA. The Federal Railroad Administration and the New York State Department of Transportation were lead agencies for the project.

Lafarge North America, Inc., Ravena Plant Modernization, Albany County, NY. Mr. Saxena is responsible for the analysis of greenhouse gas emissions in conformance with policy guidance issued by the New York State Department of Environmental Conservation (NYSDEC). Mr. Saxena also analyzed environmental impact categories including socioeconomic conditions and cultural resources as part of an Environmental Impact Statement (EIS) for the modernization of Lafarge's Portland cement manufacturing facility, under SEQRA. The NYSDEC is the lead agency for the project. *HDR fees: $1.5million.*

NYSDOT, Interstate 81 between I-481/81 Interchanges 16A and 29, Syracuse, NY. Mr. Saxena is responsible for analyzing environmental constraints—using GIS applications—related to the rehabilitation or reconstruction of Interstate 81 in Syracuse, NY. The project includes the evaluation of alternative roadway alignments for this segment of Interstate 81. The Federal Highway Administration is the federal lead agency for the environmental review.

NYSDOT, Patroon Island Bridge, Albany and Rensselaer Counties, NY. Mr. Saxena is responsible for analyzing and documenting environmental constraints—using GIS applications—related to the rehabilitation or reconstruction of the Patroon Island Bridge, which connects the cities of Albany and Rensselaer over the Hudson River. The Federal Highway Administration is the federal lead agency for the environmental review.

Canadian Pacific Railway, Ethanol Transfer Facility, Albany, NY. Mr. Saxena prepared Categorical Exclusion documentation for an ethanol transfer facility-related railroad improvements funded by the American Reinvestment and Recovery Act of 2009 (ARRA) in conformance with the NEPA. The Federal Railroad Administration was the federal lead agency for the environmental review.

State University of New York at Stony Brook, ABSL3 Laboratory Environmental Assessment, Long Island, NY. Mr. Saxena is responsible for the preparation of environmental documentation conforming to NEPA (Environmental Assessment) and SEQRA (Environmental Assessment Form) related to the construction of a new Animal Biosafety Level 3 facility funded by the National Institutes of Health to support infectious disease research.

Frederick Schuepfer, PE

Project Role: Water Quality Studies Support

Education
M.S., Civil Engineering, 1985 / B.S., Civil Engineering, 1983

Registrations/Certifications
Professional Engineer (NY)

Experience
Mr. Schuepfer is a Senior Mathematical Modeler and Project Engineer at HDR. He specializes in hydrodynamic and surface water quality modeling of rivers, tributaries, bays, reservoirs, and estuaries as well as sewer and stormwater collection systems. He has over 25 years of experience working in diverse projects including modeling studies, environmental assessments of thermal and wastewater discharges, field measurement acquisition and interpretation, water supply, wetlands restoration, and sewage treatment. The following are Mr. Schuepfer's relevant project examples:

PANYNJ, JFK Airport Dry Weather Discharge Investigation, NY. Mr. Schuepfer developed and calibrated a hydrodynamic model of Jamaica Bay and its tributaries using temperature and salinity data. Both temporal and vertical profiles were used in the calibration process. Model boundary conditions and discharges for wet weather events were quantified.

PANYNJ, JFK Airport Water Quality Study, NY. Mr. Schuepfer planned and executed a study to determine the source of a dry weather flow in the storm sewer beneath JFK Airport. Maintained and analyzed flow meter records at two outfalls. Analyzed the relationship between outfall discharge, precipitation, and tidal action.

PANYNJ, Goethals Bridge Replacement EIS. As Project Engineer, Mr. Schuepfer analyzed the impact on flooding of the footprint of proposed bridge pilings. He reviewed flood insurance study and maps to compare present and proposed flooding risk.

USACE New York District, Flushing Bay Ecological Restoration Study. As Mathematical Modeler, Mr. Schuepfer determined the effects of dredging. RMA10 hydrodynamic and RMA11 multilayered, time-variable water quality models were used. He applied these models to evaluate the effects on sediment/water quality interactions, including suspended solids, total organic carbon and dissolved oxygen. Mr. Schuepfer calculated sediment scour effects in the inner bay and creek for various water quality improvement scenarios.

USACE New York District, Liberty State Park Ecological Restoration Study. As Project Engineer, Mr. Schuepfer analyzed the viability of various wetland restoration alternatives with regard to wetland sustainability. He developed a hydrologic budget of the wetland for several scenarios being considered. Mr. Schuepfer evaluated the existing and potential sources of freshwater to determine the feasibility of the wetlands expansion. Runoff calculations were verified by comparison to XP-SWMM model results. Results were presented at a New York Water Environment Association Technical Conference. He also coordinated the development of the Hydrology and Hydraulics report for the project at large. In addition, Mr. Schuepfer performed

a literature review and calculations for an analysis of hydraulic geometry on the site and supported the biobenchmarking task development with tidal analysis calculations.

Transmission Developers, Inc, Champlain Hudson Power Express, NY. Mr. Schuepfer compiled historical water quality and sediment data for Lake Champlain, the Champlain Canal, the Hudson River, the East River, the Harlem River, and western Long Island Sound. Assisted in developing hydrodynamic and water quality models of Lake Champlain, the Champlain Canal, the Hudson River, the East River, the Harlem River, and western Long Island Sound.

NYCDEP, Flushing Bay CSO Facility Planning Project Study. As Mathematical Modeler, Mr. Schuepfer determined the effects of breakwater removal and dredging. RMA10 hydrodynamic and RMA11 multilayered, time-variable water quality models were used. He applied these models to evaluate the effects of CSO abatement. Mr. Schuepfer prepared environmental assessment of Flushing Bay CSO Retention Facility. He analyzed hydraulics and head losses associated with near surface storage tank and in-line storage using SWMM and backwater computations.

NYCDEP, Alley Creek Environmental Restoration Study. Mr. Schuepfer was the Project Engineer for the performance of a hydrologic budget for a proposed wetland restoration, analyzed hydraulic geometry, coordinated groundwater data collection, analyzed tidal data, developed a tidal analysis, and wrote corresponding reports. He developed an expert information base to evaluate survivability of various species under existing salinity levels and other conditions. Mr. Schuepfer applied hydrodynamic and water quality models to quantify the effects of the proposed CSO abatement plan on salinity.

NYCDEP, Kensico Action Plan Wetland and Open Water Mitigation, NY. Mr. Schuepfer developed a hydrologic budget to support wetland restoration at a former bowling alley site. Coordinated groundwater measurement program. Performed a field reconnaissance survey and a review of drawings to determine the pattern of runoff during storms.

NYCDEP, Kensico City-Tunnel Water Quality Study, Kensico Reservoir, NY. Mr. Schuepfer performed a modeling study to assess the environmental effects of proposed City Tunnel No. 3 intake locations on reservoir water quality.

NYCDEP, Kensico Water Quality Study. Mr. Schuepfer was Mathematical Modeler for the calibration of hydrodynamic, three-dimensional hydrothermal model and water quality model for use in projecting water quality improvements to the Kensico Reservoir.

NYCDEP, East River CSO Project. Mr. Schuepfer calibrated and applied models of Flushing Bay, the East River, and various East River tributaries to assess the implications of proposed plans to improve water quality. He applied RMA time-variable hydrodynamic and water quality models to predict the impact of various hydraulic modifications and stormwater/CSO abatement on five tributaries and two adjoining bays to the East River in New York City.

Jaak Van den Sype

Project Role: Wetland Delineations Support

Education
M.A., Applied Ecology, 2004 / B.S., Environmental and Forest Biology, 1999

Registrations/Certifications
Wetland Delineation Certification, Rutgers University, 2005

Experience
Mr. Van den Sype is an Environmental Scientist at HDR. Mr. Van den Sype has also been involved in Global Positioning System (GPS) technologies and the integration of GPS with Geographic Information Systems (GIS) mapping and spatial analysis. He has worked on various projects within the group involving wetland delineation and wetland report summaries. He has also prepared summaries of state and federally regulated wetlands and watercourses for projects located in New York and New Jersey. He has conducted field work and mapping analyses of endangered and threatened species (timber rattlesnakes), including the creation of a geographic database. Mr. Van den Sype has also developed a GIS model for rapidly searching for suitable wetland mitigation sites based on user-definable criteria. Mr. Van den Sype has extensive field experience that ranges from performing wetland delineations to conducting GPS mapping surveys and water quality monitoring. He also has extensive quantitative and analytical capabilities and possesses a thorough knowledge of computers and computer networks. The following are Mr. Van den Sype's relevant project examples:

PANYNJ, Stewart International Airport Wetland Delineations, New Windsor, NY. Mr. Van den Sype was the project manager for Stewart Airport Wetland Delineations. HDR delineated the boundaries of wetlands and watercourses in June 2009 using the three-parameter methodology described in the 1987 United States Army Corps of Engineers (USACE) delineation manual within two areas located on the airport property totaling over 100 acres. He coordinated field crews for wetland delineation in two Areas of SWF in connection with commercial development at SWF, and prepared the subsequent reports.

PANYNJ, Teterboro Airport Habitat & Wetland Delineation Studies, Teterboro Airport, NJ. Mr. Van den Sype was acting Project Manager for a tree survey and wetland delineation for the PANYNJ at Teterboro Airport. He conducted field surveys and compliled a tree inventory of potential Indiana bat habitat on the property. He also prepared the LOI package of the wetland delination for submission to NJDEP.

PANYNJ, Allied Signal Site, Elizabeth, NJ. Mr. Van den Sype assisted with the freshwater and tidal wetland delineation of the Allied Signal property in Elizabeth, New Jersey. His duties included coordinating the surveying of wetland flags using a Trimble Pro XRS unit with multiple field crews. He also performed all the GIS mapping and spatial analysis.

PANYNJ, World Trade Center Cooling System, New York, NY. Mr. Van den Sype assisted in the database programming and analysis of ichthyoplankton data for the World Trade Center cooling system. He also assisted in the field work conducted daytime tows of ichthyoplankton.

Evergreen Environmental, LLC, Evergreen Hackensack River Mitigation Bank, Ridgefield, NJ. Performed wetland delination and assisted in design and deployment of continuosly recording tide gage to assist in planning for a designing a 45-acre tidal wetland mitigation bank adjacent to the Hackensack River in Ridgefield, NJ.

Norfolk Southern Corporation, Mechanicville Intermodal Project, NY. Mr. Van den Sype assisted with the wetland delineation and conducted a Rosgen field assessment and analysis for stream mitigation for the proposed construction of an intermodal and automotive handling facility in Mechanicville, NY. Duties included characterization and mapping of all on-site wetlands and preparation of reports for submittal to the USACE.

Middlesex County, New Brunswick Landing Wetland Mitigation, NJ. Mr. Van den Sype assisted in the creation and development of a GIS-based site selection tool for the purposes of wetland mitigation. Using publicly available data, large areas can be searched for suitable mitigation sites, greatly reducing the time required and subjectivity of mitigation site selection. Mr. Van den Sype also performed the hydrological analysis and field investigations for the final wetland mitigation sites. Mr. Van den Sype was also responsible for the design and implementation of multi-year vegetation monitoring program to ensure compliance with mitigation permit requirements. His duties include conducting field surveys, data management and analysis.

Mirant, Hydroelectric FERQ Water Quality Monitoring, NY. Mr. Van den Sype was lead scientist in charge with the deployment of a water quality monitoring program for three hydroelectric facilities in New York. His duties included biweekly field surveys to ensure proper functioning of the data loggers and weekly progress reporting to the client.

Developers Diversified Realty Corporation, Consumer Square Commercial Development and Wetland Mitigation, New Hartford, NY. HDR was contracted to monitor 10.27 acres of constructed wetlands and 4,626 linear feet of constructed stream at the Consumer Square project site in New Hartford, New York. Mr. Van den Sype assisted in the assessment of stream characteristics utilizing the USDA Stream Visual Assessment Protocol. The assessment included an evaluation of the physical characteristics of the stream, and the monitoring of stream macroinvertebrates and fish using U.S. Environ-mental Protection Agency's (EPAs) Rapid Biological Assessment Methods. Mr. Van den Sype assisted in the preparation of the annual monitoring report and was responsible for data compilation and analysis.

NYCDEP, Alley Creek CSO Erosion Monitoring. Mr. Van den Sype is the project manager and lead scientist for a one-year long erosion monitoring study at the newly constructed CSO facility at Alley Creek in Queens, NY. Mr. Van den Sype was responsible for the design and implementation of the monitoring plan. Mr. Van den Sype helped perform a bathymetric and topographic survey of the creek bottom using an echosounder and Real-Time Kinematic Survey Grade GPS unit, respectively.

Kevin VerWeire

Project Role: Water Quality Studies Support

Education
M.S., Watershed Management, 2005 / Masters Thesis: The Relationship between Runoff Curve Numbers and NRCS Hydrologic Soil Groups for Agricultural Research Service Watersheds.
B.S., Environmental and Forest Biology, 2000

Registrations/Certifications
Wetland Delineation Certification, Rutgers University, 2006

Experience
Mr. VerWeire is an Environmental Scientist at HDR. His activities include a wide range of duties from environmental mapping projects using GIS and GPS technologies to water quality monitoring and modeling. Mr. VerWeire has applied his experience in Watershed Management to perform broad scale watershed assessments and in developing water quality monitoring plans for small drainage areas in both urban and wildland settings. Mr. VerWeire has extensive experience using GIS to analyze the impacts of land use, soils, and topography on the hydrology of watersheds across the country. Additionally, Mr. VerWeire routinely performs threatened and endangered species habitat assessments, wetland delineations for Section 404 permitting, statistical analysis, and database development. Example assignments include:

PANYNJ, John F. Kennedy Airport State Pollutant Discharge Elimination System (SPDES) Water Quality Modeling. *In response to Special Condition 1 of the October 1, 2007* New York State Department of Environmental Conservation (NYSDEC) SPDES permit, HDR is assisting the PANYNJ with a Water Quality Monitoring and Modeling study to determine the impacts of stormwater discharge during the deicing season on the dissolved oxygen levels of the receiving waters adjacent to JFK. Mr. VerWeire assisted the PANYNJ with development of the Water Quality Modeling Plan including discussions with the NYSDEC. In addition, Mr. VerWeire was responsible for coordination with the PANY/NJ to collect stormwater samples in support of modeling efforts.

PANYNJ, John F. Kennedy Airport State Pollutant Discharge Elimination System (SPDES) Permit Modification. As part of the SPDES permit modification process for JFK airport, the NYSDEC submitted a Request for Information (RFI) to the PANYNJ to examine the potential pollutants being discharged from airport stormwater into adjacent receiving waters during deicing events. Mr. VerWeire assisted the PANYNJ in development of a NYSDEC approved water quality monitoring plan to characterize the pollutant loads from all airport outfalls and was responsible for coordination of sampling events with PANYNJ Environmental Services branch. In addition, Mr. VerWeire was responsible for reduction and analysis of laboratory results and production of the Sampling Summary Report for the 2006-07 deicing season. Mr. VerWeire has also assisted in developing response comments to NYSDEC permit revision, including guidance on representative airport outfalls and Whole Effluent Toxicity (WET) testing requirements.

PANYNJ, Goethals Bridge Replacement Environmental Impact Statement – Mr. VerWeire assisted with the Environmental Consequences portion of the EIS for the replacement of the Goethals Bridge, which connects northwestern Staten Island, NY to Elizabeth, NJ. Mr. VerWeire was responsible for assessing impacts to the wildlife and vegetation communities surrounding the Goethals Bridge for each design alternative using historic population/distribution data. ArcGIS 9.2 geoprocessing tools were used to overlay bridge designs on existing habitat and calculate acreage of potential impacts for the existing wildlife and vegetation communities. Additionally, Mr. VerWeire was responsible for writing the wildlife, threatened and endangered species sections of the Environmental Consequences portion of the EIS.

USACE New York District, Hudson Raritan Estuary (HRE) Comprehensive Restoration Plan. As the lead member of the NY/NJ Environmental Restoration Consultants, HDR assisted the U.S. Army Corps of Engineers (USACE), New York District with preparation of the Comprehensive Restoration Plan (CRP). Working closely with representatives from the USACE and Hudson River Foundation (HRF), Mr. VerWeire is leading the effort to map potential restoration opportunities for HRE Target Ecosystem Characteristics (TEC) including oyster reefs and eelgrass beds. Responsibilities have included meetings with the USACE and HRF to develop the conceptual mapping plan, and assisting with the design and development of final cartographic products. In support of the HRE Comprehensive Restoration Plan, Mr. VerWeire developed a pilot project to determine suitable locations for Coastal Wetland restoration in the HRE, using ArcGIS 9.2, Spatial Analyst extension, and the ModelBuilder interface. Responsibilities included model conceptual design, data collection (vector, raster, and aerial photography), cartographic production, metadata creation, and coordination with the USACE New York District.

Schuylkill River Greenway Association – Philadelphia In-river Swimming Facilities Feasibility Study – HDR performed a detailed feasibility study for the construction of an in-river swimming facility at multiple locations around the city of Philadelphia. Mr. VerWeire was responsible for GIS data collection, creation of site screening and assessment criteria, and communication of results to the client team through meetings and a Final report. Mr. VerWeire assisted with the conceptual designs of six facilities at two potential sites on the Schuylkill and Delaware Rivers.

NJDOT Office of Maritime Resources - Characterization of Dredged Materials in New Jersey's Confined Disposal Facilities – Under the New Jersey Department of Transportation Office of Maritime Resources "I Boat NJ" Program, HDR characterized the physical and chemical properties of dredged material in several confined disposal facilities (CDFs) in New Jersey to determine potential beneficial use applications for the material. Mr. VerWeire was responsible for data analysis and mapping the distribution of physical and chemical sediment characteristics using ArcGIS 9.2.

Canadian Pacific Railway, Wetland Delineation. Mr. VerWeire assisted with the wetland delineation for the proposed construction of a new double track near Ballston Spa, NY. Duties included characterization and mapping of all on-site wetlands using a Trimble backpack GPS and preparation of reports for submittal to the USACE. Using GIS, Mr. VerWeire performed a desktop analysis of the wetlands and tributaries surrounding the proposed project site to provide information required by the USACE for jurisdictional determination.

Lisa Voyce

Project Role: Public Health Risk

Education
M.S., Env. Eng., Hazardous Waste Engineering and Toxicology, 1984 / B.S., Environmental Science and Biology, 1978

Experience
Ms. Voyce is a Project Manager and senior scientist at HDR supporting various projects. Specific areas of technical expertise include human health risk assessment, toxicology, hazardous waste site assessment and remedial investigation, water resource protection and regulatory compliance. The following are Ms. Voyce's relevant project examples:

USEPA Region 2 Remedial Action Contract (RAC) (EP-W-09-009), Woodbrook Road and Peninsula Boulevard Sites. Ms. Voyce serves as a Project Manager and senior scientist for the current HDR RAC. She provides expert risk assessment and remedial investigation support, including exposure pathway analysis and technical comments on screening level ecological risk assessments, DNAPL and vapor intrusion issues. She is also involved in HDR's technical and regulatory program development for both ecological and human health risk assessment.

New Jersey Highlands Council, Chester, NJ. Ms. Voyce served as Principal Scientist in developing the Highlands Regional Master Plan. Responsible for $2 million in contracts related to water and wastewater utility capacity, ground water quality and the identification and mapping of natural resources. In a related capacity, served as Water Resource Project Director for the Association of NJ Environmental Commissions, performing research for the USDA Forest Service as part of the NY-NJ Highlands Regional Update. Completed 250-page technical report *"Setting the Standards for Water Quality Protection in the Highlands"*.

USEPA Region 2 ARCS Contract, Sites Throughout New York and New Jersey. Ms. Voyce was the Senior Risk Management Specialist at her previous firm, responsible for scope, budget and planning USEPA, DOD, DOE and industrial client human health risk assessments. These included Genzale Plating, Endicott Wellfield, Hooker/Ruco, GCL Tie and Treating and Olean, NY Wellfield NPL Sites. Involved quantitative and qualitative examination of health and ecological risks, analysis of uncertainties and exposure analysis for human and ecological populations.

UST/Risk Based Corrective Action, Development of Several State and National Programs: Assisted in finalizing state policy and training technical staff to implement North Carolina's risk-based corrective action (RBCA) program for underground storage tanks. Provided technical support to Washington State in implementing RBCA policy for Port of Seattle-Duwamish Coalition Brownfields Project and to New York State Department of Environmental Conservation in developing statewide RBCA policy.

Hazardous Waste Remediation, Environmental Corporate Risk Manager, Nationwide: Reviewed hazardous waste remediation proposals and project plans to identify contract, regulatory, health & safety, ecological and technological risks. Worked with proposal/project managers to mitigate concerns in a cost-effective and responsive manner. "Lessons learned" information source for remediation project managers. EPA Pre-remedial Program Team Leader responsible for providing technical support and training to staff performing preliminary assessments/site investigations for USEPA Region II. Managed budgets, tracked LOE and task progress. Developed site investigation plans, health and safety plans and provided day-to-day guidance on Superfund Pre-remedial policy and program implementation.

Agency for Toxic Substances and Disease Registry, sites throughout EPA Region II, Public Health Advisor: Ms. Voyce provided technical support to the public, USEPA, state and local agencies on potential health effects of hazardous waste at more than 50 sites, including Federal facilities, landfills, chemical plants, drum dumps, and other remedial or emergency response operations. Reviewed all EPA Region II Superfund remedial program documents, including PA/SI, RI/FS, and risk assessments, providing recommendations on appropriate action. Sites included the Fresh Kills Landfill, Pelham Bay Landfill, GM Central Foundry, Love Canal, Marathon Battery, Kodak Park, Seneca Army Depot and Ramapo Landfill. Representative health and remedial issues included incinerator trial burn emissions, lead and mercury long-term exposure impacts, determining cleanup levels, landfill feasibility studies, asbestos/lead abatement and bioremediation. Served as liaison between Public Health Service expert medical and allied health staff and culturally diverse communities. Advised regulatory agencies during emergency response on need for evacuation, access restrictions, clean-up and further study at Superfund, RCRA and other sites.

USACE, Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP/FUDS), Nationwide, National Program Coordinator. While at USACE, Ms. Voyce was responsible for remedial action decision documents for more than 75 formerly DOD-owned waste site hazardous waste remediation or ordnance clearance projects. Sites included Nike missile silos, target ranges, ordnance works, air bases, maneuver areas, depots and communication facilities, among others. Assured Army DERP/FUDS compliance with CERCLA, RCRA, UST and other environmental statutes nationwide. Hazard Assessment Instructor for national DERP/FUDS training.

USEPA Region II, Superfund Program Support Management/Water Division, Program Coordinator, sites throughout Region II: Managed EPA Water Division technical, regulatory and policy support to Superfund program. Worked with Superfund and Water Division managers to iron out areas of disagreement and meet special needs to avoid adverse impacts on the environment and the Record of Decision process. Represented Water Division Director in Regional Administrator level decision briefings, involving ground water reclamation, POTW treatment of hazardous waste site discharges, evaluation of NPDES limits for remedial actions, protection of public water supplies and wetlands restoration. Assisted in developing first Superfund program ARARs manual for Region 2, including all Federal and state environmental regulations, focusing on water resource protection. Reviewed more than 150 Superfund site and Federal facility remedial actions for technical adequacy, protection of water resources (water supplies, freshwater, marine and wetlands), risk assessment and compliance with the Clean Water Act, Safe Drinking Water Act, and other federal and state statutes.

Alan Wells, PhD

Project Role: *Biological Statistical Modeling*

Education
Ph.D., Zoology, 1978 / M.S., Biology, 1974 / B.A., Zoology, 1970

Experience
As a project manager, biometrician and quantitative ecologist with three decades experience, Dr. Wells is highly experienced in a wide range of regulatory and environmental study issues under: the National Environmental Policy Act Program (NEPA); the Clean Water Act (CWA), particularly Sections 316(a) & (b); the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), and the Sustainable Fisheries Act. He has been involved in hundreds of projects covering sampling design, community assessment, population modeling, assessing physical/chemical tolerances of various organisms, statistical hypothesis testing, modeling of stochastic processes, and assessing the strengths and weaknesses of regulatory requirements in the fields of air quality, biological monitoring, hazardous wastes, hydrodynamics, water routing, power plant impact assessment, water quality, and sediment/contaminant fate and transport. Dr Wells also has extensive experience in computer programming, systems analysis, database design and graphical user interfaces. The following are Mr. Wells' relevant project examples:

PANYNJ, Newark Airport Sewer Charges. Dr. Wells conducted the statistical evaluation of the data on which sanitary sewer charges are determined for Newark Airport. HDR was able to demonstrate that sampling bias resulted in an over-assessment of charges.

PANYNJ, JFK Airport BUD. In 2005, Dr. Wells conducted the statistical analysis of soil contaminants associated with the beneficial reuse of the "Mt. Stevens" soil pile at JFK-926.

PANYNJ, World Trade Center Redevelopment Site. Dr. Wells contributed database development, statistical analysis of entrainment and impingement data, and essential fish habitat information for the World Trade Center building.

DSNY, Marine Borer Study. Dr. Wells evaluated the statistical reliability of the measures of marine borer infestation within New York Harbor. This included the evaluation of the number of samples required to determine percent section loss within a piling and the number of pilings to be sampled to adequately characterize the structure.

PSE&G, Salem Generating Station. Dr. Wells has been a project manager and key team member since 1978 for the planning, execution and evaluation for numerous studies for the Delaware River Salem Generating Station (PSE&G). He has been Project Manager and Lead Scientist for a study of entrainment sampling bias. In this capacity he has designed, implemented, managed, analyzed and reported on several independent studies designed to address net extrusion bias in entrainment samples.

Consumers Power Company, Hydro Facility Assessments. Dr. Wells was the biometrician for an assessment of seven separate hydroelectric generating facilities on the AuSable, Manistee, and Hardy rivers in Michigan. One of his primary responsibilities was assisting with the Instream Flow Incremental Methodology (IFIM) study design, selection of habitat suitability curves, modeling and interpretation of results. Aspects of the study design relating sample size to Weighted Usable Area (WUA) precision were presented in Wells et al. (1993). Dr. Wells was also responsible for the estimation of fish population numbers at the seven study sites using multipass depletion data from electrofishing surveys. His work with respect to the statistical evaluation of bank erosion rates at the study sites was incorporated into Vecchio et al., 1993.

Dominion Energy, Brayton Point Generating Station. Dr. Wells was project manager and a participating scientist for a detailed population assessment of winter flounder population dynamics in Mount Hope Bay. Winter flounder models included habitat suitability models, biothermal assessment models and population dynamics models, including Ricker and Beverton-Holt, Hilborn, and age-structured models. The latter model was implemented using RAMAS GIS/METAPOP. Dr. Wells also developed a habitat suitability based biothermal assessment model for juvenile winter flounder in Mount Hope Bay for assessing the thermal plume effects of the facility. Other species investigated included windowpane, hogchoker, scup, and tautog. An extensive community analysis was also conducted.

PSE&G, Burlington Generating Station. Dr. Wells was project manager for an assessment of the once-through cooling system at PSE&G's Burlington Generating Station. This station, located on the Delaware River approximately 11 miles SW of Trenton, was scheduled for rehabilitation. There were two primary areas of study. First, standard mathematical thermal plume models were applied to generate predictive plume maps covering all tidal stages and low and median river flows. Second, an assessment of the potential for entrainment loss of river organisms was made from developed biothermal assessment models. Based partially on the preliminary thermal map and entrainment model results, PSE&G decided to install a closed-cycle cooling system.

New York Harbor Winter Flounder Assessment, USACE – New York District, Harbor Deepening Aquatic Biological Sampling, New York/New Jersey Harbor. Senior Scientist. Dr. Wells was the biometrician in charge of the statistical analysis of winter flounder distributions and movement patterns in New York Harbor as determined from an extensive bottom trawl program. Results of this study were presented at the 2000 Flatfish Biology Conference by T. Nelson. Dr. Wells also conducted a gear comparison study of sampling for winter flounder early life stages, including historic sampling using an epibenthic sled with the 0.5-m net mounted 7-in. above the substrate. Catches with this configuration were tested against sleds with and without a "tickler chain" and with mounts 2-in. and 3.5-in. above the substrate.

ESS, Athens Generating Station. Dr. Wells was the project manager for the biological assessment components of the Article X related issues for the proposed Athens Generating Station. Impact assessment prediction models were prepared for Atlantic sturgeon, shortnose sturgeon, alewife, blueback herring, American shad, rainbow smelt, spottail shiner, white catfish, Atlantic tomcod, striped bass, white perch, bluefish, American eel, largemouth bass, and smallmouth bass. Biothermal assessments were also conducted for the same species.

Bradley Williams, PhD

Project Role: Environmental Chemistry

Education
Ph.D., Environmental Science, 1993 / M.S., Environmental Science, 1990 / B.A., Geology, 1984

Experience
Dr. Williams is a senior project manager and director of the Environmental Chemistry Section at HDR. As senior project manager he is responsible for client contact, work scope and budget development, preparing subcontractor(s) contracts, manpower projections, scheduling, and report generation. As director of the Environmental Chemistry Section, Dr. Williams is responsible for defining sample chemical analyses to meet project and data quality objectives and subsequent data interpretation and assessment. As part of the data interpretation, Dr. Williams conducts statistical analysis and modeling. He also evaluates transport and fate of contaminant occurring in various media. The following are Dr. William's relevant project examples:

PANYNJ, John F. Kennedy International Airport Site Investigations. Dr. Williams has directed a number of site investigations conducted at the John F. Kennedy International Airport for PANYNJ including work at Building Nos. 56, 67, 197, 215 and Area 7. These investigations typically include soil, soil gas, surface water and groundwater analyses for organic and inorganic contaminants. His responsibilities included project development, management, subcontractor oversight, client contact, data interpretation and report generation.

PANYNJ, Allied Signal Environmental Remediation, Elizabeth, NJ. Dr. Williams is currently assisting the PANYNJ with the preparation and oversight of an environmental remediation of portions of a large parcel of land located in Elizabeth, New Jersey. Remediation is being conducted to address soil and groundwater contamination encountered during site investigations performed as part of due diligence prior to property acquisition by PANYNJ. Additional services currently being performed include preparation and submittal of necessary permits to NJDEP, delineation of the freshwater wetlands and preparation of a renewed Letter of Intent (LOI), and preparation and sampling in support of a Community air Monitoring Plan.

The Related Companies, Staten Island, New York Site. Dr. Williams provided technical support during the acquisition and is currently providing support during the redevelopment of a large former major oil storage facility in Staten Island. Activities have included preparation of a human health exposure assessment, development of site cleanup levels based on those findings and negotiation with NYSDEC and NYSDOH, assisting with the preparation of a Beneficial Use Determination (BUD) petition for the importation of common fill and preparation of a BUD petition for the specific use of processed dredge material.

PANYNJ, Air Quality Monitoring Program. Dr. Williams developed an air quality monitoring program for the PANYNJ to assess whether ferry operations at the temporary landing associated with the Battery Park City Ferry Terminal Expansion are having a negative impact on local air quality. The proposed testing will encompassed the peak hours of ferry service and park usage.

PANYNJ, Ecological Studies On-Call Agreement for Services in Support of Due Diligence for the Potential Acquisition of Stewart International Airport. Dr. Williams was the contract manager of this project which included an environmental records search and asbestos assessment of onsite buildings in support of potential property transfer. Managed the retrieval and review of information from a data retrieval service to document the presence of registered ASTs and USTs, spills, landfills, RCRA small and large quality generators and other potentially hazardous or petroleum related activities in the area of the airport.

PANYNJ, Dredging/Sampling in New York/New Jersey Harbor. Dr. Williams provided analytical laboratory and quality assurance and quality control (QA/QC) oversight for sediment dredging projects in New York, including work at the Howland Hook Marine Terminal, the 59th Street Marine Transfer Station, Arthur Kill, Port Elizabeth, and Port Newark. Contaminants of concern have included PCBs, dioxins, heavy metals, petroleum related volatile organic compounds and polynuclear aromatic hydrocarbons. These projects are being conducted in order to maintain the navigational channels and to assess potential beneficial uses of dredged material at upland remediation sites.

NYSDOT, Term Agreement for Environmental Assessments and Design Services at Stewart Airport, Orange County, NY. Dr. Williams is serving as Project Manager providing environmental services at the Stewart International Airport (SWF). Currently, HDR is conducting a groundwater and soils investigation and evaluation in the area of a former aviation fuel farm which included an aboveground storage tank (AST) facility, the associated fueling area, and a former underground storage tank (UST) farm. HDR is currently performing an environmental investigation of the Southern Landfill Complex (SLC), a portion of which was used for disposal by the U.S. Air Force during their operation of the airport. HDR is currently reviewing available information for an area referred to on the airport property as the former Demolition & Burning Facility (DBF) where ammunitions that were possibly test devices or outdated, off-spec, or excess devices were detonated and/or burned during operation by the U.S. Air force.

USEPA Region 2 Remedial Action Contract. Dr. Williams is the program manager for this 10-year contract providing support to USEPA Region 2 with RI/FS and oversight services at Superfund Sites in NY and NJ. Currently conducting RI/FSs at the Ellenville Scrap Metal site, Fulton Avenue, Peninsula Boulevard, and proposed actions at Gowanus Canal and Lehigh Valley Railroad. The project includes oversight at Solvent Savers and Wallkill Landfill Superfund Sites in NY.

Former Mimi Cleaners, Scarsdale, NY. Dr. Williams directed the investigation, installation and operation of numerous SSDs in commercial buildings in downtown Scarsdale. The mitigations systems were required to address the potential for soil vapor intrusion resulting from PCE-contaminated groundwater. The project began with an investigation, followed by design of a remedial action for this former dry cleaners under a Voluntary Cleanup Agreement entered into with the State. The successfully completed remedial action included soil excavation beneath the building slab and installation and operation of an SVE system.

NYSDEC, Standby State Superfund Contract (D006129), Statewide. Dr. Williams is the Quality Assurance Officer performing assignments for the NYSDEC under a standby contract for hazardous waste consulting services. During the 7-year contract, HDR will perform preliminary site assessments (PSAs), remedial investigation / feasibility studies (RI/FSs), remedial design (RD), construction management (CM), and miscellaneous hazardous waste services.

David Yozzo, PhD

Project Role: Environmental Assessments Support

Education
Ph.D., Environmental Sciences (Estuarine Ecology), 1994 / M.S., Environmental Sciences (Estuarine Ecology), 1990 / B.A., Environmental Sciences (Ecology), 1987

Experience
Dr. Yozzo is a Senior Project Manager at HDR and an Adjunct Associate Professor of Environmental Sciences at Purchase College, SUNY, with extensive experience in environmental assessments. He is an estuarine ecologist with particular expertise in fish and benthic invertebrate communities of salt marshes and tidal freshwater ecosystems. He has conducted research on invasive species ecology in the Hudson River Estuary and Long Island Sound, and has participated in the planning and evaluation of coastal habitat restoration projects in New England, Jamaica Bay, Chesapeake Bay, South Florida's Everglades and the Blackwater Estuary, East Anglia, U.K. Dr. Yozzo has designed and supervised complex, multi-disciplinary environmental surveys associated with habitat restoration and navigation improvement projects for USACE – New York District, NYSDEC, PANY/NJ, and the Maryland Port Administration. He recently conducted a programmatic review of habitat restoration within NOAA's National Estuarine Research Reserve System, and a review of ecological impacts of beach nourishment for NOAA's Coastal Services Center. As a Program manager for two consecutive USACE – New York District BECR contracts (1997-2005), Dr. Yozzo has considerable experience in proposal development, contract negotiation, and supervision of multiple sub-contractors. The following are Dr. Yozzo's relevant project examples:

PANYNJ, Bergen Basin Offloading Project. Dr. Yozzo coordinated the regulatory process and prepared Federal State and city (NYC) permitting documents, including a USACE Mooring Buoy Application, a Consistency Assessment form for NYC's Waterfront Revitalization Program, Coastal Zone Consistency forms, (NYS and NYC) and a Joint Permit Application (USACE and NYSDEC) for this project which involved the temporary installation of mooring buoys and deployment /offloading of barges containing construction aggregate in Bergen Basin, a tributary of Jamaica Bay located within JFK International Airport, Queens, NY.

PANYNJ, John F. Kennedy (JFK) International Airport State Pollutant Discharge Elimination System (SPDES) Permit Modification Outfall Sampling. Dr. Yozzo prepared sections of a technical summary report detailing the effects of glycol-based runway de-icer fluid on aquatic habits, including a literature review of the effects of four contaminants of concern (N-Hexadecane, N-Dodecane, 5-Methyl-1H-Benzotriazole, N-Tetradecane).

Transit-Link Consultants and New Jersey Transit , Environmental Impact Statement, Access to the Region's Core (ARC). Dr, Yozzo prepared sections of an Environmental Impact Statement which evaluated impacts to water quality, and aquatic resources associated with several proposed transportation infrastructure improvement projects in the NY/NJ Metropolitan area.

NYCDEP, Ecological Design Services for the Construction of Ecological Restoration Pilot Projects, New York, NY. Dr. Yozzo is participating in the planning, design, construction and

monitoring of several innovative ecosystem demonstration projects within Jamaica Bay, including oyster reef construction, eelgrass transplants, ribbed mussel bed bio-filtration studies, and harvesting of nuisance macroalgae. The purpose of these "pilot" projects is to evaluate the feasibility of habitat restoration alternatives as a means of improving water quality and enhancing estuarine habitat in the Bay, which has experienced cultural eutrophication and direct habitat degradation as a result of decades of human impacts, including nutrient and pollutant loadings for combined sewer overflows (CSOs).

Brookfield Properties Corporation, One New York Plaza State Pollutant Discharge Elimination System (SPDES) Permit Modification, New York, NY. Dr. Yozzo managed several components of this project, including development of a fisheries impingement/entrainment (I/E) sampling plan, conducting a 12-month I/E sampling program in accordance with the NYSDEC-approved plan, and preparation of a Best Management Practices (BMP) Plan and a Design, Construction and Technology Review (DCTR) for the One New York Plaza building, located in lower Manhattan.

USACE New York District, Beneficial uses of Dredged Material for Habitat Restoration, Creation and Enhancement in NY/NJ Harbor. Dr. Yozzo was Project Manager and primary author of a technical report entitled "Beneficial uses of dredged material for habitat restoration, creation and enhancement in New York/New Jersey Harbor."

USACE New York District, Hudson-Raritan Estuary Environmental Restoration Reconnaissance Study. Dr. Yozzo was Project Manager for a regional analysis of potential restoration opportunities within the Hudson-Raritan Estuary. He coordinated a series of agency and public interest group workshops and site visits. The results of the analysis were summarized in a technical report and a project-specific GIS. These products were used to prepare a WRDA Section 905(b) Preliminary Analysis Report and Project Study Plan.

USACE New York District, Biological Assessment for Threatened and Endangered Species in the Port of NY/NJ. Dr. Yozzo prepared a Biological Assessment in accordance with Section 7 (c) of the Endangered Species Act of 1973 The purpose of the BA was to address the potential effects of New York/New Jersey Harbor Deepening activities on five species: Peregrine falcon, piping plover, roseate tern, northeastern beach tiger beetle and seabeach amaranth.

USACE New York District, NYSDEC and PANYNJ, Norton Basin/Little Bay Environmental Restoration. Dr. Yozzo was Project Manager for the Norton Basin Little/Bay Environmental Restoration Project - Baseline Ecological Characterization. This four-year, multi-disciplinary survey included seasonal monitoring of water quality, hydrodynamics, benthic communities and finfish at proposed borrow pit restoration sites and reference areas in Jamaica Bay, resulting in 24 technical report and several presentations at regional and national meetings/conferences.

Essential Fish Habitat (EFH) Assessment/Consultation. Dr. Yozzo has prepared and reviewed several Essential Fish Habitat Assessments in support of a variety of projects within the Hudson-Raritan Estuary, following guidelines set forth by NOAA's National Marine Fisheries Service, in compliance with Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCA), as amended by the Sustainable Fisheries Act (SFA) of 1996.

Sarah Zappala

Project Role: Essential Fish Habitat Studies Support

Education
M.S., Marine Environmental Studies, 2001 / B.S., Biology, 1998

Experience
Ms. Zappala is a project manager who specializes in assessing impacts to aquatic environments and completing the regulatory requirements for dredging, waterfront development and pipeline transmission projects at HDR. She is responsible for the preparation of environmental assessments and impact statements including essential fish habitat assessments for waterfront development projects in New York/New Jersey harbor which include the evaluation of project impacts and the development of aquatic habitat enhancement/restoration plans. The following are Ms. Zappala's relevant project examples:

USACE New York District, Essential Fish Habitat Enhancement Program. As Project Manager, Ms. Zappala wrote the New York/New Jersey Harbor wide Essential Fish Habitat (EFH) and led the HDR team in the seasonal sampling program to describe and evaluate habitat enhancement opportunities for American lobster and Essential Fish Habitat species in the Hudson-Raritan River Estuary, including Western Long Island Sound. Being conducted for the USACE – New York District, the sampling program characterizes suitable habitat enhancement sites within the Hudson – Raritan Estuary, including Western Long Island Sound, to offset potential habitat-related impacts associated with future navigation channel deepening projects. The program has involved a variety of gear types to sample the invertebrate community including, crab traps, lobster pots, clam dredge and sediment grabs. Ms. Zappala's responsibilities have included identifying macroinvertebrate samples as well as coordinating a diver reconnaissance/monitoring program to identify lobster habitat and verify the presence/absence of lobster life stages in the project area.

USACE New York District, Harbor Deepening, Harborwide EFH. As project manager, Ms. Zappala led the HDR team that assisted the USACE – New York District in the preparing the Harborwide EFH assessment and annual aquatic biological sampling programs in New York and New Jersey Harbor to assess potential impacts of navigation channel improvements. The EFH assessment included a re-evaluation of the direct, indirect and cumulative impacts of the Harbor Deepening Project (HDP) on those species and life stages for which EFH has been designated in the project area. The potential physical and biological effects of dredging and other harbor deepening activities on EFH and forage species were re-evaluated using information collected during the on-going aquatic biological survey of the Harbor and other recent studies in the area. Short-term and long-term impacts of the HDP were assessed in terms of the seasonal distribution, relative abundance, and habitat requirements of the designated species in both channel and non-channel areas.

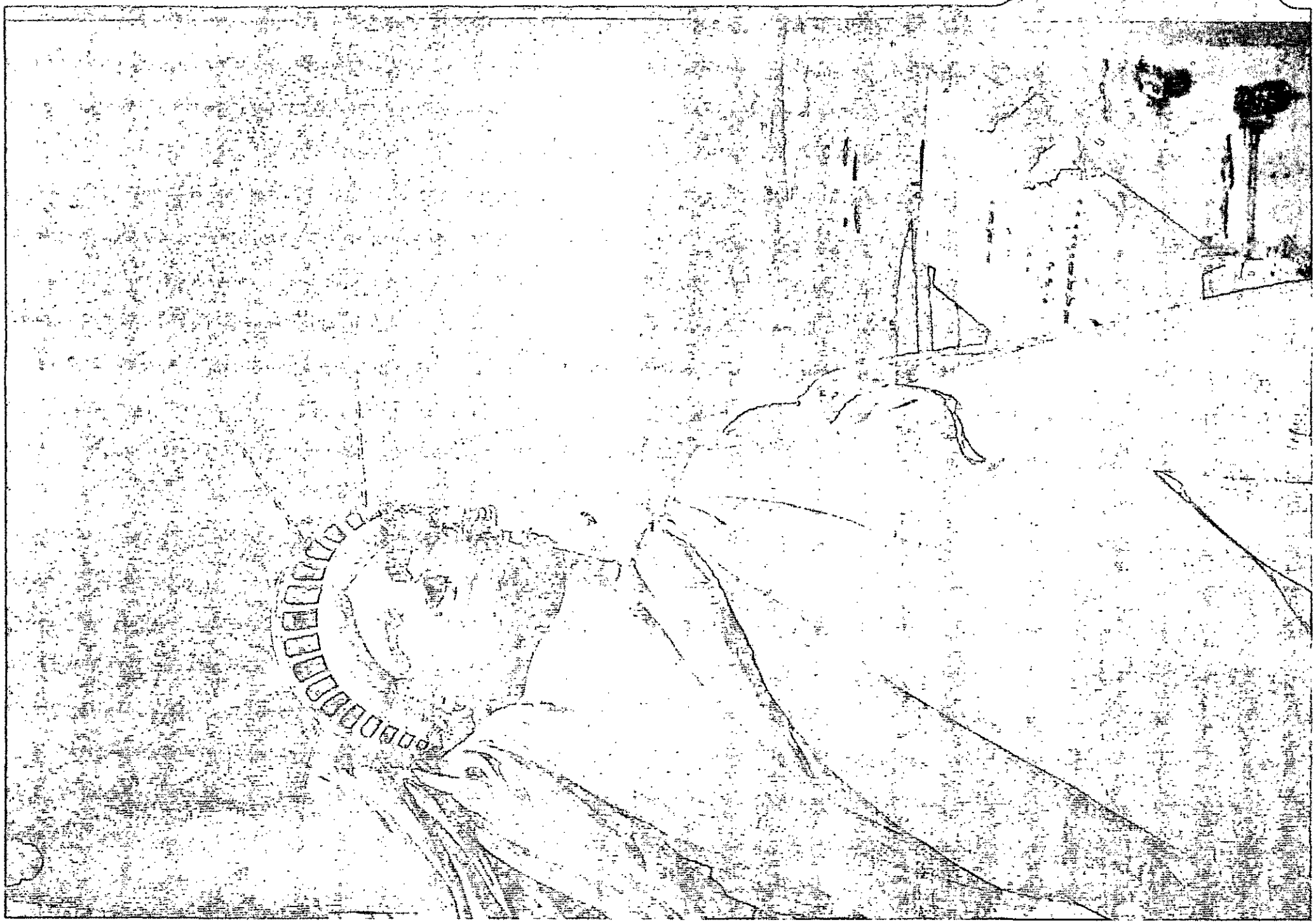
PANYNJ, Goethals Bridge Replacement Project Environmental Impact Statement. As Project Biologist, Ms. Zappala assisted the PANYNJ with the preparation of a National Environmental Policy Act (NEPA) environmental impact statement (EIS) and essential fish habitat (EFH) for the replacement of the Goethals Bridge, which connects northwestern Staten Island, New York to Elizabeth, New Jersey. Ms. Zappala was responsible for evaluating possible project related impacts to the aquatic community on the project site.

PANYNJ, Comprehensive Port Improvement Plan, Port of New York & New Jersey. HDR, was selected to work with the PANYNJ and the Comprehensive Port Improvement Plan (CPIP) Consortium members to provide environmental planning and engineering services for the environmental impact resulting from the future development of the Port of New York & New Jersey. The purpose of the environmental impact services was to examine the potential beneficial and adverse social, economic, and environmental effects of port and transportation improvements included in the CPIP, the comprehensive plan that was under development by the CPIP Plan Consultant, under separate contract. The CPIP is a multi-phased master plan to address trends of increasing cargo volumes and ship size in the Port to the year 2060, in an economically and environmentally sustainable manner. The impact studies tiered, with assessments completed for several analysis years. The CPIP assured that the national and regional benefits associated with Port commerce would be achieved, but also assured that the Port would develop in a manner that preserved and enhanced the surrounding land- and water-side environments in which it operates. As environmental scientist Ms. Zappala assisted n the preparation and review of the environmental assessment (EA). In addition, she helped coordinate public workshops and coordinated the mass mailing and public outreach. Public outreach activities included the creation of periodic newsletters and fact sheets, open house meetings and technical workshops, interviews with community leaders and stakeholders, and multimedia advertising.

Bourne Consulting and Engineering Inc., Atlantic Salt Shoreline Stabilization. As Project Biologist, Ms. Zappala assisted in project permitting procedures for the stabilization of the shoreline and dredging in order to improve safety and operations for the Atlantic Salt Corporation. Ms. Zappala prepared an essential fish habitat (EFH) as part of the permitting process. She assessed the potential impacts to fish and invertebrate populations and habitat that may result from constructing a bulkhead at the project site. Ms. Zappala was also responsible for preparing a mitigation plan and assessing the value of the existing habitat.

NYCEDC, East River Waterfront Study. Ms. Zappala assisted the NYCEDC in assessing potential aquatic impacts and marine habitat enhancement opportunities related to the proposed redevelopment of the lower East River waterfront in Manhattan. As an environmental scientist, Ms. Zappala assessed potential impacts to fish and invertebrate populations and habitat that may result from the development of overwater structures on the East River in New York City. Ms. Zappala's responsibilities for this project included researching substrate and habitat preferences for resident and migratory fish and invertebrate populations and using this information to make recommendations for the development of underwater structures for habitat improvement.

NYCEDC, West Harlem Waterfront Redevelopment. As project manager, Ms. Zappala completed permitting requirements for the redevelopment of the shoreline. In addition, Ms. Zappala prepared a mitigation plan, and an analysis of the habitat value of the existing conditions as part of the permitting process. She also assessed potential impacts to fish and invertebrate habitat that may result from constructing recreational and ferry piers at the project site. Ms. Zappala was responsible for developing the pre- and post-monitoring plan which evaluated the finfish and invertebrate utilization of the structural marine habitat (i.e. reef balls) and evaluated sediment erosion and accretion patterns around the new in-water structures.



SECTION H. FIRM AFFILIATES

The following are affiliates of Henningson, Durham & Richardson, Architecture and Engineering, P.C.:

- Brown, Vence & Associates
- CGvL
- Claunch & Miller, Inc.
- Cochran & Wilken, Inc.
- CUH2A Europe, Inc.
- CUH2A, INC. Architecture Engineering Planning
- Devine Tarbell & Associates, Inc.
- E. T. Archer Corporation
- Economic & Engineering Services, Inc. (EES)
- Engineering-Environmental Management, Inc. (e2m)
- Hawaii Pacific Engineers, Inc.
- HDR Acquisition Services, Inc.
- HDR Alaska, Inc.
- HDR Architecture Associates, Inc.
- HDR Architecture Canada, Inc.
- HDR Architecture, Inc.
- HDR Architecture, P.C.
- HDR Archs. & Engrs., P.C.
- HDR Canada Holding Corporation
- HDR Construction Control Corporation
- HDR Corporate Services, Inc.
- HDR Corporation
- HDR dé Puerto Rico, P.C.
- HDR Design-Build, Inc.
- HDR Engineering, Inc.
- HDR Engineering, Inc. of the Carolinas
- HDR Environmental Technologies, Inc.
- HDR, Inc.
- HDR International, Inc.
- HDR Michigan, Inc.
- HDR of the District of Columbia, P.C.
- HDR Project Development Services, Inc.
- HDR Project Services Corporation of Arizona
- HDR Security Operations, Inc.
- HDR/Wljorden, Inc.
- HDR-Richardson Gordon, Inc.
- Henningson, Durham & Richardson International Inc.
- Henningson, Durham & Richardson of Penn., Archs. & Engrs., P.C.
- Henningson, Durham & Richardson, P.C.
- HLB Decision Economics, Inc.
- iTRANS Consulting, Inc.
- Johnson-Brittain & Associates, Inc.
- Pharos Corporation
- Quest Engineers, Inc.
- Shiner, Moseley and Associates, Inc.
- Surface Water Resources
- WHM Transportation Engineering Consultants, Inc.

A Conflict of Interest Statement

SECTION I. CONFLICT OF INTEREST

Henningson, Durham & Richardson, Architecture and Engineering, P.C., any employee of the firm, agent or subcontractor does not have a conflict of interest with the subject project.

SECTION J. COMMENTS ON CONTRACT

HDR has no comments on the contract language at this time.

SECTION E. BILLING RATES

The actual, direct hourly rates for personnel identified in the organizational chart and other technical and engineering personnel who may be assigned to work on PANYNJ assignments are presented below. If the call-in assignment warrants, HDR will request to utilize additional personnel or personnel with similar experience to those in the table below.

HDR Personnel - Billing Rates and Direct Hourly Rates

Title	Personnel	2010 Direct Hourly Rates
Quality Assurance/Quality Control Officer	(Ex. 1)	$90.00
Project Manager - Essential Fish Habitat Studies		$58.97
Project Manager - Water Quality Studies/Modeling		$71.50
Wetland Delineations Support		$31.13
Environmental Assessments Support		$64.62
Regulatory Compliance		$56.86
Water Qualities Studies Support		$63.62
GIS		$44.93
Environmental Assessments Support/Biological Statistical Monitoring		$44.87
Cost Estimating/Shop Drawings		$55.05
Regulatory Compliance		$54.00
Wetland Delineations Support		$20.08
Essential Fish Habitat Studies Support		$31.30
Project Manager - Environmental Assessments		$51.54
Essential Fish Habitat Studies Support		$29.35
Field Inspections/ Environmental Data Collection & Analysis		$29.76
Contract Manager		$74.70
Hydrogeology		$33.25
Wetland Delineations		$42.20

Title	Personnel	2010 Direct Hourly Rates
Support/Threatened & Endangered Species	(ex. 1)	
GIS		$32.15
Board of Experts		$84.50
Modeling/Hydrogeology		$64.71
Water Quality Studies Support/Modeling		$62.53
Board of Experts		$98.00
Public Health Risk		$52.55
Field Inspections/ Environmental Data Collection & Analysis		$23.10
Environmental Assessments Support		$51.68
Report Preparation		$39.45
Dredged Material & Sediment/Contract Documents		$63.36
Wetland Delineations Support		$57.30
Cost Estimating		$35.70
Essential Fish Habitat Studies Support		$49.75
Dredged Material & Sediment		$47.36
Environmental Assessments Support		$39.65
Water Quality Studies Support		$44.29
Project Manager - Wetland Delineations		$49.66
Wetland Delineations Support		$35.60
Water Quality Studies Support		$29.68
Public Health Risk		$52.89
Biological Statistical Modeling		$58.90
Environmental Chemistry		$74.75
Environmental Assessments Support		$61.89
Essential Fish Habitat Studies Support		$51.03

Note:

Rates are based on current salary levels. HDR implements industry standard salary adjustments on a calendar year basis and anticipates that such an increase will occur in January 2011.

Company Compensation Policy

HDR is committed to fair and equitable compensation practices and strives to maintain pay rates that are comparable to other companies in our industry and geographic area.

Work Week

HDR's regular workweek is considered to be a schedule of 40 hours in length worked within a calendar week, Sunday through Saturday.

Timekeeping Requirements

As an employee of a government contractor, all employees, including those in salaried positions, keep accurate time records, recording daily the time spent on each project. These reports are the principal source of information in preparing cost reports and invoices for presentation to clients.

Exempt Salaried Employees

Each exempt salaried employee is paid on the basis of a weekly salary. Salaried employees normally do not receive overtime pay.

Nonexempt Hourly Employees

Hourly employees are paid a rate for each hour they work. All hourly employees at HDR are non-exempt and will be paid a minimum wage and overtime at one and one-half times their regular rate for all authorized hours worked in excess of 40 hours per week.

SECTION F. RELEVANT EXPERIENCE

Relevant Project Experience

The following pages present our experience matrix as well as specific case histories of projects conducted by HDR for each of the above potential environmental projects. Services provided include project scoping, field surveys and inspections, data collection and analysis, environmental assessments, preparation of permit applications and reports, preparation of cost estimates, modeling, preparation of contract documents, and shop drawing review and approval.

Company Overview

HDR was founded in 1917 and has more than 7,800 planners, engineers, scientists and support personnel located in 185 offices throughout the United States. HDR's operating philosophy is to be an expertise-driven national firm that delivers tailored solutions through a strong local presence. In the New York metropolitan area, HDR represents over 500 professionals in ten regional offices.

Recent and Ongoing PANYNJ Ecological and Environmental Studies

Since 1984 we have enjoyed an excellent working relationship with the PANYNJ Engineering Department managers and staff, PANYNJ Facility managers and staff, and other Line Departments personnel (e.g., Port Commerce; Aviation; World Trade Center; Tunnels, Bridges, and Terminals). HDR has been awarded multiple Engineering Department call-in contracts since 1990 and has conducted many project-specific major assignments. Our past Ecological and Environmental Engineering PANYNJ assignments (200 over the last two decades) have covered most of the PANYNJ facilities and programs including:

A. Aviation Facilities

1. ***JFK Airport:*** assignments ranging from baseline studies, wastewater treatment and treatability studies, subsurface investigations, EA's and SPDES permits, SPDES water quality modeling, water quality and flow monitoring, DMR preparation and compliance, underground storage tanks (UST) Closure Plans, SPCC Plans, SWPPP Plans, BUD's, deicing measurements and modeling, air emissions, to soils management.
2. ***LaGuardia Airport:*** assignments ranging from closure plans, runway extension investigations, water quality modeling, SPCC plans, UST removal to site investigations.
3. ***Newark Airport:*** assignments ranging from site investigations, wastewater treatment and sanitary sewerage and surcharge studies, SPCC plans, staff training, peripheral ditch odor control and declassification to alternative fuel evaluation, Switch House #1 underground storage tank closure and removal and remedial action report.
4. ***Stewart International Airport:*** Due diligence studies, wetland delineations.
5. ***Teterboro Airport:*** Habitat delineation studies, airport runway safety improvements.

B. Port Commerce Facilities

1. ***Howland Hook:*** Essential Fish Habitat (EFH) Studies, Sanitary Engineering Investigations, wastewater treatment, dredging studies, eastbound ramp.
2. ***Port Newark/Port Elizabeth:*** Dredging and reprofiling studies, Newark Bay sedimentation

modeling, roadway realignment, remedial action plan, EFH, site investigations, wastewater treatment, and stormwater studies/permits.

3. ***New York & New Jersey Harbor Subchannel Cells for Dredged Material:*** EIS
4. ***Newark Bay Dredging & Sedimentation:*** Baywide Sedimentation Studies
5. ***Newark Bay CDF:*** Sampling and Modeling, EIS, EFH
6. ***Port Jersey:*** Wind power project, coastal rule review and avian study, avian and bat survey.

C. Other Facilities including:

Port Reading Due Diligence, Brooklyn Piers, Bayonne Bridge, GW Bridge, A&A landfill, Proctor & Gambel site investigations, Atlantic Basin, Hoboken Ferry Terminal, Hunter's Point Development, CAC Borrow Pits, Passenger Ship Terminal, Path Exchange Place, Holland and Lincoln Tunnels, Allied Signal Site, Goethals Bridge and Outer Bridge Crossing.

D. Major PANYNJ Programs

1. ***World Trade Center:*** Intake Studies, Biological, Water quality, chlorination studies, thermal studies, North Cove (Battery Park City) dredging investigations, SPDES studies alternative cooling studies, BTA intake investigations and permits, sustainability evaluation, chiller plant.
2. ***Hudson River Ferry Terminals:*** Environmental impact, biological investigations, pile condition studies, marine borer investigation, air quality, noise, EA and NYSDEC permits.
3. ***New York & New Jersey Harbor Deepening:*** Dredging, HARS Assessment, GIS studies, Fresh Kills placement of dredged material.
4. ***Innovative Dredging Investigations and Workshops:*** Investigation ranging from dredging technology evaluation, transportation, beneficial use of sediments and upland placement, Environmental Green Ports Management Seminar for New York/New Jersey Tenants.
5. Several other PANYNJ co-sponsored, projects, e.g., CPIP, HRE, HDP and ARC.

Relevant Project Experience Matrix	Wetland Delineations	Water Quality Studies	Essential Fish Habitat Studies	Environmental Assessments
PANYNJ – Call-In Contracts for Ecological Studies	√	√	√	√
PANYNJ - World Trade Center Site Redevelopment/Intake Technology		√	√	√
PANYNJ - Goethals Bridge Replacement Program EIS		√	√	√
PANYNJ - Essential Fish Habitat Studies (Howland Hook, Port Newark, Fresh Kills)		√	√	
PANYNJ - World Financial Center Ferry Terminal Environmental Assessment		√	√	√
PANYNJ - *LaGuardia Airport Ferry Service*		√	√	√
PANYNJ - Comprehensive Port Improvement Plan (CPIP), Port of New York and New Jersey	√	√	√	√
PANYNJ - Site Investigations and Remedial Cost Estimates at Former Allied Signal Site	√			√
PANYNJ - SPDES Permit for JFK International Airport		√		√
PANYNJ - SPCC Plans and Training (JFK International Airport, LaGuardia Airport, EWR)		√		√
PANYNJ - George Washington Bridge Security Measures		√	√	√
PANYNJ - Stormwater Prevention Plans (LGA, JFK International Airport, Red Garage)		√		√
PANYNJ - Pier 7, Brooklyn Marine Terminal				√
PANYNJ - Stewart International Airport Due Diligence				√
PANYNJ - Port Newark/Port Elizabeth Express Rail Stormwater Management		√		
PANYNJ - Stewart Airport Expansion	√			√
PANYNJ - Teterboro Runway Extension	√			√
PANYNJ - Port Jersey Wind Energy				√
PANYNJ - Howland Hook Eastbound Ramp				√
Access to the Region's Core, Draft Environmental Impact Statement		√		√
Metro-North Railroad - Mid-Harlem Track Third Rail Design Site Investigations & Permitting	√			√
Metro-North Railroad - Highbridge Yard	√	√	√	√
NYCDEP - Bronx River Greenway and CSO Abatement Facilities	√	√		√
NYCDEP and USACE - Flushing Bay Hydrodynamic, Water Quality Modeling, and Dredging Volume Analysis		√		√
NYCDEP - Alley Creek Salt Marsh Design, Restoration and Creation	√	√	√	√
NYCEDC - East River Ferries – Environmental Assessment	√	√	√	√
NYCEDC - Brooklyn Waterfront Intermodal Improvements		√		√
NYCEDC - West Harlem Piers Waterfront Redevelopment	√	√	√	
NYCEDC - Groundwater Sampling 39th Street Pier, South Brooklyn Marine Terminal		√		
NYCEDC - East River Waterfront Development Study	√	√	√	√
USACE - New York & New Jersey Harbor Deepening Program (PANYNJ, Local Sponsor)	√	√	√	√
USACE - Liberty State Park Restoration	√	√		√
USACE - Hudson-Raritan Estuary Ecosystem Restoration Studies (PANYNJ, Local Sponsor)	√	√		
USACE - Dredged Material Management Plan		√		√
NYCDOS - MTS Upgrades Marine Borer Remediation and Dredging	√	√		√
City of New York Parks and Recreation - Bronx River Fish and Shellfish Habitat Creation	√	√		
Middlesex County - New Brunswick Landing Dredging & Mitigation	√	√		
NJDOT Office of Maritime Resources - Dredged Material Management and State Navigation Program		√		√
NYSDOT - Invasive Species and Threatened and Endangered Species		√		√
NYSOGS - Turtle Cove	√			√
Related Retail Corp. - GATX Site Redevelopment and Preparation of a Beneficial Use Determination - Dredging		√		√
American Sugar Refining Inc. - Sediment Minimization Analysis of Dock Facilities		√		√
Atlantic Salt Permitting Waterfront Redevelopment		√		√
ESDC - Atlantic Yards Owner's Representative Mitigation Monitor		√		√
Battery Park City Authority - North Cove Marine Dredging		√	√	√
Sterling Forest, LLC, Sterling Forest Site	√			

Firm Experience in the Four Primary Scope of Work Areas

HDR is experienced in a wide range of environmental fields including the four primary work areas outlined in the RFP. Services we have provided include wetland delineations, environmental assessments and studies, water quality studies, permit application and report preparation, essential fish habitat studies, and stormwater management studies. The following provides a brief description of the each of the four primary work areas followed by representative projects for each.

1. WETLAND DELINEATIONS

HDR recognizes that wetland delineation is one of the earliest tasks in the environmental review and assessment process to evaluate potential regulatory oversight of proposed project activities. We have trained wetland scientists knowledgeable in the use of appropriate manuals and guidance documents used to map wetland and watercourse boundaries based on the three-parameter approach (vegetation, soils and hydrology). HDR has also conducted delineations using the USACE disturbed area methodology where one or two of the three typical wetland identification criteria are absent or have been destroyed. With knowledge of the project plans and potential impacts, the permitting scenario and schedule can be discussed with agency staff to provide guidance in finalizing project plans. HDR has successfully navigated project applicants through the USACE/USEPA post-Rapanos guidance and has used the Preliminary and Approved Jurisdictional Determination approaches as part of recent wetlands studies. HDR wetlands staff has recently participated in the USACE training on the Interim North central/Northeast Regional *Supplement to the 1987 delineation manual and have incorporated the new guidance into our field* protocol.

We have performed wetland delineation services on many PANYNJ assignments including the Stewart International Airport Wetland Delineations Area 2 and Area 5; the Teterboro Airport Habitat & Wetland Delineation Studies; the Allied Signal Site in Elizabeth, New Jersey; Bergen Basin, Jamaica Bay, New York; the Harbor Deepening Feasibility Study with USACE and the Comprehensive Port Improvement Program (CPIP). If wetland impacts and mitigation are required, HDR has a landscape design team fully capable of designing fresh water wetlands, salt marshes, streams and riparian buffer habitat.

PANYNJ, Allied Signal Site in Elizabeth, Union County, NJ. HDR delineated the freshwater and tidally-influenced wetlands on a parcel bordering Newark Bay. The wetlands were mapped using GPS and wildlife observations were recorded as part of the delineation effort. HDR also prepared a Letter of Interpretation request package to NJDEP and an application for a Statewide General Permit No. 4 was prepared and submitted to NJDEP for authorization to complete well installation and excavation of contaminated soil within the freshwater wetland transition areas. ***Reference:*** *Mr. Edward Aldrich, PANYNJ, (973) 565-7553*

PANYNJ, Stewart International Airport Wetland Delineations - Area 2, New Windsor, NY. A Jurisdictional Determination of wetland and watercourse resources was requested by PANYNJ to

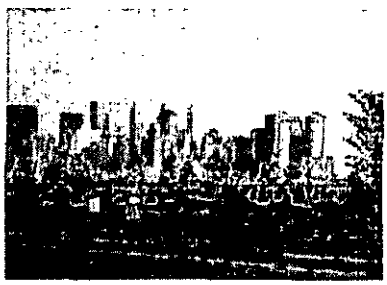
aid in the planning process for additional commercial development. HDR delineated the boundaries of wetlands and watercourses in June 2009 using the three-parameter methodology described in the 1987 United States Army Corps of Engineers (USACE) delineation manual within the 17.6 acre parcel. As the four identified wetlands appeared to be isolated and thus not subject to USACE jurisdiction, HDR prepared a Jurisdictional Determination report using the post-Rapanos guidance for approved JD's, including a Significant Nexus Determination. HDR also obtained endangered and threatened species file search results from the NYSDEC Natural Heritage Program and the U. S. Fish & Wildlife Service for the study area. ***Reference:*** *Mr. Marco Salcedo, PANYNJ, (973) 565-7556*

PANYNJ, Stewart International Airport Wetland Delineations - Area 5, New Windsor, NY. A Jurisdictional Determination of wetland and watercourse resources was requested by PANYNJ to aid in the planning process for additional commercial development. HDR delineated the boundaries of wetlands and watercourses in June 2009 using the three-parameter methodology described in the 1987 United States Army Corps of Engineers (USACE) delineation manual within the 86.4 acre parcel.. As the seven identified wetlands appeared to be hydrologically connected and thus subject to USACE jurisdiction, HDR prepared a Jurisdictional Determination report using the post-Rapanos guidance for preliminary JD's, HDR also obtained endangered and threatened species file search results from the NYSDEC Natural Heritage Program and the U. S. Fish & Wildlife Service for the study area. ***Reference:*** *Mr. Marco Salcedo, PANYNJ, (973) 565-7556*

New York City Department of Environmental Protection (NYCDEP), Alley Creek Salt Marsh Design, Restoration and Creation, Queens, NY. HDR delineated existing wetland types and developed detailed working drawing and contract specifications for the creation and restoration of approximately nine acres of tidal wetlands and seven acres of upland habitat to mitigate the impacts of the replacement of a combined sewer overflow (CSO) abatement conduit and outfall. The mitigation plan reestablishes a predominantly low marsh wetland community adjacent to a newly created wildflower and trees upland community. The final design creates a mosaic of wetland and upland habitats, designed to provide valuable wildlife and marine habitats along Alley Creek in Queens, NY.

HDR conducted other studies to guide the wetland design, including development of a hydrologic budget and water quality model, groundwater studies and a benthic macro-invertebrate survey. Bio-benchmarking was conducted on local reference wetlands to establish design criteria. ***Reference:*** *Mr. Matthew Osit, PE, NYCDEP, (718) 595-6077*

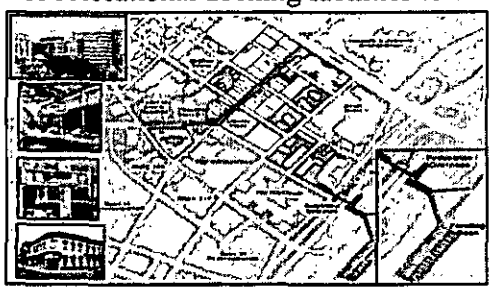
USACE New York District, Liberty State Park Restoration, Jersey City, NJ. HDR is the managing partner in a joint venture developing a restoration plan for coastal and freshwater wetlands and other associated habitats within Liberty State Park in Jersey City, New Jersey. The study included preparing an Environmental Resource Inventory (ERI) and a Hydrology and Hydraulics report



under USACE and NJDEP guidelines as part of the Hudson Estuary Environmental Restoration Plan. This restoration project will provide the first major ecosystem restoration in the Harbor.

Historically the park was an intertidal mudflat and salt marsh that was filled and used as a railroad yard for more than half a century. The preferred plan includes removal of fill material as part of the creation of a 45-acre tidal wetland; creation of grassland habitat; creation of freshwater wetlands; and enhancements of existing upland and wetland areas. The occurrence of state-listed threatened and endangered species, particularly the northern harrier, provides a focus for ecological management and local restoration goals. The planning/conceptual design process utilized a functional assessment, a bio-benchmarking study, and an analysis of existing tidal data to arrive at the preferred design. ***Reference:*** *Ms. Lisa Baron, USACE - New York District, (917) 790-8736*

Middlesex County, New Brunswick Landing Wetland Mitigation, NJ. The New Brunswick Landing Waterfront Development Project (Project) will provide recreational docking facilities to the City of New Brunswick. Project-related dredging impacted approximately 2.2 acres of intertidal/subtidal shallows. Mitigation of impacts will be through enhancement of 4.4 acres of degraded wetlands per N.J.A.C. 7:7A-15 requirements. HDR developed a mitigation plan to restore the area to a combination of forested and scrub shrub wetlands. HDR delineated the project site wetlands and proposed development of a wooded wetland community to provide a high level of functional value. The enhanced wooded wetlands will contain diverse habitats and support numerous plant and animal species. In addition, wetland areas that are presently dominated by invasive species, particularly reed canary grass and multiflora rose, would be replaced with higher quality wetlands, providing breeding, feeding and resting grounds for waterfowl and other animals. ***Reference:*** *Mr. Ralph Albanir, Middlesex County Parks & Recreation Dept., (732) 745-3995*



2. WATER QUALITY STUDIES

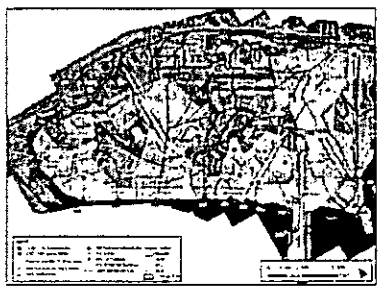
HDR provides services in field measurements, sampling, data analysis and modeling to assist the PANYNJ in regulatory programs such as NEPA, SPDES, NJPDES, water quality certifications, and TMDL assessments. Regulatory agencies have approved HDR's water quality models for use throughout New York and New Jersey Harbor. These services have been provided for several types of PANYNJ projects including:

- **Water intake and discharge & Hudson River ecological studies.** WTC re-licensing: CFD (FLUENT) modeling - A three-dimensional CFD model of North Cove was applied to evaluate the heated water discharge from the rebuilt WTC on temperature in the cove and the Hudson River.
- **Waterbody Modification.** Flushing Bay breakwater removal impact assessment - Hydrodynamic and time-variable water quality modeling was used to evaluate effects of partial and full removal of the breakwater near LaGuardia Airport on dissolved oxygen and hydrogen sulfide (odors) in Flushing Bay as part of the Flushing Bay Ecological Restoration Project, which was locally sponsored by the Port Authority and NYCDEP (HDR's client). The Federal sponsor was the USACE-NYD
- **Navigation Channel Deepening – Hydrodynamic and water quality modeling (MIKE3).** Hydrodynamic and time-variable water quality modeling was used to evaluate effects of

deepening navigational channels in NY/NJ harbor on temperature, salinity and dissolved oxygen. The model results were used to assess potential impacts on biological life as well as the water supply source for Poughkeepsie (Hudson River)

- **Goethals Bridge Replacement – Water quality modeling (NYC 208 Model).** Stormwater runoff during construction and post-construction were analyzed. The effects of these wet-weather loadings on the water quality of the Arthur Kill was modeled.
- **Newark Bay Sediment Budget - Hydrodynamic and water quality modeling (MIKE3).** Sediment transport in and around Newark Bay was modeled to analyze the contribution of the sources (Passaic and Hackensack Rivers, Kill Van Kull and local discharges) on deposition in the bay. The model results were used to project deposition rates in the areas of the bay where the required water depth for shipping is maintained by dredging.
- **JFK Airport Deicing Fluids Effects – Jamaica Bay water quality modeling (MIKE3).** JFK Airport stormwater was sampled during de-icing events during three years and Jamaica Bay, Bergen and Thurston Basins were sampled for water quality constituents, including glycol and dissolved oxygen. A landside model of the glycol-affected snowmelt runoff was developed and applied to calculate the discharge and glycol loading. A three-dimensional hydrodynamic and time-variable water quality model was calibrated and verified using the sampling data. The model is being used to project water quality under maximum glycol loading conditions as a requirement of the latest SPDES permit for JFK Airport.

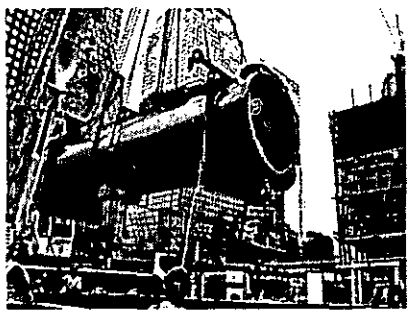
HDR is committed to keeping pace with the emerging water quality sampling technology and software applications. We use the latest technology in field operations such as GPS, Acoustic Doppler Current Profilers (ADCPs), Automated and Telemetered Sampling Devices, and real-time Data Acquisition Systems, to obtain precise data and employ the latest modeling and GIS technology to estimate impacts.



PANYNJ, JFK International Airport State Pollutant Discharge Elimination System. As a result of the JFK SPDES RFI submitted from the NYSDEC to the PANYNJ, and in response to special conditions required by the permit, HDR assisted the PANYNJ with development of a deicing event surface water sampling plan, coordination and environmental data collection and analysis of potential pollutants at JFK outfalls, and reporting of sample results in the Sampling Summary Report. Additionally, HDR has assisted PANYNJ in responding to Special Condition 1 of the permit, including development of an agency aproved Water Quality Modeling Plan. Development of the modeling plan required mapping of the JFK stormwater network to determine the tidal influence on stormwater sample collection and to identify representative sample locations. HDR field staff worked closely with the PANYNJ Environmental Services unit to coordinate sampling efforts and to collect information for the development of the Modeling Plan. ***Reference:*** *Mr. William Glynn, PANYNJ, (973) 565-7565*

PANYNJ, WTC Verification Monitoring Plan, New York, NY. The World Trade Center (WTC) Redevelopment Site welcomed the arrival of 5 giant chiller units that many consider to be the largest air conditioning system in the U.S. These units have the capacity to cool 700

homes and will be turned on partially in 2011 with full service slated for 2013. The WTC chiller plant will withdraw up to 30,000 gallons of water per minute from the nearby Hudson River at full service.



HDR authored a Best Technology Available (BTA) report related to the WTC Hudson River cooling water intake system. The design changes associated with the cooling systems include closed-cycle cooling, air-side and river water economizers, variable speed pumps and high efficiency chillers. These improvements have reduced once-through cooling water flow requirements by 85% and provide corresponding reductions in aquatic impacts associated with the entrainment and impingement of organisms at the intake location. More recently, HDR has been developing a Verification Monitoring Plan that will be implemented to evaluate if the upgraded system is actually achieving anticipated benefits. The monitoring program is scheduled to commence with full operation of the facility in 2013. ***Reference:*** *Mr. Robert Pruno, PANYNJ, (973) 565-7620*

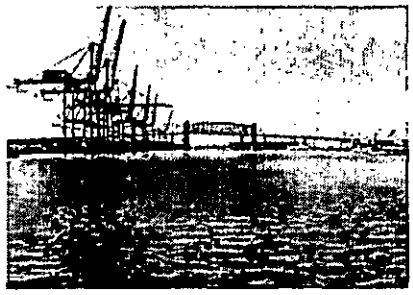
PANYNJ, JFK Airport/Red Garage Stormwater Pollution Prevention Plan (SWPPP). HDR assisted the PANYNJ in achieving compliance with new Phase II - Stormwater General Permit requirements outlined by the NYDEC. We successfully coordinated a strategy to achieve required water quality improvements on a project that is redeveloping a previously developed area and developed a SWPPP document in accordance with Phase II rules. ***Reference:*** *Mr. Robert Pruno, PANYNJ, (973) 565-7620*

USACE New York District, New York and New Jersey Harbor Deepening Program. HDR prepared a NEPA Environmental Assessment (EA) evaluating the effects of the New York/New Jersey Harbor Deepening Project on the Remedial Investigation/Feasibility Study (RI/FS) of the Newark Bay Study Area in response to a Court Order and Opinion. Tasks included hydraulic and water quality modeling of existing and proposed project conditions, identification of data requirements, report preparation and technical support for the litigation. In addition, HDR has been assisting with total suspended solids (TSS) monitoring to assess water quality impacts during channel deepening and determine the effect of sediment disturbance from dredging on the water column and nearshore aquatic communities. ***Reference:*** *Ms. Jenine Gallo, USACE New York District, (917) 790-8617*

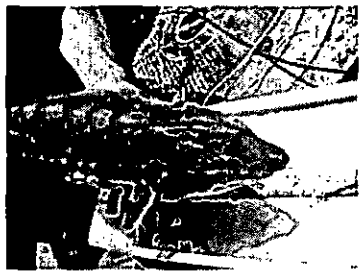
PANYNJ, Port Newark/Port Elizabeth Express Rail Stormwater Management. HDR facilitated the development of a stormwater management system that will be acceptable to the New Jersey regulatory agencies to meet stormwater runoff water quality requirements for the Expressrail Corbin Street Intermodal Rail Facility. We analyzed existing drainage patterns and, in coordination with the PANYNJ staff, developed a stormwater management

plan with water quality treatment features that addresses the full build out of the facility. This holistic approach prevented fragmentation of the project and allowed a comprehensive examination of stormwater issues as well as design of an efficient system that meets regulatory targets. ***Reference:*** *Mr. Robert Pruno, PANYNJ, (973) 565-7620*

3. ESSENTIAL FISH HABITAT STUDIES



PANYNJ, Update of the Essential Fish Habitat Assessment Howland Hook Marine Terminal. HDR performed an EFH assessment update to address the potential impacts to fish habitat related to the maintenance dredging and berth deepening at Howland Hook requiring the removal of approximately 75,000 cubic yards of material. EFH updates incorporated changes required by NOAA Fisheries since the original assessment was performed. These changes included newly designated EFH species as well as the need to assess indirect and cumulative impacts on EFH for managed species. Project related impacts to forage species were also examined. ***Reference:*** *Mr. Robert Pruno, PANYNJ, (973) 565-7620*



PANYNJ, Essential Fish Habitat Assessment George Washington Bridge Tower Protection. HDR developed an EFH assessment and report for submittal to federal and state agencies in support of permit applications for the project. The EFH assessment examined seasonal use by federally managed fish species and examined potential project impacts on these species, their forage species, and unmanaged species including striped bass, and the federally endangered shortnose sturgeon. ***Reference:*** *Mr. Robert Pruno, PANYNJ, (973) 565-7620*

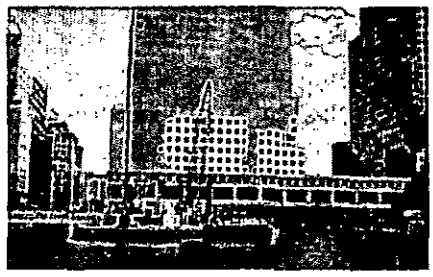
PANYNJ, Essential Fish Habitat Port Elizabeth and Port Newark. HDR developed an EFH assessment and report for submittal to federal and state agencies in support of maintenance dredging permits and deepening at selected berths within Port Newark and Port Elizabeth. HDR relied heavily on previous EFH assessments performed by HDR at these locations and addressed EFH species occurrence, relative abundance, known life history and habitat preference. ***Reference:*** *Mr. Robert Pruno, PANYNJ, (973) 565-7620*

NYCDEP, Ecological Pilot Projects of the Jamaica Bay Watershed Protection Plan. Habitat degradation in Jamaica Bay stems from many factors, including direct habitat loss from shoreline development and fill, poor water quality, dredging, hydrodynamic modifications and loss of historic freshwater and sediment inputs. The Jamaica Bay Watershed Protection Plan, a component of New York City's PlaNYC program, seeks to address habitat degradation in Jamaica Bay by conducting a series of ecological demonstration projects.

HDR scientists have been involved in numerous aspects of pilot project implementation,

including site suitability analyses, construction, and post-construction monitoring of eelgrass restoration sites; permitting and design of the oyster restoration pilot; design and permitting of the ribbed mussel pilot; and design and permitting of the algae harvesting pilot. During 2011-2012, HDR will be involved in monitoring the development, sustainability, and ecological function of the eelgrass, oyster and mussel pilots, and assessing the results of initial macroalgae harvesting prior to implementation of full-scale ecological restoration projects in successive years. ***Reference:*** *Mr. John McLaughlin, NYCDEP, (718) 595-4458*

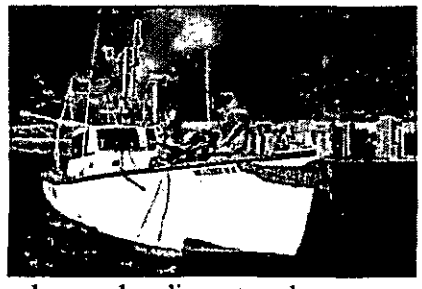
Battery Park City Authority, North Cove Marina Dredging. HDR acquired state and federal permits for the dredging of the North Cove Marina in Manhattan. The work consisted of agency meetings, preparation of NYSDEC, NYSDOS, NYCDCP, and USACE permit applications, and coordination of sediment analyses and hydrographic surveys. HDR staff also reviewed the bid documents and interviewed prospective dredging firms. HDR prepared an EFH assessment as part of the approved permit application. Permits were acquired in approximately three months, facilitating the start of dredging a month ahead of schedule. ***Reference:*** *Mr. Jeffrey Laner, Esq., Battery Park City Authority, (212) 417-4213*



USACE New York District, New York & New Jersey Harbor Deepening Aquatic Biological Surveys and Essential Fish Habitat Assessments. HDR is collecting data on harbor finfish, shellfish, macroinvertebrates, and water quality, with a focus on essential fish habitat (EFH), biological community structure, distribution patterns, and seasonal habitat use. The information collected is used in determining EFH impacts of deepening existing harbor navigation channels, anchorages, and berthing areas as well as collecting data to enhance USACE's knowledge of estuarine ecology.

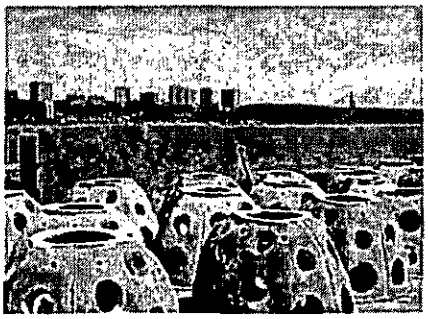
The program has involved a variety of gear-types to sample shoals, berthing areas, and channel habitat in Newark Bay, Arthur Kill, Kill Van Kull, Upper New York Bay, and Lower New York Bay, including otter trawls, mid-water pelagic trawls, crab dredges, epibenthic sled-mounted plankton nets, and sediment grabs. Surveys have focused on juvenile (eggs and larvae) and adult winter flounder between December and June to determine the use and significance of harbor habitat designated as EFH and to determine spawning periodicity and areas used by adult fish.

HDR has assisted USACE in the seasonal sampling program to describe and evaluate habitat enhancement opportunities for American lobster and EFH species in the Hudson-Raritan River Estuary, including Western Long Island Sound. The program characterizes suitable habitat enhancement sites to offset habitat-related impacts associated with channel deepening projects. Habitat enhancement sites were chosen based on site specific bathymetric, hydrodynamic and biological surveys. The program has involved a variety of gear types to sample the invertebrate community, including crab traps, lobster pots, clam dredge, and sediment grabs.



HDR has also assisted USACE in a Migratory Finfish sampling program in New York and New Jersey Harbor to assess potential impacts of navigation channel improvements. The program's primary goal is to characterize the migratory fish distribution, community structure, and seasonal patterns of habitat use. The program uses mid-water trawls to sample shoal and channel habitats in Newark Bay, Arthur Kill, Kill Van Kull, Upper New York Bay, and Lower New York Bay. ***Reference:*** *Ms. Jenine Gallo, USACE New York District, (917) 790-8617*

NYCEDC, West Harlem Piers Waterfront Redevelopment. NYCEDC's plans to redevelop and add in-water structures to the West Harlem Waterfront raised environmental regulatory concerns regarding impacts to the existing aquatic community. HDR provided the expertise in aquatic ecology and habitat restoration to balance the need for waterfront amenities with the need to provide aquatic habitat enhancement and mitigate potential impacts to EFH.



HDR developed a conceptual habitat enhancement design which was the basis for successfully completing the permitting so that the project could move forward. HDR developed the detailed design through consultation with the marine engineering and construction firms selected to design and build the in-water portion of the project. HDR also prepared a pre- and post-installation biological (benthic and epibenthic macroinvertebrates and fish) and physical (current and sediment) monitoring plan to meet Federal and State EFH assessment permit requirements and to assess and monitor potential impacts and benefits of reef balls and habitat enhancement. HDR conducted the monitoring which has shown a diverse aquatic community using the reef ball field. ***Reference:*** *Mr. Leonard Greco, NYCEDC, (212) 312-3743*

4. ENVIRONMENTAL ASSESSMENTS

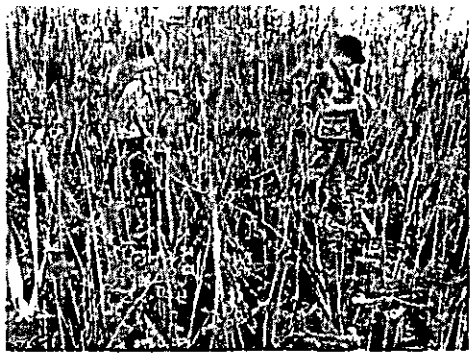
HDR is highly skilled at assessing and evaluating the impacts of various physical actions by humans upon the environment and has extensive experience in the preparation of environmental reports and assessments developed for the purpose of meeting NEPA, SEQRA, ULURP, CEQR, NJDEP LURP permitting and licensing requirements. HDR supports many of our environmental assessments with a variety of aquatic and terrestrial sampling and testing programs that included efficient environmental data collection and analysis. We have provided our clients with innovative measures to mitigate for unavoidable project related impacts.

HDR's environmental assessments have involved work on specialized aspects of major projects, such as the Bayonne Bridge, Goethals Bridge and Access to the Region's Core projects. We have also undertaken overall responsibility for the preparation of major EIS documents covered by both Federal NEPA as well as state and municipal environmental review programs. Examples include the Newark Bay CDF EIS, the Harbor Deepening EIS, and the New York City Solid Waste Management Plan EIS.

PANYNJ, Bayonne Bridge Environmental Screening and Alternatives Analysis, New York, NY. HDR lead this study for environmental impacts relative to regulatory and aquatic impacts for the alternatives for the Bayonne Bridge. HDR performed this study to explore options to rehabilitate or replace the Bayonne Bridge; the study reviewed design and rehabilitation strategies,

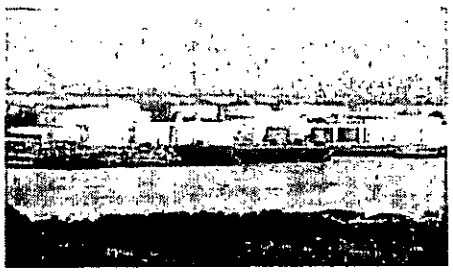
seismic analysis and bridge rehabilitation options. The study also identified right-of-way constraints, environmental considerations, costs and construction feasibility. HDR developed cost estimates and schedules for the proposed options including three main alternatives (raise the roadway, jack the arch, replace the structure), with sub-alternatives for each. Managing this vital project required intense communication with PANYNJ and timely production of the study. ***Reference:*** *Ms. Colleen Hopson, PANYNJ, (973) 792-4716*

PANYNJ, Port Wind Energy Avian and Bat Surveys, Bayonne, NJ. The PANYNJ is soliciting a developer to construct and operate a wind energy project in the location of an active container terminal on the Port Jersey peninsula in Bayonne and Jersey City, NJ. A feasibility analysis indicated that the site could support five to eight 1.5 Megawatt (MW) turbines. The project schedule is driven by the potential availability of economic incentives for the wind developer that would make the project an attractive investment. Federal incentives include American Recovery and Reinvestment Act (ARRA) loan guarantees and Department of Energy investment tax credits. To maintain the schedule requirements to be considered for ARRA funds, the PANYNJ is initiating the permitting process for the project during the solicitation process. Consideration to the project's potential impacts to birds and bats is a requirement of the application process for a NJDEP Waterfront Development Permit. HDR is assisting the PANYNJ to negotiate a pre-construction avian and bat monitoring plan for the project with the NJDEP, and conducting wildlife surveys on the site to determine the sites usage by birds for migratory stopover habitat, breeding and foraging habitat, and overwintering habitat. HDR has conducted 12 months of avian surveys on the project site and has proposed the use of NEXRAD radar data to estimate the density of birds that migrate over the site that could be vulnerable to collisions with turbines. Sonar studies to estimate the density of migrating bats are planned for the fall of 2010. ***Reference:*** *Mr. Christopher Zeppie, PANYNJ, (212) 435-4415*



PANYNJ, Teterboro Airport Habitat & Wetland Delineation Studies, Teterboro Airport, NJ. HDR conducted environmental surveys in support of the proposed Runway 19 Safety Area Expansion at Teterboro Airport. HDR wildlife biologists conducted detailed tree surveys of two parcels (19 and 0.8 acres in size) to evaluate their potential as roosting sites for Indiana bats, a state and federally endangered species. A total of 941 trees comprising 21 species were identified to species, measured and located by GPS for mapping purposes. The trees were categorized for suitability using USF&WS criteria for roosting potential. HDR also delineated state-regulated wetlands on the parcel using the 1989 Federal Interagency Manual routine on-site determination method. The wetlands were flagged, surveyed, and base maps produced to identify wetland locations and potential permtting requirements. Wetland habitats (scrub/shrub and forested wetlands) were characterized using the Cowardin system. As portions of the site had been previously filled and in current use as recreation fields, advanced field

techniques relying on soil characteristics and hydrology were used to map the wetland boundaries. ***Reference:*** *Mr. Marc Helman, PANYNJ, (973) 565-7564*



USACE New York District, NY and NJ Harbor Navigation Environmental Impact Statement and Ecosystem Studies. HDR was managing partner in a joint venture - The New York and New Jersey Harbor Partnership (NYNJHP) - that performed a comprehensive environmental impact study of navigation improvements to the New York and New Jersey Harbor. Since the completion of the Harbor Navigation FEIS, HDR has continued participated in on-going studies relating to the deepening program, including the preparation of an Environmental Assessment (EA) of the Effects of the New York/New Jersey Harbor Deepening Project on the USEPA RI/FS of the Newark Bay Study Area in response to a Court Order and Opinion. The EA included the evaluation of deepening the Federal navigation channels within the Newark Bay Study Area. Under contract to USACE and its non-federal partners, the PANYNJ, we assisted in preparing the EA under USACE and NEPA guidelines. Project tasks included hydraulic and water quality modeling of existing and future Harbor conditions, EA preparation, and technical support for the litigation. ***Reference:*** *Ms. Jenine Gallo, USACE New York District, (917) 790-8617*

PANYNJ, Howland Hook Marine Terminal Eastbound Ramp Configurations Alternatives Analysis. HDR conducted an Alternatives Analysis for two alternate eastbound ramp configurations for access to the Howland Hook Marine Terminal from the Goethals Bridge. The PANYNJ plans to design and construct a new eastbound ramp from the Goethals Bridge to ease local traffic congestion resulting from trucks entering the New York Container Terminal. To assist with the selection of the preferred alternative, HDR conducted an environmental assessment to compare the alternatives in terms of regulatory, environmental, traffic and socioeconomic constraints, and conducted a cost-benefit analysis for each of the alternatives. HDR is also responsible for developing a permitting strategy to guide the PANYNJ through the permitting process for the project in an efficient manner. ***Reference:*** *Mr. Phil Dinh, PANYNJ, (973) 792-4645*

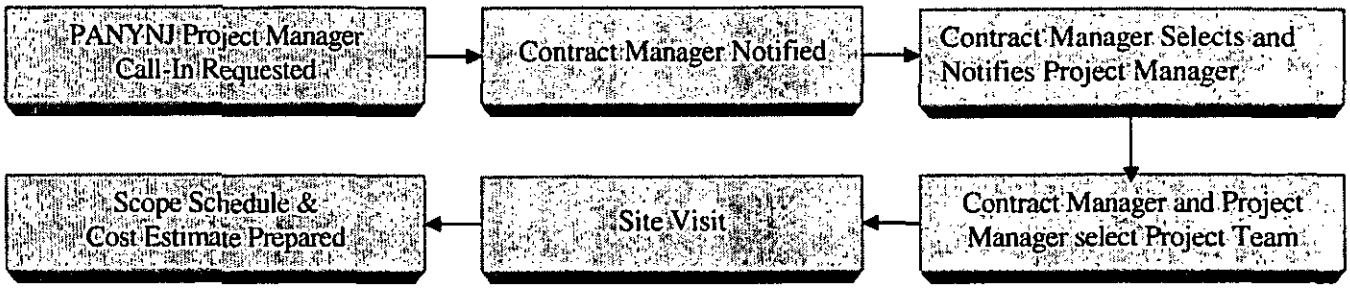
New York Department of Sanitation (DSNY), Marine Transfer Station Environmental Impact Statement, NY. HDR prepared an Environmental Impact Statement (EIS) in accordance with SEQRA/CEQR requirements for conversion of eight Marine Transfer Stations (MTSs) to containerize waste. HDR monitors mobile and stationary air quality (using ISCST3, CAL3QHCR, Mobile 5B/6.0 and Part 5 models and includes an evaluation of PM2.5 impacts), odor, noise and traffic analyses conducted by technical staff, meetings and discussions with the New York City Department of Transportation and the New York City Department of Environmental Protection, and subconsultant oversight for up to 13 other analyses required under CEQR. ***Reference:*** *Mr. Harry Szarpanski, PE, DSNY, (917) 237-5501*

SECTION G. MANAGEMENT APPROACH

HDR has conducted over 200 assignments in the areas of ecological studies and design services for the PANYNJ during the last two decades. Our Management Approach, as described here, is based on this experience with the PANYNJ call-in contracts and approximately 100 term-contracts (several thousand assignments) with other public agencies in the New York Region. The key to an effective call-in contract management system is the robust use of computer-based project management and cost/schedule tools that integrate scope of work activities with schedule, resources, and budget details. In addition, our Quality Management System will handle not only technical but administrative questions and contingencies as they arise. Our proposed contract organizational structure for ecological studies and design services is presented in Section D, Resumes. Our core management team will consist of a contract manager, a QA/QC Officer (QAO), and assignment-specific project managers to be designated upon receipt of each assignment. In addition to our project execution team, we will have an in-house Board of Experts (BOE).

Management Responsibility

Management and responsibility will proceed through the following sequence of key personnel who make up the project team: contract manager – the primary point of contact, QAO, project manager and project staff as defined below:



Contract Manager: Commits resources to contract; assures contract requirements and PANYNJ objectives are met; ensures project goals are clearly understood by our team and ensures effective and timely involvement of other key staff; designates a project manager for individual assignments; approves subcontracting plans as to scope, contract and terms; plans overall program, approves assignments, work scopes, budgets, schedule, and staffing plans.

QAO: Responsible for ongoing surveillance of project activities, ensuring conformance with our Quality Management System (QMS) and evaluating the effectiveness of its requirements; ensures coordination of sampling with laboratory activities and timely involvement of in house experts; performs audits to ensure that protocols are being followed; coordinates all data validation activities or usability studies as appropriate for individual work scopes and assures all deliverables are reviewed prior to submission.

Project Manager: Develops a detailed work scope for assignments; assigns staff with contract manager; contracts with and supervises subcontractors as pre-specified in our assignment; plans and tracks the budget, schedule, staff, and equipment of specific assignments as supported by our Intranet and computer-based management and cost/schedule tools; supervises all project task work; reviews and approves task work products; generally is responsible for execution of one or more specific work elements for a designated project.

Workflow and Execution of Consultant Assignments

Upon selection for a Call-In Task Order, and receipt of Notice-to-Proceed, HDR will immediately initiate the work effort. HDR recognizes that the successful delivery of multidisciplinary projects demands close coordination and communication between the design team and the owner. HDR will:

- Provide proposals with a clear Work Breakdown Structure at a task level where % complete can be clearly defined.
- Hold kickoff/meetings with Engineering and Facility personnel as required.
- Establish a project guide establishing communication guidelines, the project schedule, and budget.
- Organize the Quality Control Plan and schedule staff to complete the QC reviews to meet the project schedule.
- The Project Manager and key technical team members will attend regularly scheduled project meetings with PANYNJ.
- Conduct on-board workshops when appropriate.
- Provide monthly progress reports that include an Earned Value Spreadsheet with every invoice based on the Work Breakdown Structure provided in the proposal. This Earned Value report will demonstrate the level of completion of each scope task relative to the overall expenditures on the project budget.

From contract initiation forward, the work product and schedule become the responsibility of the Project Manager. The Contract Manager will continue to monitor staffing and client satisfaction and will hold regular meetings with the PANYNJ to review all active task orders.

Descriptions of typical consultant tasks that may be required for each ecological call-in task order are provided below:

Field Inspections

Field Inspections are an important means of identifying project objectives and constraints and are recommended for every assignment. They can be used either as a reconnaissance tool to be followed by more intensive efforts in large investigations, or solely for the purpose of defining issues on smaller projects. The objectives of the field investigation will be defined in the project work plan and may include such items as air quality measurements for health and safety purposes, staking of sample locations, defining site access and work limitations, terrestrial and aquatic biological sampling for baseline assessments and impact analyses, surface or groundwater quality assessment, or sampling of waste and/or contaminated environmental media to determine the extent of contamination or investigation/design/remediation studies.

Environmental Data Collection and Analysis

Depending on the needs of a specific project, data collection and analysis may be limited to a one-day effort involving only a few specific environmental samples or may be a multi-week program involving many or all environmental media. Typical environmental data collected may include sampling of surface water (and sediments), soils (surface and subsurface), groundwater, air (including particulates), effluents, leachate, and biota. Biological data collected may also include information on resident or migratory avian communities, terrestrial species, wetlands and other significant habitats for environmental assessments. Where appropriate, certified analytical laboratories will be subcontracted, as will a data validator. Other subcontractors that may be warranted during data collection include geophysical consultants, drillers, surveyors, excavators, mobile laboratories, and asbestos specialists. HDR's project manager will direct all subcontractors.

Report Preparation

The synthesis of the data collected and analyzed is also a task common to all projects. Reports will be tailored to the project scope but at a minimum will consist of a description of the objectives of the study, the methods used, a synopsis of the results (with attachments providing detail as appropriate), and conclusions and recommendations. Where appropriate, environmental data will be compared to relevant standards or criteria to provide a link to the conclusions and recommendations that follow. Data will be presented in tabular and graphic form for clarity and to enhance written text. A draft report will be prepared that will be submitted to the PANYNJ for review and comment. Subsequent to discussions with the PANYNJ on the draft report, the final report will be prepared incorporating any changes.

Cost Estimating

Cost Estimates are normally included for those projects where recommendations for either further investigation or remediation are made. For projects in which remediation recommendations are made, estimates will be provided for the expected order of magnitude of costs. This task may be expanded to the provision of detailed cost estimates and specifications at the request of the PANYNJ.

Modeling

Mathematical modeling is a task that may be required for specific projects but may not be necessary for many. Typical environmental modeling assignments may include surface water quality modeling, ecological and biological modeling, toxic fate and transport modeling, effluent discharge/loading modeling, sediment transport modeling, plume modeling, air quality modeling, groundwater modeling, and flood modeling. The objective and focus of the particular project assignment will determine the potential areas for modeling, the likelihood of such modeling, and the specific models that might be appropriate. The individual work scopes will define the potential (optional) modeling needs for the individual projects.

Preparation of Contract Documents

For previous projects, HDR has used the PANYNJ standard specifications, modified to suit the site conditions, and prepared new specifications where required for specific equipment and systems. All specifications prepared by us conform to the PANYNJ standard format. Contract documents typically include plans and specifications, construction cost estimates, a construction operation plan, and a design report. We will prepare all contract documents in conformance with the PANYNJ standards and all applicable codes and regulations. The PANYNJ standard "up-front documents" for contracting, bidding and insurance requirements would be attached to the technical documents with the end product being a fully biddable package. We are familiar with all of these requirements, having performed similar services for the PANYNJ under our past call-in term contracts.

Shop Drawing Review and Approval

HDR can assist the PANYNJ in the review and approval of shop drawings for various construction projects. The review of shop drawings, equipment literature, cut sheets, and similar material is performed to ensure that the submitted materials are in conformance with the specified products. These reviews generally consider the following elements of a submittal: materials of construction, dimensions, elevations, functionality, compatibility and operability.

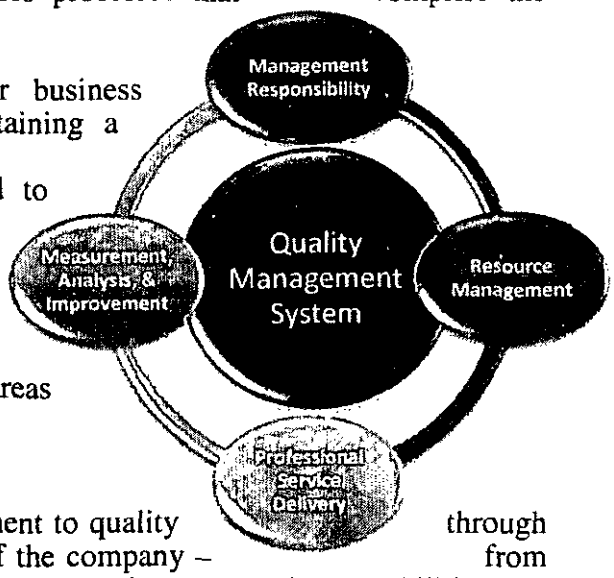
Various contractors and equipment suppliers offer similar equipment with the same general specifications; it is important to thoroughly review these products to ensure that subtle differences between manufacturers do not result in potential construction or design problems. This type of review is typically referred to as "substitution review" and the PANYNJ has specific guidelines for reviewing substitute items. We have reviewed the PANYNJ standard practices for construction reviews, have performed these reviews as part of past PANYNJ projects, and find them to be consistent with our approach to standard shop drawing reviews.

Our standard review and logging procedure is consistent with the PANYNJ standards. Except for submittals for the record or information, where action and return is required, we will review each submittal, mark to indicate action taken, and return it in the allotted time frame.

HDR's Quality Management System

HDR believes that quality products and services result from having sound business practices, retaining talented staff, and focusing on being responsive to our client's needs. Our clients respect us for our philosophy of "doing the right things for the right reasons."

Quality is integrated into HDR's day-to-day business activities through our Quality Management System (QMS). The programs, policies, and business processes that comprise the QMS have four key elements:



- Management actively promotes quality in our business activities and defines responsibilities for maintaining a quality focus
- Resources are trained, available and committed to providing quality services.
- Processes and procedures are in place that promotes quality in the delivery of our products and services.
- Continual improvement is achieved through performance measurement and identification of areas for improvement

Management Responsibility

HDR's senior management demonstrates its commitment to quality through establishing responsibilities for quality at all levels of the company – from company president to members of management to the project team. Responsibilities are documented in our QA/QC Program procedures. These procedures define how HDR delivers products and services to our clients. HDR's senior management has also committed the resources needed to promote, maintain and monitor adherence to the QA/QC Program.

Resource Management

Talented and committed staff makes the biggest impact on quality products and services. QMS tools and resources that support our staff include:

- Management Information Systems – integrated systems that provide the project managers with "immediate" access to up-to-date project information

- Project Management Program - includes Best Practices, guidelines, project controls, and support systems
- HDR University – provides a full range of technical and communication training
- Health & Safety Program – encompasses safety training and field procedures
- Business Communities – identify internal technical experts that are available throughout the company, maintain practice groups to facilitate communication among staff working in specific technical areas, and establish practice leaders that are responsible for making the appropriate resources available for projects
- Quality Office – provides quality training, tools and resources

Professional Service Delivery

HDR's QMS promotes professional service delivery though formal policies and procedures, tools and processes. These include project planning requirements (such as development of project guides), internal staffing/workload monitoring and projection system, quality control review requirements, management oversight responsibilities, CAD/BIM capabilities and standards, and a variety of technical standards and Best Practices.

Measurement, Analysis & Improvement

HDR's culture of continual improvement provides our clients with confidence that products and services are delivered efficiently and effectively. QMS components include:

- Balanced Scorecard - automated performance measures used to monitor the alignment of client, service, staff and financial/business indicators
- QA/QC Program Audit - provides internal monitoring of compliance with quality procedures
- Lessons Learned – provides a course of action to learn from the past and improve in the future
- Client Survey - conducted by an independent organization, outside of HDR, to capture the "voice of our customers"

HDR's QMS provides sound business practices that result in quality products and services that our clients expect.

Sub-Contracting

HDR's size and diversity enable us to directly perform all of the ecological studies and design services listed in the RFP. Where appropriate and if needed, we will solicit bids and qualifications from minority and women-owned business entities (MBE/WBE) when subcontracting "vendor work" (such as drilling, surveying, laboratory analyses and other specialty services). HDR is committed to achieving the MBE/WBE participation goals specified by the Chief Engineer and we have an excellent track record in this area. We have established successful working relationships with a number of MBE and WBE firms while performing numerous other contracts for agencies and industry. We have the PANYNJ list of "Certified Minority Owned/Women Owned and Small Business Enterprises" and will use this list in conjunction with our knowledge of qualified M/W/SBE firms to meet the participation goals for this contract.

PREPARED FOR

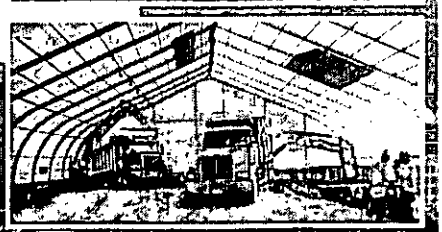
THE PORT AUTHORITY OF NY & NJ

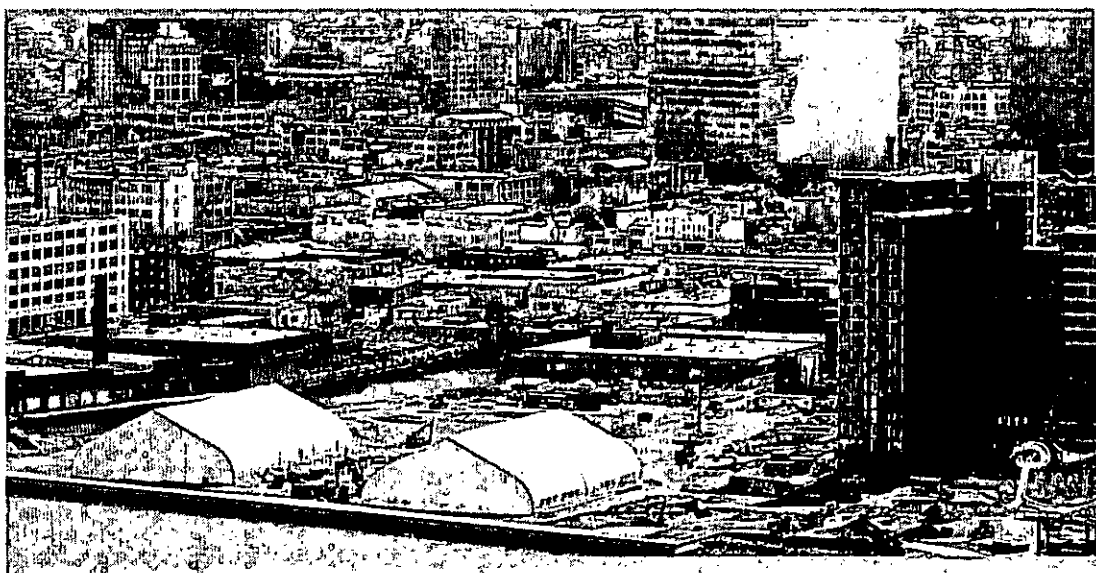
ORIGINAL

Performance of Expert Professional Environmental Engineering Services

on a "Call-In" basis During 2011

RFP Number: 21999





PREPARED BY

TRC

September 14, 2010

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ORIGINAL

September 14, 2010

The Port Authority of New York and New Jersey
One Madison Avenue, 7th Floor
New York, NY 10010
Attn: RFP Custodian

Re: Proposal for the Performance of Expert Professional Environmental Engineering Services as Requested on a "Call-In" Basis during 2011 – RFP No. 21999

Dear Sir or Madam:

Thank you for the opportunity to submit this proposal to The Port Authority of New York and New Jersey (the "Authority") in response to the Request for Proposals (RFP) for the Performance of Expert Professional Environmental Engineering Services as Requested on a "Call-In" Basis during 2011. As required by the August 24, 2010 RFP, please find enclosed one (1) original and three (3) copies, along with four (4) compact disc copies of TRC's proposal.

TRC is consistently ranked among the top environmental engineering firms in the country and has many local experienced in-house staff with the capability to provide the full-spectrum of environmental investigation, design, compliance and assessment services. Many of the environmental professionals based in our New York and New Jersey offices have for over 20 years been dedicated to practicing as environmental professionals in the core service areas identified in the RFP, and TRC has on staff more New Jersey Licensed Site Remediation Professionals (LSRPs) than any other firm in the country.

Many of the environmental engineering assignments completed by TRC and described in the attached proposal were performed for local agencies and authorities in support of construction of agency and authority-owned facilities. Examples of agencies that TRC provides on-call environmental engineering services to include the New York City School Construction Authority (NYCSCA), MTA Long Island Rail Road (LIRR), New York City Department of Environmental Protection (NYCDEP), and the New York City Economic Development Corporation (NYCEDC).

TRC considers safety, schedule, cost and quality control the highest priorities in connection with all services provided by the firm, and we maintain well-established written quality control procedures, and a well-established reputation and proven track record of successfully providing environmental engineering services to public entities for over 40 years. Nevertheless, TRC believes our experience and qualifications are best demonstrated by our track record. Therefore, although they represent only a limited selection, we hope you will find that the project descriptions presented in the enclosed proposal speak for themselves. We thank you again for providing us with the opportunity to present the enclosed information for your review and consideration.

Please do not hesitate to contact me at (212) 221-7822 ext. 112 or dglass@trcsolutions.com if you have any questions.

Sincerely,
TRC Engineers, Inc.

David S. Glass, P.E.

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Section A

ATTACHMENT B

PERFORMANCE OF EXPERT PROFESSIONAL ENVIRONMENTAL ENGINEERING SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011

AGREEMENT ON TERMS OF DISCUSSION

The Port Authority's receipt or discussion of any information (including information contained in any proposal, vendor qualification, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) shall not impose any obligations whatsoever on the Port Authority or entitle us to any compensation therefor (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with or after this Agreement on Terms of Discussion ("Agreement"), either orally or in writing, is not given in confidence. Such information may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this Agreement, whether made as part of or in connection with this Agreement, shall be void and of no effect. This Agreement is not intended, however, to grant to the Port Authority rights to any matter, which is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Port Authority's Freedom of Information Policy and Procedure adopted by the Port Authority's Board of Commissioners on November 20, 2008, which may be found on the Port Authority website at: *http://www.panynj.gov/corporate-information/pdf/Freedom-of-Information-Policy-and-Procedure.pdf*, not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause substantial injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

TRC Engineers, Inc.

(Company)

(Signature)

Principal

(Title)

September 14, 2010

(Date)

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DO NOT RETYPE.

Section B

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR THE EXPERT PERFORMANCE OF EXPERT PROFESSIONAL ENVIRONMENTAL ENGINEERING SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011 (RFP #21999)

1. Company Name (print or type):

   TRC Engineers, Inc.

2. Business Address (to receive mail for this RFP):

   1430 Broadway, 10th Floor

   New York, NY 10018

3. Business Telephone Number: (212) 221-7822

4. Business Fax Number: (212) 221-7840

5. Firm website: www.trcsolutions.com

6. Federal Employer Identification Number (EIN): (Ex. 1)

7. Date (MM/DD/YYYY) Firm was Established: 01 / 03 / 1923

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

   No Affiliates or Subsidiaries

9. Officer or Principal of Firm and Title:

   David S. Glass, PE, Principal

10. Name, telephone number, and email address of contact for questions:

    Stephen R. Galati

    Phone: (207) 620-3874 Email: sgalati@trcsolutions.com

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☐ Yes ☒ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/business-opportunities/supplier-diversity.html, to receive information and apply for certification.

Section C

PROPOSED MULTIPLIER

Work performed at TRC Offices

TRC's multiplier, including overhead and profit, to be applied to actual salaries is 2.69. This multiplier is broken down as follows:

Base	100%	1.0000
Overhead	146.76%	1.4676
Subtotal		2.4676
Profit (fee)	9%	0.2220
Total Multiplier		2.6896

A breakdown of TRC's overhead is shown below.

CORPORATE OVERHEAD BREAKDOWN	
Account	**% of Direct Labor**
Total Fringe Benefits Costs (i.e., vacation, holiday, sick pay, worker's compensation, etc.)	48.68%
General Overhead (i.e., office rent, insurance, etc.)	98.08%
TOTAL	**146.76%**

Work performed at Authority's Offices*

TRC's multiplier, including overhead and profit, to be applied to actual salaries is 2.23. This multiplier is broken down as follows:

Base	100%	1.0000
Overhead	104.22%	1.0422
Subtotal		2.0422
Profit (fee)	9%	0.1838
Total Multiplier		2.2260

A breakdown of TRC's overhead is shown below.

CORPORATE OVERHEAD BREAKDOWN	
Account	**% of Direct Labor**
Total Fringe Benefits Costs (i.e., vacation, holiday, sick pay, worker's compensation, etc.)	48.68%
General Overhead (i.e., insurance, etc.)	55.54%
TOTAL	**104.22%**

* Note: Multiplier for work performed at Authority's offices will be between 2.23 and 2.69 depending on duration of assignment.

Section D

TRC

DAVID S. GLASS, PE

EDUCATION

M. E., Chemical Engineering, McGill University, 1986
B.A., Chemistry, Colby College, 1983

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Professional Engineer, New York (No. 068884-1), 1992
Professional Engineer, New Jersey (No. 24GE04355100), 2001
Professional Engineer, Connecticut (No. 24856), 2005
Certified for UST Subsurface Evaluation and Closure, New Jersey (No. 483225)

AREAS OF EXPERTISE

Mr. Glass manages TRC's Environmental Remediation and Site Assessment Practice in the New York City office and has over 24 years of experience providing environmental engineering, investigation, design, construction phase and permitting services. He has managed many large, complex remedial investigations, feasibility studies, site assessments and remedial design and construction projects. Mr. Glass has extensive management and technical experience in the following areas:

- Remedial Design and Remedial Investigation
- Remedial Construction Management/Inspection
- Remedial System Operation and Maintenance
- Underground and Aboveground Storage Tank Management
- Soil Vapor Intrusion Mitigation
- Environmental Regulatory Compliance

REPRESENTATIVE EXPERIENCE

New York City School Construction Authority, On-Call Environmental Consulting Services Contract
Mr. Glass serves as Principal-in-Charge for TRC's environmental engineering services contract with the New York City School Construction Authority (NYCSCA). TRC has provided a broad range of services to the NYCSCA, under two consecutive $4 million on-call contracts, including environmental site assessment and remediation services, and has successfully completed over 200 assignments for NYCSCA since March 2006.

MTA Long Island Rail Road, General Engineering Consultants Environmental Engineering Contract
Mr. Glass serves as Principal-in-Charge for TRC's GEC contract for environmental engineering services with the MTA LIRR. In this capacity Mr. Glass has supervised a remedial investigation of the Morris Park Yard, design and construction of the petroleum remediation systems at the Morris Park Yard, and a remedial investigation of a petroleum spill on the West Side Storage Yard, an active rail yard operated by the LIRR on the west side of Manhattan.

Queens West Development - Stage 2 Site, Remedial Action, Long Island City, NY
In connection with a $1.5 billion development on the East River, Mr. Glass supervised the preparation of the Remedial Investigation (RI) Work Plan, RI Report, Remedial Work Plan, Final Engineering Report and Site Management Plan, and supervised remediation of OUs 3 and 4 of the Queens West Development – Stage 2 Site, an approximately nine-acre parcel which is the location of a former Standard Oil Company refinery and has been accepted into NYSDEC's Brownfield Cleanup Program (BCP). Mr. Glass also managed the design of active sub-slab depressurization systems for several high-rise (30-story) residential buildings at the site.

Avis Budget Group, Inc., New York, NY
Mr. Glass serves as Principal-in-Charge for TRC's national environmental engineering contract with the Avis Budget Group, Inc. TRC has provided a broad range of services to the Avis Budget Group since 2006, including environmental site assessment, petroleum spill closure and remedial design and construction phase services at several sites in New York City, including properties operated by Avis in Manhattan and at JFK airport.

ExxonMobil Bayway Refinery, Linden, NJ
Mr. Glass supervised the design of the hydraulic control system for the Sludge Lagoon Operable Unit (SLOU) at the Bayway Refinery in Linden, NJ. The hydraulic control system, which was designed under Mr. Glass's supervision, includes 21 dual pump extraction wells, thousands of feet of buried piping, and sophisticated instrumentation and controls. The dual pump extraction wells were designed to automatically extract separately groundwater (for hydraulic control) and oil in the SLOU.

Con Edison, Former MGP Plant at West 42nd Street, New York, NY
Mr. Glass supervised preparation of the Remedial Work Plan for the Con Edison West 42nd Street former Manufactured Gas Plant Site. The RWP was prepared in accordance with the terms of a Voluntary Cleanup Agreement (VCA) with the NYSDEC. The remedial plan developed for the site was designed to meet the requirements of the NYSDEC for cleanup of the former MGP site as well as allow for the planned future use of the site: construction of a high rise residential building.

NYSDEC Superfund Standby Contract, Franklin Cleaners Site, Hempstead, NY
Mr. Glass managed the pre-design investigation, design and construction oversight services for the off-site groundwater extraction and treatment system for the Franklin Cleaners Site (NYS Superfund Site Registry No. 1-3-050). The groundwater extraction and treatment system was designed to intercept a plume of tetrachloroethene (PCE) migrating toward the water supply wells of the Village of Rockville Centre. Mr. Glass also managed the design of the source area remedial action. Drawings and specifications, as well as an engineering cost estimate, were prepared for the soil vapor and air sparging systems at the site.

KeySpan Corporation, Cable Fluid Release Site, Sands Point, NY
Mr. Glass managed the pre-design investigation, design and construction phase services for the groundwater extraction and treatment system to contain and remediate the release of dielectric cable fluid from a high voltage underground electric utility-owned cable. Mr. Glass was responsible for design of the dual phase extraction well, solids filters, carbon adsorption system, instrumentation and controls, treatment system building, utilities, on-site treated water recharge system (dry well network), site access road, site drainage structures, and landscaping.

NJDEP Remedial Design Contract, Truck Fueling Facilities Remediation, Mahwah, NJ
Under an "on-call" remedial design contract with the NJDEP, Mr. Glass managed remediation of two (2) adjacent truck fueling facilities. Groundwater contamination had resulted from releases from USTs. Mr. Glass performed a design review for NJDEP of an interceptor trench and treatment system (oil water separator and air stripper) and prepared recommendations for system modifications to remediate a plume of BTEX and MTBE migrating toward the nearby municipal water supply well field.

SPECIALIZED TRAINING
- 40-Hour OSHA Health and Safety Training

PROFESSIONAL AFFILIATIONS
- American Chemical Society
- American Institute of Chemical Engineers

TRC

TODD E. SARETT

EDUCATION
Attended Rutgers University 1981 to 1985

PROFESSIONAL CERTIFICATIONS
NJDEP UST Certification: Entire 0022607

AREAS OF EXPERTISE
Mr. Todd E. Sarett has over 20 years of experience providing environmental consulting, remediation and facility decommissioning services (including the closure of hundreds of aboveground and underground storage tanks in New York and New Jersey). He is the former founder and co-owner of a hazardous and solid waste storage, transportation and disposal company. Mr. Sarett is a Sr. Project Manager based in TRC's midtown Manhattan office.

Mr. Sarett has extensive management and technical experience in the following areas:

- Hazardous and solid waste management, storage, transportation, treatment, and disposal
- Facility decommissioning
- Operation of hazardous and solid waste disposal and recycling facilities
- Investigation and remediation of soil and groundwater
- Installation and removal of underground and aboveground tanks and process equipment
- Regulatory compliance

Mr. Sarett has been responsible for overseeing, supervising and directing OSHA certified field crews performing hazardous waste and contaminated site remediation on projects throughout New York and New Jersey.

Mr. Sarett has managed and directed the pre-demolition phase decommissioning of facilities throughout New York and New Jersey.

Mr. Sarett was responsible for overseeing and directing a bulk used oil, antifreeze and filter recycling facility; hazardous and solid waste transfer facility; and a fleet of large trucks, including vacuum and roll-off type for bulk material.

Mr. Sarett has extensive experience in design, installation and cleaning of all types of oil–water separators.

REPRESENTATIVE EXPERIENCE
Ferry Point Park - New York City Department of Parks and Recreation, Bronx, NY
Since 2008 Mr. Sarett has been responsible for locating fill material and providing consulting services to the New York City Department of Parks and Recreation (DPR) for importation of fill to Ferry Point Park, a 220-acre former landfill being developed into a golf course and community and waterfront parks in the Bronx, New York. Mr. Sarett has been responsible for acquisition of over 300,000 cubic yards of NYSDEC-approved fill material from multiple sources in New York City. Mr. Sarett has been instrumental in obtaining NYSDEC approval for a wide range of fill sources. In

connection with this effort TRC has generated over $1,000,000 of revenue in the form of tipping fees for the City of New York DPR. Mr. Sarett has extensive experience interfacing with excavation and fill hauling contractors in the City and is in frequent communications with potential fill sources on behalf of DPR, including City agencies with projects that will result in excess soil material seeking an outlet. Mr. Sarett developed a standard agreement for contracting for importation of fill material, and many contractors in the City are now familiar with the requirements developed by Mr. Sarett which has resulted in streamlining and expediting the fill acquisition and import process for DPR.

United States Postal Service, NY and NJ

Mr. Sarett was responsible for estimating and managing contracts for hazardous waste removal; UST and AST management and closure; execution of pollution prevention plans and maintenance of oil–water separators for over 100 major USPS facilities.

Former Con-Edison Waterside Stations 1 and 2, New York, NY

Mr. Sarett directed all aspects of pre-demolition decommissioning of one of the largest steam plants in the country, which involved direct communication and notice to state and local agencies. This task required expertise in preparing lab packs for bulk tank chemicals (i.e., sulfuric acid and sodium hydroxide) and hazardous waste decommissioning and cleanup including: PCBs in 4,000 linear feet of trenches, PCBs transformer and switches, mercury contaminated rooms, large accumulations of hazardous sulfur suspended from industrial chimney stacks, 300,000 pounds of wet NiCad and lead acid batteries, and the cleaning of over 30 large petroleum bulk storage and chemical bulk tanks.

SPECIALIZED TRAINING

- 40-hour OSHA Hazardous Waste Operations and Emergency Response Training
- OSHA Confined Space Entry Training
- OSHA Fall Protection Training
- Certified Installer of Xerxes Tanks

TRC

KENNETH B. SIET

EDUCATION

Graduate Program in Soils, Rutgers University, 1976-1979
B.A., Biology, New York University, 1976

AREAS OF EXPERTISE

Mr. Kenneth B. Siet has over 25 years of experience encompassing:

- Soil and Ground Water Remediation
- Petroleum Refineries Investigation and Remediation
- Superfund
- RCRA
- Litigation Support

REPRESENTATIVE EXPERIENCE

TRC Environmental Corp. (Formerly TRC Raviv Associates, Inc.) – Millburn, NJ

Mr. Siet manages site investigations and remediation for a wide range of cases involving soil and ground water contamination. He regularly manages projects relating to regulatory compliance for the firm's clients, including hazardous and non-hazardous waste permit and enforcement actions. Project areas include NJPDES permitting; New Jersey Water Pollution Control Act and New Jersey Spill Compensation and Control Act, Directives, Administrative Orders and Administrative Consent Orders; New Jersey Solid Waste Act Permits and Enforcement Actions and Federal Regulatory Program. Mr. Siet manages underground storage tank facilities, land treatment of contaminated soils projects, ground water investigations, remediation and compliance monitoring at various hazardous and non-hazardous waste facilities, and industrial facilities subject to ISRA requirements. He prepares RCRA land disposal permits and HSWA corrective measure requirements. Mr. Siet evaluates and negotiates regulatory and technical issues with both NJDEPE and USEPA.

In addition, Mr. Siet has provided expert reports and depositions in a variety of pollution cases. He has provided expert testimony in federal court concerning pollution migration and NCP compliance.

Newport Developers – Jersey City, NJ

Mr. Siet serves as Senior Project Manager for this site, which is one of New Jersey's first and largest Brownfield Redevelopment Projects along the Hudson River waterfront. Issues include mobile and immobile coal tar (DNAPL) from a former MGP, historic fill and saline water (Class IIIB) issues, with a $1,000,000/year budget. An interim remedial action was implemented for the mobile coal tar consisting of passive recovery of free product only. Remedial action for the immobile coal tar is pending; however, injection well and recovery trench installation were completed in an expedited manner using innovative methods to accommodate the construction schedule of a commercial building.

Asphalt Refinery, RCRA Closure – Perth Amboy, NJ
Mr. Siet developed a closure plan, and provided regulatory support and construction oversight during closure of several Solid Waste Management Units at the refinery. The closure plan included excavation and stabilization of petroleum sludge contained within the units. A slurry wall and capping system was used to contain the stabilized sludge. This resulted in significant cost savings over off-site disposal options. Also prepares quarterly NJPDES groundwater monitoring reports for the units.

New Jersey Department of Environmental Protection (NJDEP), Bureau Chief, Water Quality Management Element, Bureau of Ground Water Pollution Abatement – Trenton, NJ
Mr. Siet directed and managed a bureau of approximately 30 geologists, soil scientists and environmental scientists. Developed program and permitting of RCRA regulated hazardous waste land disposal facilities. He created program and geologic support for ground water investigations and remediation aspects of publicly funded CERCLA (Superfund) and New Jersey Spill Fund sites in accordance with NCP requirements and applicable EPA guidance. Mr. Siet provided geologic support for the New Jersey Hazardous Waste Responsible Party Enforcement Cleanup Program. He established ground water cleanup criteria for all remediation sites undergoing ground water cleanups in New Jersey and developed program and permitting for land treatment of contaminated soils. Mr. Siet supplied geologic support for the New Jersey Spill Response Bureau. He contributed to the development of NJDEP soil cleanup guidelines. He served on or chaired various NJDEP and USEPA rule-making and policy development committees.

NJDEP, Section Chief, Water Quality Management Element
Mr. Siet supervised personnel involved with New Jersey's Superfund, Spill Fund, and Hazardous Waste geohydrologic technical review process. He supervised 14 geologists and hydrogeologists whose responsibilities included review of geohydrologic reports for pollution investigations and remedial actions. This included Superfund removal and remedial actions. Mr. Siet reviewed and issued NJPDES ground water permits. He conducted field investigations and supervised well drilling.

NJDEP, Water Quality Management Element, Bureau of Ground Water Discharge Permits
Mr. Siet was responsible for New Jersey's hazardous waste land disposal permitting program. He supervised eight environmental specialists and geologists whose responsibilities included the review and preparation of New Jersey Pollution Discharge Elimination System (NJPDES) Permits, ensuring facility compliance with federal interim status requirements. Mr. Siet supervised ground water monitoring at RCRA facilities and writing Part B RCRA facility permits for land disposal facilities.

ADVISORY AND COMMITTEE POSITIONS (Partial List):

- 1996 - 1998: New Jersey Petroleum Council. Technical and regulatory advisory group for the investigation and remediation of large petroleum facilities.
- 1991 - 1992: NJDEP Ground Water Quality Task Force. Advisory group for recommending revisions to New Jersey Ground Water Quality Standards.
- *1988: USEPA RCRA Corrective Action Regulation Advisory Group.*
- 1988: NJDEP Committee to develop New Jersey Soil Cleanup Criteria.
- 1987: NJDEP Chairman of Committee Interim, New Jersey Ground Water Cleanup Criteria.
- 1986: USEPA Hazardous Waste Land Treatment Task Force.

TRC

THOMAS F. MAHER, PE

EDUCATION

B.S., Engineering Science, Hofstra University
Graduate Study, Engineering Management, Long Island University

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Professional Engineer, New York

AREAS OF EXPERTISE

Mr. Thomas Maher has over 35 years experience in environmental engineering and management in both the public and private sectors, 22 years of which have specialized in groundwater, hazardous waste and brownfield investigation and remediation. In addition, Mr. Maher has substantial experience in wastewater, water supply and water resource planning, solid waste management, landfill closure, and environmental assessment and permitting. Mr. Maher has a broad range of both technical and administrative knowledge having directed and managed many large and complex projects involving field investigation and site assessment, feasibility study, preparation of design plans and specifications, and construction supervision.

Prior to his current position with TRC as Senior Program Manager based in the New York City Office, in which he serves as technical advisor on hazardous waste and brownfield projects, Mr. Maher was Director of the Office of Environmental Coordination for the County of Nassau where he served as a senior staff member to the County Executive responsible for the development and implementation of the County's environmental and energy programs. In this position, he assisted in the development and implementation of the County's Brownfield Program, including creation of a unique financial incentive program to encourage the remediation and redevelopment of Nassau County brownfield tax lien properties. Responsibilities included procurement of consultants to conduct environmental site assessments, and review and approval of work plans, assessment reports and remediation plans for County brownfield properties.

Prior to his position with Nassau County, Mr. Maher was a Vice President with Dvirka and Bartilucci Consulting Engineers and Principal-in-Charge of the Division of Environmental Remediation. In this position, he managed two 7-year, $15 million NYSDEC Superfund Standby Contracts, in addition to site-specific Superfund contracts prior to the Standby Contracts. Under these contracts, Mr. Maher was the prime liaison with NYSDEC and directed contract related work assignments, including preliminary assessments, remedial investigation and feasibility studies, and remedial design and construction inspection projects at over 60 sites. As Contract Manager, he also provided quality assurance and control for work products prepared under his direction.

REPRESENTATIVE EXPERIENCE

Directed work assignments in connection with over 70 Superfund projects in New York, New Jersey, Connecticut and Massachusetts, including two 7-year, $15 million Superfund contracts for the State of New York. Projects included 37 preliminary site assessments, 24 remedial investigation and feasibility studies, nine remedial designs and four remedial construction inspection projects. In addition, New York State Title 3 experience includes five remedial investigation/feasibility studies, six remedial designs and six construction oversight projects.

Served on a number of committees to develop new or improve existing environmental programs for New York State, including:

- New York State Voluntary Cleanup Program Working Committee
- New York State Business Council Environmental Committee and Superfund Reform and Brownfield's Subcommittee
- New York City Brownfield's Economic Redevelopment Initiative Task Force and Technical Subcommittee Chairman
- Advisor to the Pocantico Roundtable for Consensus on Brownfield's
- Sustainable Long Island Advisory Council

Provided consulting services to municipalities throughout New York State in the development and implementation of Brownfield programs to redevelop contaminated properties, including procurement of financial assistance. Municipalities included the Cities of New York, Glen Cove, Utica, Binghamton, Yonkers and Stamford (CT), Village of Patchogue, Town of Oyster Bay and Suffolk County.

Brownfield Financial Resources Manual for New York State. Directed preparation of the Brownfield Financial Resources Manual for New York State to assist municipalities in obtaining federal, state and private grants, loans/loan guarantees and liability protection, and instituting tax incentives and implementing other incentives, such as interest rate subsidies and cost sharing, to clean up and redevelop abandoned and underutilized commercial and industrial properties.

Business Council of New York State. Assisted The Business Council of New York State in drafting the Site Remediation and Redevelopment Act, and worked with the Governor's Office to develop Superfund reform and reauthorization, and a Brownfield bill in New York State.

SPECIAL RECOGNITION

Nassau County - Office of the Executive Citation in recognition of successful implementation of the $150 million Nassau Environmental Bond Act Program and establishment of one of the most comprehensive county environmental and energy programs in the nation.

The Business Council of New York State – Certificate of Appreciation in recognition of outstanding public service to the Business Council's Environment Committee in the development of Superfund Reform and Brownfields bill.

United States Environmental Protection Agency - Special Act Certificate of Award in recognition of noteworthy contribution and special achievement in the administration of major grants and project management.

Long Island Regional Planning Board – Certificate of Appreciation in recognition of outstanding public service to Nassau and Suffolk Counties for development of the Comprehensive Waste Management Plan for Long Island.

Nassau County Department of Health – Certificate of Commendation in recognition of outstanding service to the Department and the County in the management of the County's water surveillance program and protection of its waters

SPECIALIZED TRAINING

- OSHA 40-Hour Hazardous Waste Operations and Emergency Response Training

TRC

ELIZABETH DENLY

EDUCATION
B.A., Chemistry, University of New Hampshire, 1987

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS
Licensed Site Professional Association, Massachusetts, Associate Member

AREAS OF EXPERTISE
Ms. Elizabeth Denly, as a Quality Assurance Chemist, is responsible for providing QA/QC oversight in support of a variety of environmental investigations, including ambient air monitoring, human health and ecological risk assessments, risk-based soil cleanups, and remedial investigation and cleanup programs. Ms. Denly has provided this oversight under several different environmental protection regulatory programs, including programs administered by the NYSDEC, NJDEP, and USEPA Regions 1, 2, 3 and 5. In this role, Ms. Denly has been responsible for the preparation of project-specific Quality Assurance Project Plans (QAPP), coordination with laboratories, selection of appropriate analytical methodologies to achieve required regulatory standards, oversight and performance of the data validation process, and determination of the usability of the data in comparison to project objectives.

Ms. Denly provides oversight and senior review on data validation performed for a wide range of analytical parameters. Ms. Denly performs data validation for organic parameters including VOCs, SVOCs, pesticides, PCB aroclors, PCB homologues/congeners, dioxins, specialty analyses, including GC/MS/SIM, and air analyses. Validation and reporting guidelines utilized by Ms. Denly include USEPA National Functional Guidelines, and guidelines established by USEPA Regions 1 through 5, NYSDEC and NJDEP. Ms. Denly developed internal protocols for the validation of the MADEP EPH/VPH methodologies. Ms. Denly also serves as TRC's Eastern Region Quality Control Coordinator, responsible for the creation and implementation of the TRC Eastern Region Quality Management Plan.

Ms. Denly has management and technical experience in the following areas:

- Quality Assurance/Quality Control
- Data Validation
- Laboratory Audits
- Gas Chromatography: Field and Laboratory Analyses
- Gas Chromatography/Mass Spectrometry: Field and Laboratory Analyses

REPRESENTATIVE EXPERIENCE
Queens West Development – Stage 2 Site (VCP Site Nos. V00505A, V00505B, V00505C and V0050D, BCP Site Nos. C241095 and C241096) in Long Island City, New York

Ms. Denly prepared the QAPP under the NYSDEC Voluntary Cleanup Program and Brownfield Cleanup Program for investigation and remediation of the Queens West Development – Stage 2 Site. During the field program, she provided QA oversight of the field team. Ms. Denly performed data validation for the project and was responsible for performing assessment of data to determine overall usability. Ms. Denly also provided daily support to the project team on chemistry, laboratory and QA issues. She was responsible for ensuring project objectives were achieved by the laboratory and for oversight of laboratory QA issues.

Consolidated Edison Waterside Generating Station in Manhattan

In support of the investigation and remediation of the former Consolidated Edison Waterside Generating Station in Manhattan under the NYSDEC Voluntary Cleanup Program (NYSDEC VCP Site Nos. V00429 - V00432), Ms. Denly prepared the QAPP for Supplemental Soil Investigation and Voluntary Cleanup of four sites as part of this project. She provided QA oversight of the field team during field activities to ensure that the investigative procedures were performed in accordance with the QAPP. As part of this project, Ms. Denly also performed data validation of select data points used for decision-making and was responsible for performing assessment of data to determine overall usability for the Remedial Work Plans.

Woodbrook Road Superfund Site in New Jersey

Ms. Denly prepared the QAPP for a complex remedial investigation under USEPA Region 2 oversight at the Woodbrook Road Superfund Site in New Jersey. The program involved use of the TRIAD approach for real-time PCB results and sampling and analysis of soil, sediment, groundwater and surface water for all TCL/TAL parameters, dioxins/furans, PCB congeners, and a variety of wet chemistry parameters, most of which were used for human health/ecological risk assessment. Ms. Denly was responsible for the oversight of three analytical laboratories and for coordination of data validation for all parameters, which included frequent communication with the laboratories to ensure proper receipt of samples, confirming proper utilization of project-specific analytical protocols to achieve project action levels and monitoring the overall performance of the laboratories. In addition, Ms. Denly was responsible for the oversight and performance of field and laboratory audits.

130 Liberty Street (the former Deutsche Bank Building at Ground Zero)

Ms. Denly prepared the QAPP for an extensive ambient air monitoring program and waste management program under USEPA Region 2 oversight in New York City at 130 Liberty Street (the former Deutsche Bank Building at Ground Zero), which was impacted by the September 11th terrorist attacks. She provided oversight of six analytical laboratories and was responsible for coordination and performance of data validation for asbestos, metals, dioxins/furans, PAHs, PCBs and silica ambient air data, as well as TCLP and metals waste stream data. Ms. Denly communicated frequently with the laboratories to ensure proper receipt of samples and proper utilization of project-specific analytical protocols, and monitored the overall performance of the laboratories. Ms. Denly was also responsible for the oversight and performance of field and laboratory audits and review of all data prior to submission to EPA.

SPECIALIZED TRAINING

- Data Evaluation for Vapor Intrusion Studies
- Sediment Toxicity Testing: Methods to Achieve Strong Data Sets and Interpret Results
- Assessing the Vapor Intrusion Pathway at Contaminated Sites
- Perchlorate Webinar, USEPA
- Overview of Statistical Data Quality Assessment, USEPA
- Assessing Quality Systems, USEPA
- Understanding and Evaluating Data Quality Assessments, USEPA

PROFESSIONAL AFFILIATIONS

- American Chemical Society

TRC

GARY RITTER, CIH, CSP, CHMM, LEED AP

EDUCATION

B.S., Environmental Health, University of Massachusetts, 1978
A.S., Environmental Science, Holyoke Community College, 1976

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Certified Industrial Hygienist, Comprehensive Practice - 1990
Certified Safety Professional – 1999
Certified Hazardous Materials Manager, Master Level - 1987
LEED Accredited Professional - 2009

AREAS OF EXPERTISE

Mr. Gary Ritter has 31 years experience in Health and Safety and is TRC's Corporate Health and Safety Director. Mr. Ritter provides technical support and oversight to TRC's technical staff, particularly in the areas of health and safety and industrial hygiene. His role includes the development and enforcement of corporate health and safety programs, as well as senior program management.

Mr. Ritter has extensive management and technical experience in the following areas:

- Health and Safety at Hazardous Waste Sites
- Industrial Hygiene and Expert Testimony
- Asbestos and Lead Services
- Air Pollution Monitoring
- Indoor Air Quality
- Regulatory Audits and Compliance
- Training

REPRESENTATIVE EXPERIENCE

Consolidated Edison Waterside Steam Station in New York City. Mr. Ritter prepared a detailed Health and Safety Program for the investigation, decommissioning, demolition and environmental remediation of the Consolidated Edison Waterside Steam Station in New York City, which was performed under the Voluntary Cleanup Program (NYSDEC VCP Site Nos. V00429 and V00432). The Health and Safety Plan, prepared by Mr. Ritter, covers all safety issues including media contamination, demolition of existing structures, geophysical testing, soil excavation, asbestos and lead abatement, and the removal of on-site chemicals in bulk containers.

Federal Aviation Administration (FAA) Technical Center, a National Priorities List (NPL) site in New Jersey. Mr. Ritter provided health and safety oversight and developed Health and Safety Plans for field investigations at the Federal Aviation Administration (FAA) Technical Center, a National Priorities List (NPL) site in New Jersey. He also provided 8-hour hazardous waste operations and emergency response refresher training to FAA personnel as required under OSHA 1910.120.

Various New York City Transit Authority sites. Mr. Ritter served as Health and Safety Officer for air monitoring performed as part of asbestos abatement programs conducted at various New York City Transit Authority sites.

He also served as Health and Safety Officer for an emergency response program involving the cleanup of asbestos-containing materials which contaminated 20 blocks of the 8th Avenue subway line and five trains on both the north and south lines.

Connecticut Department of Public Works. Mr. Ritter conducted numerous investigations for the Connecticut Department of Public Works, community colleges and municipal governments under a contract with the Connecticut Department of Administrative Services. Investigations were conducted to address union worker complaints, personnel concerns and public awareness of indoor air quality concerns within buildings. The work is ongoing and TRC has provided services totaling approximately $200,000 to date.

U.S. Postal Service. Mr. Ritter provided asbestos, lead and industrial hygiene services for the U.S. Postal Service. These services included investigative surveys involving bulk, air and vacuum sampling for asbestos-containing materials (ACM), and analysis of lead paint chip samples and testing for lead based paint. He formulated scopes of work to remediate any potential lead hazards, identified and monitored abatement activities, including conducting air sampling and waste stream sampling, to develop negative exposure assessments and ensure compliance with the OSHA Lead in Construction Standard and CTDEP/USEPA RCRA hazardous waste regulations. Mr. Ritter also prepared the current term contract and technical specifications for all construction projects involving lead or asbestos removal in the Northeast Region. He served as senior technical reviewer for asbestos survey reports.

SPECIALIZED TRAINING

- OSHA 40-Hour Hazardous Waste and Emergency Response Training
- OSHA 8-Hour Hazardous Waste and Emergency Response Training
- OSHA Hazardous Waste and Emergency Response Supervisory Training
- NIOSH 582 Equivalency
- Occupational and Environmental Radiation Protection, Harvard School of Public Health
- Health Effects of Asbestos, Harvard School of Public Health
- Hazardous Material Incident Response Operations, USEPA Course 165.5
- Quality Assurance for Air Pollution Measurement, USEPA Course 470
- Ambient Air Quality Monitoring Systems (Planning and Administrative Concepts), USEPA Course 463
- Assessing Bioaerosols in the Work Place Environment, AIHA
- Non-Ionizing Radiation in the Work Place, AIHCE
- Reducing Community Outrage, Risk Communication, AIHCE
- Radiation Worker Training
- Respirator Training
- OSHA Fall Protection Training
- OSHA Scaffold Use Training
- OSHA Lead Training
- OSHA PCB Training

PROFESSIONAL AFFILIATIONS

- American Industrial Hygiene Association (National & Western Massachusetts)
- New England Chapter of Certified Hazardous Materials Managers
- U.S. Green Building Council (USGBC), National

TRC

EDWARD A. GERDTS, CIH, CSP, LEED AP

EDUCATION

M.S., Environmental and Occupational Health Science, Hunter College, 1992
B.S., Biology, S.U.N.Y. Binghamton, 1985

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Diplomat, American Academy of Industrial Hygiene
Certified Industrial Hygienist (CIH), American Board of Industrial Hygiene, 1994
Certified Safety Professional (CSP), Board of Certified Safety Professionals, 2001

AREAS OF EXPERTISE

Mr. Edward A. Gerdts manages TRC's New York City and East Region Building Sciences and Industrial Hygiene Practices and has over 24 years of experience and progressive responsibility in environmental engineering and consulting. He has directed and managed the development and implementation of client specific Health and Safety and Awareness programs; directed and managed personnel implementing Phase I and II Environmental Assessments, UST and Subsurface Investigations, Remedial Designs, and Remedial Oversight activities; directed and managed personnel conducting Asbestos Abatement Design and Specification preparation; directed and managed personnel conducting large Asbestos Surveys programs; directed and managed personnel conducting Asbestos Abatement Construction Monitoring activities; developed, implemented, managed and directed Industrial Hygiene, Indoor Air Quality, and Exposure Assessments; directed and managed personnel conducting Lead Investigations, Exposure Assessments, Remedial Design and Construction Oversight. Mr. Gerdts has been involved in a number of Large Scale Demolition Projects including Hazardous Materials Assessments, Remedial Design, and Construction Demolition oversight. His qualifications include extensive hands-on planning, field investigation and construction management, design, permitting, cost estimating, and project management. Mr. Gerdts' background includes extensive service to public sector clients including NYCSCA, LMDC, LMCCCC, NYPA, NYCLD, NYU, TBTA, Consolidated Edison Company of New York, Inc., and architectural and construction management firms.

REPRESENTATIVE EXPERIENCE

New York City Law Department, 100 Church Street – Indoor Air Quality, Human Health Risk Assessment and Reoccupancy Services – Lower Manhattan, NY (Project Principal-In-Charge)

100 Church Street was evacuated after the World Trade Center collapse and was impacted, through building envelope compromises, by contaminants from the WTC dust plume. In order to re-occupy their office space (2nd through 6th floors and the 20th floor), the NYC Law Department contracted TRC to provide a review of the building management response actions, re-occupancy sampling and environmental consulting services. TRC oversaw all aspects of the building assessment, clean-up and post cleanup evaluation related to the NYCLD floors and associated heating ventilation and air-conditioning (HVAC) floors. The assessment and re-occupancy sampling included evaluations for airborne and surface dust concentrations of asbestos-containing material (ACM) dust, respirable silica quartz dust, volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PNAs/PAHs), multiple metals (including lead), polychlorinated biphenyls (PCBs), polychlorinated dibenzodioxins (PCDDs), polychlorinated dibenzofurans (PCDFs), respirable and total particulate matter, fungi and bacteria. TRC employed standard sampling methods, including dust wipe, dust microvacuum and air sampling methodologies.

Lower Manhattan Development Corporation (LMDC) – 130 Liberty Street (former Deutsche Bank Office Building) Deconstruction Project – Expert Technical Services – New York, NY
Mr. Gerdts has served as Principal-In-Charge for TRC's important role in this high profile deconstruction project just south of the former World Trade Center (WTC). TRC contract value on this project currently exceeds $20 Million. TRC provided services to remediate and deconstruct the 40–story, 1.5 million-square foot former Deutsche Bank Office Building (located at 130 Liberty Street) impacted by the collapsed World Trade Center's dust and debris.

TRC implemented the Ambient Air Quality network surrounding the 130 Liberty Street Deconstruction Project. Monitoring on a 24 hour – 7 days per week basis at each of the 12 stations included real-time particulate monitoring (PM10 and PM 2.5) as well as metals, mercury (particulate and vapor fractions), respirable crystalline silica, asbestos, polynuclear aromatic hydrocarbons (PAHS), polychlorinated biphenyls (PCBs) and dibenzo-dioxins and furans. Data was managed in a site-specific database management system and compared on a daily basis to USEPA target and trigger levels established for the project. Exceedances were addressed in reports prepared for regulator review within 24 hours of identification.

Consolidated Edison of New York, Inc. – Emergency Environmental and Industrial Hygiene Consulting Services at "Ground Zero" – World Trade Center, New York, NY (Principal-In-Charge)
Immediately following the attack at the former World Trade Center complex, Consolidated Edison Company of New York, Inc. (Con Edison) retained TRC to perform emergency environmental consulting services at "Ground Zero" (the World Trade Center site), as well as other sites in lower Manhattan. Mr. Gerdts was the Principal-In-Charge for this effort and personally spent many long days on-site supporting this effort. Services included exposure assessments, quantitative and qualitative respirator fit testing, airborne dust monitoring, environmental awareness training and oversight, and personal protection equipment distribution.

Due to the nature of the services and Con Edison's need, TRC provided a 24-hour, 7-days-a-week onsite presence. Con Edison utilized TRC's staff of health and safety professionals, including Certified Industrial Hygienists, Certified Safety Professionals, Professional Engineers, Industrial Hygienists, Certified Project Monitors, and Certified Asbestos and Lead Investigators/Inspectors.

SPECIALIZED TRAINING

- Project Manager Training
- 40-Hour OSHA Health and Safety Training
- 8-hour OSHA Site Safety Supervisor
- Department Manager Training
- 10-hour OSHA Construction Safety Training
- LEED Accreditation

PROFESSIONAL AFFILIATIONS

- American Academy of Industrial Hygiene
- American Industrial Hygiene Association

TRC

DAWN M. POMPEO

EDUCATION

M.A., Environmental Science, Montclair State College, 1985
B.S., Biology and Chemistry, Upsala College, 1980

AREAS OF EXPERTISE

Ms. Dawn M. Pompeo has over 25 years of experience encompassing:

- Project Management
- Due Diligence
- ISRA Compliance
- Preliminary Assessment/Site Investigation
- Remedial Investigation/Remedial Action Planning
- Litigation Support

REPRESENTATIVE EXPERIENCE

TRC Companies, Inc. (Formerly TRC Raviv Associates, Inc.) – Millburn, NJ

Ms. Pompeo manages a staff of twenty professionals focused on all aspects of the Industrial Site Recovery Act (ISRA) and Phase I/Phase II Environmental Assessments. Ms. Pompeo prepares proposals, assigns projects and establishes priorities for the group; monitors workloads and the progress of jobs assigned to staff; coordinates and supervises field activities; and serves as primary liaison for client and regulatory agency communications. Ms. Pompeo provides technical and regulatory support throughout TRC's environmental practices in New Jersey and New York. As a Program Manager, Ms. Pompeo prepares all documents required for ISRA compliance projects, including preliminary assessment reports, remedial investigation work plans and reports, and remedial action work plans and reports. Ms. Pompeo prepares Phase I Environmental Site Assessment reports and coordinates Phase II subsurface investigations and appropriate remedial measures. She prepares expert reports for environmental litigation cases.

New Jersey Department of Environmental Protection (NJDEP), Bureau of Environmental Evaluation and Cleanup Responsibility Assessment (BEECRA), Industrial Site Evaluation Element, Trenton, NJ
***BEECRA Bureau Chief, NJDEP's Division of Hazardous Waste Management, Administered the Environmental* Cleanup Responsibility Act (ECRA) (Supervisor: 1990 to 1991)**

Ms. Pompeo supervised operations including all technical, administrative, procedural and budgetary issues related to the management of more than 1,200 active ECRA cases. She also evaluated hazardous waste remedial plans for compliance with ECRA and directed a staff of 52 professionals, with an annual operating budget of $6 million.

Ms. Pompeo was responsible for revising, maintaining and updating network-based computer tracking systems. She ensured technical consistency and efficiency within BEECRA through review of correspondence and development of standard protocols. She provided guidelines for the preparation of technical advisory documents for both the NJDEP case managers and the public. Ms. Pompeo projected annual outputs and goals for Negative Declarations, Sampling Plans, Cleanup Plans and Full Compliance Letter Approvals, as well as timeliness criteria for each of these ECRA milestones. She also represented the ECRA program at public meetings and to the news media.

NJDEP, Section Chief, BEECRA (Manager: 1988 – 1990)
Ms. Pompeo managed the Medium Environmental Concern (MEC) Section (12 case managers). She was responsible for the automated tracking of more than 400 MEC cases including review of all correspondence and developed expedited technical review techniques for geologists and soil scientists to improve case processing time. Ms. Pompeo's major work assignments included the development of ECRA enforcement strategies and the monitoring of legal and technical groups to assure BEECRA goals were achieved. She participated in outside agency activities to promote the ECRA program. Ms. Pompeo prepared and delivered speeches to enhance program outreach. She assured that section priorities and policies were reflected in bureau mission goals, objectives and work plans. Ms. Pompeo reviewed policy and procedures, then developed and revised Standard Operating Procedures (SOPs) as required to increase product quality and quantity. She authored the ECRA Cleanup Plan Guide for use by the regulated community.

SPECIALIZED TRAINING
- Coastal and Estuarine Ecology, New Jersey Marine Sciences Consortium
- 40-Hour OSHA Health and Safety Training
- Hazardous Waste Emergency Response, Environmental Response Operations Course
- Hazardous Material Cleanup Technologies and Application at Superfund Sites
- The Fundamentals of Groundwater Contamination
- Environmental Data Requirements, Water Pollution Control Associates (WPCA).
- Site Characteristics for Subsurface Remediation, U.S. Environmental Protection Agency
- Certified Public Manager Program, New Jersey Department of Personnel
- Innovative and Alternative Technologies for Site Remediation, WPCA
- RCRA Corrective Action, WPCA/NJDEP
- Soil Washing Technologies for Site Remediation, USEPA
- Bioremediation of Hazardous Waste Sites: Practical Approaches to Implementation, USEPA

PROFESSIONAL AFFILIATIONS
- National Association of Environmental Professionals
- Society of Women Environmental Professionals

TRC

ROBERT J. GOLDEN JR.

EDUCATION

M.S., Management, Marine Resources Management Specialization, Texas A&M University, 1978
B.S., Environmental Science, Cook College, Rutgers University, 1974

TECHNICAL SPECIALTIES

Mr. Golden has 28 years of experience encompassing:

- Project Management
- *Multi-Media Environmental Permitting*
- Regulatory Review/Fatal Flow Analysis
- Environmental Due Diligence Reviews/Assessments
- Environmental Impact Studies/Assessments
- Expert Testimony

REPRESENTATIVE EXPERIENCE

Mr. Golden has over 28 years of experience as a Project Manager and Multi-Media Permitting Specialist on a variety of energy development/facility siting projects as well as pharmaceutical, healthcare and industrial projects. Mr. Golden has prepared and supervised the development of permitting strategies as they relate to the development, construction and/or operation of each project and served as the Project Manager responsible for obtaining all required environmental permits and plan approvals/certifications. Mr. Golden has extensive experience at managing multidisciplinary technical staff and project team members/subcontractors under strict budget and/or schedule constraints while interacting with/responding to various regulatory approval agencies.

Confidential Client, Fatal Flaw/Licensing Assessment for Proposed 600 MW Combined Cycle Facility – Central NJ

Mr. Golden serves as Project Manager for the preparation of a Fatal Flaw/Licensing Analysis for a dual fuel, combined cycle facility proposed to be developed in Central New Jersey. TRC's work scope includes the identification of risks/issues and significant areas of concern relative to the planned project; the preparation of a licensing/permitting strategy and schedule; and the preparation of a Phase I Environmental Site Assessment prepared in accordance with ASTM Standard E 1527-05.

Consolidated Edison Development Operating Company, LLC, Environmental Consulting/Permitting Assistance – Lakewood Township, Ocean County, NJ

Mr. Golden has served as Project Manager to CED Operating Company, LLC for the 500 MW Ocean Peaking Power (OPP) facility as well as the 236 MW Lakewood Cogeneration, L.P (LCLP) facility that are located in Lakewood Township, New Jersey and the Rock Springs Generation Facility in Rising Sun, Maryland. Work efforts have included preparation of a Discharge Prevention Containment Countermeasure/Discharge Cleanup and Removal (DPCC/DCR) Plan Renewal for LCLP; SPCC Plans for OPP and Rock Springs facilities; Stormwater Pollution Prevention Plans for OPP; various air permit amendments for OPP; and Phase I ESA Reports for all three facilities.

AES Red Oak, LLC., Total Environmental Permitting for 816 MW Gas Turbine Power Generation Facility – Sayreville, NJ

Mr. Golden served as Project Manager responsible for obtaining all environmental permits/approvals for a 816 MW dispatchable, natural gas fired power generation facility in Sayreville, New Jersey. He prepared and/or coordinated the preparation of the PSD air permit; Sayreville Planning Board EIS and land development submittal; wetlands

delineation; FAA application; FUA certification; Conrail crossing and Occupancy permit applications; Treatment Works approval and Potable Water Line application; Middlesex County Utilities Authority industrial wastewater discharge application; Middlesex County Planning Board application; and performance of an environmental baseline (soil and groundwater) investigation/report preparation. He also provided environmental compliance assistance as part of financial closing as well as guidance/liaison with the EPC Contractor as to regulatory permitting compliance obligations. Additional efforts during construction and commercial operation have included preparation/coordination of PSD/air permit modification for new emission sources and Title V application as well as ongoing air quality compliance assistance; MCUA Wastewater renewal application; and the preparation of Discharge Prevention Containment and Countermeasure/Discharge Cleanup Removal (DPCC/DCR) Plan and Stormwater Pollution Prevention Plans for the facility.

Ocean Peaking Power, L.P., Environmental Permitting for a 500 MW Gas Turbine Peaking Facility – Lakewood, NJ

Mr. Golden served as Project Manager and was responsible for the environmental permitting efforts associated with the development of a 500 MW natural gas fired simple cycle peaking generating facility developed by Consolidated Edison Development, Inc. in Lakewood Township, Ocean County, New Jersey. Responsibilities included preparation and/or coordination of the preparation of the PSD/State air permit application; the coastal Area Facilities Review Act (CAFRA) application; FAA application; and the provision of expert witness testimony during Lakewood Township planning board public hearings to obtain this approval. Additional work efforts during construction/operation of the facility, which Mr. Golden managed included the preparation of a Spill Control Countermeasure and Control Plan, a Stormwater Pollution Prevention Plan as part of the facility's General Stormwater Operational Permit, and supervising the preparation of CEMS equipment protocol as well as CEMS and Emissions Compliance testing protocols. The facility is constructed and operational.

SELECTED PUBLICATIONS

Golden, Jr., R.J., "Environmental Permitting for New Electric Capacity: The Need for an Innovative and Comprehensive Approach", presented at Association of Energy Engineers 1990 West Coast Congress Cogeneration Project Development Session, Santa Clara, California, March 30, 1990. Paper printed in Cogeneration Journal, Volume 5, #3, Summer 1990 issue.

Golden, Jr., R.J., "The Need to Comprehensively and Innovatively Approach Environmental Permitting for Technical Session – Environmental Factors Impacting Cogeneration and Independent Power Development at 1989 Cogeneration and Independent Power Congress," Atlantic City, New Jersey, June 7-8, 1989.

Golden, Jr., R.J. and B.H. Hoff, "Strategy Development for Accommodating an OCS Natural Gas Pipeline: New Jersey's Experience", Proceedings of the Conference on Joint Usage of Utility and Transportation Corridors sponsored by the Pipeline Division of the American Society of Civil Engineers, September 24-25, 1981 edited by C.H. Keohn, pp. 32-42, Houston, Texas.

Golden, Jr., R.J., K. Gallagher, N.P. Psuty, B.H. Hoff and E.J. Linky, March 1980. "OCS Pipelines: An Analysis of Routing Issues", a technical report by the Center for Coastal an Environmental Studies, Rutgers University and the New Jersey Department of Energy, 432 pages.

Psuty, N.P., R.J. Golden, Jr., K. Gallagher, B.H. Hoff and E.J. Linky. "Pipeline Landfall: Strategy Development Accommodating Natural Gas Production in the Baltimore Canyon Trough", Proceedings, Fifth Annual Coastal Society Conference, Newport, Rhode Island, November, 1979.

TRC

NIDAL RABAH, PhD, PE, PMP, LSRP

EDUCATION

Ph.D., Environmental Engineering, Stevens Institute of Technology, 1989
M.E., Civil and Environmental Engineering, Stevens Institute of Technology, 1984
B.S., Civil Engineering, Damascus University, 1981

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Professional Engineer, Delaware, 1992
Professional Engineer, New Jersey, 2005
Professional Engineer, New York, 2005
Project Management Professional (PMP) PMI-USA, 2005
Licensed Site Remediation Professional (LSRP-Temp), New Jersey DEP, 2010
UST Certification Subsurface Evaluation, Closure and Testing, New Jersey DEP, 2006

AREAS OF EXPERTISE

Dr. Nidal Rabah has extensive management and technical experience in the following areas:

- Remedial Design, Construction, Operation and Maintenance
- Groundwater Modeling
- Brownfield Redevelopment
- Landfill Engineering and Closure
- Water Resources Planning and Engineering
- Environmental Litigation Technical Support

Dr. Rabah directs remedial investigations, feasibility studies, modeling, remedial designs and remediation construction to address soil and overburden/bedrock groundwater dissolved and free product (NAPL and tar) contamination. Remedies implemented under Dr. Rabah's supervision have included soil removal/treatment and stabilization, permeable reactive barriers (PRBs and biowalls), cutoff walls/containment (steel and geomembrane sheet piles), groundwater extraction and treatment, capping (soil and low permeability geosynthetics), passive and active product recovery (skimming, bailing and vacuum extraction) and in-situ bioremediation.

REPRESENTATIVE EXPERIENCE

Remedial program at airport hangars and runways at La Guardia Airport in Queens, NY. Dr. Rabah managed a multi-million dollar remedial program at airport hangars and runways at La Guardia Airport in Queens, NY, which involved negotiations with NYSDEC and the Port Authority of New and New Jersey, preparation of design and bid documents, and oversight of remedial construction for excavation and removal of jet fuel USTs, ASTs and contaminated soil, and design and implementation of groundwater remediation (LNAPL and dissolved phase contamination) including excavation and in-situ bioremediation.

Remedial investigation, design and implementation of the remedial action for the CPB Site in Edgemere, NY. Dr. Rabah is the Project Director for the remedial investigation, design and implementation of the remedial action for the CPB Site in Edgemere, NY that included soil and groundwater delineation and characterization in a multi-unit coastal aquifer system impacted with residual product (DNAPL), dissolved phase chlorinated solvents (PCE and TCE), free product (LNAPL) and dissolved phase fuel oils. He was responsible for the design and implementation of in-situ chemical oxidation and in-situ bioremediation pilot tests. Based on the results of the RI and the pilot test, a remedial action work plan and remedial design were prepared and submitted to NYSDEC to

remediate the DNAPL and LNAPL contamination. The selected remedial action includes in-situ thermal treatment using electrical resistance heating and hotspot excavation.

Bayonne Crossing Redevelopment, Bayonne, NJ. Dr. Rabah was responsible for the planning and conceptual design of a remedial program for the 30-acre Bayonne Crossing Redevelopment site in Bayonne, NJ which was part of a former refinery and other industrial facilities with contaminated soil and groundwater, including free floating fuel oil, tank bottom sludge and product, dissolved petroleum hydrocarbons, chromium and historic fill. The approved remedial action included the installation of a 3,000-foot product containment trench using an impermeable barrier and product recovery system, a 3,000-foot long biosparging/bioventing curtain, soil excavation and disposal, soil stabilization and solidification for on-site reuse, and chemical oxidation.

Cranbury Lake Dam in Cranbury, NJ. Dr. Rabah conducted watershed analysis and hydrologic and hydraulic modeling for the Cranbury Lake Dam in Cranbury, NJ to evaluate the impact of an earthen dam breach on floodplain areas for spillway rehabilitation and redesign. This project included the assessment of runoff, streamflow, and flood routing for rainfall events utilizing computer models TR-55, HEC-1, HEC-2 and DAMBREAK.

Remedial investigation, remedial design and remedial action implementation at the Former Washington Forge Site in Englishtown, NJ. Dr. Rabah directed a remedial investigation, remedial design and remedial action implementation at the Former Washington Forge Site in Englishtown, NJ to remediate groundwater contaminated with chlorinated solvents, base neutral compounds and free floating fuel oil. Remedial actions included in-situ bioremediation, high vacuum extraction for product recovery and soil vapor extraction. Dr. Rabah developed and directed the implementation of treatability and pilot test programs of in-situ bioremediation using emulsified vegetable oils for reductive dechlorination, sodium bicarbonate for pH adjustment and dehalococcoides for bioaugmentation. The full scale in-situ bioremediation program will be facilitated using pneumatic fracturing and fluid atomized injection.

Remediation project for Cherokee Pennsauken Redevelopment in Camden County, NJ. Dr. Rabah served as a Project Director for multi-million dollar remediation project for Cherokee Pennsauken Redevelopment in Camden County, NJ which involved multiple Hess and Texaco oil storage terminals, and chemical and manufacturing sites that are contaminated with petroleum hydrocarbons, chlorinated solvents, metals including chromium and historic fill. The project involved a billion dollar mixed-use brownfield redevelopment. The project included a RI/FS, and preparation of remedial action work plans, remedial designs, soil management plans, as well as regulatory agency liaison, preparation of engineering cost estimates for condemnation and construction oversight. Planned remedial actions included soil excavation and disposal, in-situ chemical reduction and bioremediation, capping (soil, asphalt, low permeability clay and geosynthetic membrane) and natural attenuation.

PROFESSIONAL AFFILIATIONS

- American Society of Civil Engineers
- Association of Groundwater Scientists and Engineers

TRC

STEVEN D. MEERSMA, PE

EDUCATION

B.S., Civil Engineering, University of Michigan, 1985

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Professional Engineer, New York
Professional Engineer, New Jersey
Professional Engineer, Delaware
Certified Underground Storage Tank Subsurface Evaluator, New Jersey

AREAS OF EXPERTISE

Mr. Steven D. Meersma, P.E. has a 24-year record of providing high-quality environmental engineering services to a broad range of government agencies and private sector concerns primarily in New York State and New Jersey. He has managed many large and complex multi-phase remedial investigation, design, construction, and site management projects. Through his extensive experience Mr. Meersma has program management and technical expertise in the following general areas:

- Environmental Assessments and Audits
- Remedial Design and Construction
- Construction Management
- Groundwater Remediation
- Underground Storage Tank Management
- Geotechnical Engineering
- Solid Waste Management
- Wastewater Treatment

Based in TRC's New York City office, Mr. Meersma is an Assistant Vice President in TRC's Remediation Practice and manages a staff of engineers and scientists.

REPRESENTATIVE EXPERIENCE

Former Consolidated Edison Waterside Steam Station, Midtown Manhattan. Mr. Meersma served as Professional Engineer of Record for the $103 million decommissioning, demolition and soil and groundwater remediation of the four individual properties in Midtown Manhattan, totaling nine acres, comprising the former Consolidated Edison Waterside Steam Station, which has been slated for residential and commercial redevelopment. Former site uses included a 100-year old steam generating station, a manufactured gas plant, a petroleum storage terminal, a fleet fueling depot and an office building. The project was performed under the Voluntary Cleanup Program (NYSDEC VCP Site Nos. V00429 - V00432), with TRC as a Volunteer. Mr. Meersma was responsible for the review and approval of detailed task-specific work plans for all elements of the work and regulatory and safety management of the program.

Ferry Point Park, Bronx, New York. Mr. Meersma has provided ten years of continuous, on-going technical and managerial services in connection with the permitting, remediation, site/civil and environmental engineering, and construction at Ferry Point Park, a 220-acre former landfill being developed into a golf course and community and waterfront parks in the Bronx, New York. Mr. Meersma served as the Program Manager for multiple contracts with the New York City Department of Parks and Recreation valued at $12 million related to NYSDEC Part 360 Permit

compliance and fill import, engineering design, and construction management. Mr. Meersma oversaw the design and construction of an approximately two mile-long vent trench to isolate landfill gases from the neighboring community. He developed the Soil Management Program and other environmental aspects of the Engineering Plan, detailing the sampling, analytical laboratory testing and on-site management of two million cubic yards of imported fill material and cover layer material to re-grade and cover the landfill. Mr. Meersma also supervised the *design of a site-wide landfill gas control system and sub-slab depressurization systems for several park-related* buildings being constructed on the former landfill.

Remediation of Operable Units (OUs) 1 and 2 of the Queens West Development – Stage 2 Site, Long Island City, Queens. Mr. Meersma served as Project Manager and Engineer of Record for the $25 million fast-track remediation of operable units (OUs) 1 and 2 of the Queens West Development – Stage 2 Site, an approximately 12-acre portion of the former oil refinery and industrial site in Long Island City, Queens. The remediation of OUs 1 and 2 was performed under the Voluntary Cleanup Program (VCP Site Nos. V00505A and V00505B). Remediation and environmental conditions included contaminated sediments, separate phase free product, buried former refinery systems, heavy metals contamination in soil, volatile organic contamination of soil and groundwater, and site-wide urban fill. Mr. Meersma also served as technical reviewer for the design of active sub-slab depressurization systems for two high-rise residential buildings at the site, and he has supervised implementation of the site management plans for OUs 1 and 2.

New Jersey Transit (NJT) Hudson-Bergen Light Rail Transit System (H-BLRTS). Mr. Meersma served as the Project Manager for the environmental aspects of the design and construction of the New Jersey Transit (NJT) Hudson-Bergen Light Rail Transit System (H-BLRTS). In this capacity, Mr. Meersma was responsible for the day-to-day management of a large multi-disciplined professional staff and a multi-million-dollar budget. The 20-mile long project corridor is located in a highly urbanized area and involved construction of a large maintenance and storage facility, 13 passenger stations, and six bridges. Historic waste disposal activities had resulted in widespread soil and groundwater contamination of the project corridor. Under a Memorandum of Agreement, NJT was responsible for remediating the areas impacted by the construction of the H-BLRTS. During the Initial Operating Segment construction phase of the project, Mr. Meersma was responsible for the oversight of all hazardous materials remediation activities including: closure of approximately 25 underground storage tanks, remediation of soil and groundwater impacted by leaking underground storage tanks, decontamination and demolition of over 40 buildings and structures, management of contaminated groundwater, and management of over 500,000 cubic yards of hazardous and contaminated soil and debris.

SPECIALIZED TRAINING

- 120-Hour Project Manager/ Mentoring Training
- Total Quality Management Basic and Leadership Training
- 40-Hour OSHA Hazardous Waste and Emergency Response Training
- 8-Hour OSHA Hazardous Waste and Emergency Response Training
- Supervisory OSHA Hazardous Waste and Emergency Response Training

PROFESSIONAL AFFILIATIONS

- Chi Epsilon, Honorary Civil Engineering Society
- American Society of Civil Engineers
- Water Environment Federation

TRC

CARL STOPPER, PE

EDUCATION
B.S., Civil Engineering, University of Connecticut, 1978

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS
Professional Engineer, Connecticut, 1984
Professional Engineer, New Jersey, 1992

AREAS OF EXPERTISE
Mr. Carl Stopper has 30 years of extensive and diverse environmental, civil and geotechnical experience in engineering, permitting, landfills, remediation, construction and project management. Mr. Stopper has extensive experience managing complicated "fast track" projects involving state and local agencies, developers, community groups, architects, engineers and regulatory agencies. He has been involved with many projects involving sensitive environmental issues and public hearings. Mr. Stopper's experience in managing complex site remediation projects exceeding $20 million provides him with the ability to resolve multi-faceted issues, and to provide schedule management and cost control.

Mr. Stopper has extensive management and technical experience in the following areas:

- Remedial Design and Construction Management
- Landfill Engineering, Permitting and Construction Quality Assurance
- Environmental Permitting
- Technical/Quality Control Review
- Water Supply and Distribution
- Flood Control and Drainage
- Geotechnical Engineering
- Civil and Site Engineering

REPRESENTATIVE EXPERIENCE
Remediation at 35 sites with leaking underground fuel oil tanks for the New York City Housing Authority. Mr. Stopper designed and managed remediation at 35 sites with leaking underground fuel oil tanks for the New York City Housing Authority. Remedial systems included free product recovery and groundwater extraction and treatment. Difficult design conditions involving the cleanup of heavy No. 4 and 6 heating oil required extensive evaluation of alternatives and performance of a pilot study.

Sub-slab landfill gas collection system for the New York City College Point Bus Facility. Mr. Stopper designed an active sub-slab landfill gas collection system for the New York City College Point Bus Facility which is a large bus maintenance facility located over decomposing fill material and organic deposits. The design is similar to the Riker's Island facility design described below.

Four sub-slab methane gas venting systems for building additions at the Riker's Island Correctional Facility in New York City. Mr. Stopper designed and managed four sub-slab methane gas venting systems for building additions at the Riker's Island Correctional Facility in New York City. The project included design of a special impermeable membrane system which would seal around a pile foundation and withstand as much as two feet of settlement. The venting systems included a network of collection pipes connected to a blower. The design

incorporated an early warning gas detection system for the safety of building occupants.

William J. Hughes FAA Technical Center Superfund Site in Atlantic City, NJ. Mr. Stopper was the Project Director for the design and construction tasks for seven separate remedial designs and remedial actions totaling more than $40 million construction cost at the 5,000-acre William J. Hughes FAA Technical Center Superfund Site in Atlantic City, NJ. Remediation included groundwater extraction with all treated water returned to the aquifer via a combination of injection wells, recharge galleries, open recharge basin and a subsurface recharge bed. Source remediation included free phase contaminant recovery, vapor phase enhanced bioremediation, surfactant application, oxygen releasing compound injection, and removal and off-site disposal of contaminated soil. Soil, sediment and groundwater at widespread sites are contaminated with jet fuel, waste oils, solvents, polychlorinated biphenyls, pesticides and heavy metals. Mr. Stopper supervised the design of two projects for the FAA involving extraction of groundwater contaminated with dissolved chlorinated compounds, and treatment and recharge of the treated groundwater to shallow and middle aquifers. One portion of the groundwater extraction and treatment system pumping over 300 gpm from the middle aquifer was designed in one month on a fast-track basis to handle an emergency condition. One system design and construction was completed within six months and has been operating successfully. Recharge has been accomplished through the combination of a 16-acre recharge basin and five deep injection wells. A third project at this site involved design and construction oversight of a $3 million PCB soil removal action and construction of a covered containment area for storage of open containers and drums.

New York City Economic Development Corporation at the former Bush Terminal located in Brooklyn, NY. Mr. Stopper served as Project Director for the design tasks for demolition of a portion of a pier to facilitate the staging and removal of drums containing contaminated waste material. The services were provided for the New York City Economic Development Corporation at the former Bush Terminal located in Brooklyn, NY. A portion of the pier had collapsed onto a pile of over 200 rusted, leaking and ruptured drums containing a grease-like material. As part of this project, Mr. Stopper supervised the evaluation of alternative methods for demolition and drum handling.

Former Evor Phillips Leasing Facility Superfund Site in Sayerville, NJ. Mr. Stopper prepared the design and managed a remedial action for groundwater extraction, treatment and sewer discharge for capture of a chlorinated solvent and heavy metal groundwater contaminant plume at the former Evor Phillips Leasing Facility Superfund Site in Sayerville, NJ. The system was designed on a fast track basis for the New Jersey Department of Environmental Protection. Mr. Stopper provided review and assistance services during construction.

PROFESSIONAL AFFILIATIONS

- American Society of Civil Engineers

TRC

DANIEL NACHMAN, CPG

EDUCATION

M.S., Geology, Oregon State University, 1977
B.A., Geology, New York University, 1973

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Certified Professional Geologist, American Institute of Professional Geologists
Registered Geologist, Commonwealth of Virginia
New Jersey – Certified for UST Subsurface Evaluation
Certified Emergency Medical Technician, New Jersey, 1997 to 2003

AREAS OF EXPERTISE

Mr. Daniel Nachman has over 30 years of extensive experience in environmental and groundwater supply consulting, which includes evaluation of regional hydrogeologic regimes; design and management of multifaceted investigations and remedial efforts under state and federal environmental programs; development and management of groundwater supplies; direction of technical and financial aspects of environmental consulting operations groups and offices; and environmental litigation technical support. He currently manages hydrogeologists and environmental scientists, directing a wide range of soil and groundwater remedial projects. Mr. Nachman teaches two hydrogeology courses annually through Rutgers University's continuing education program.

Mr. Nachman has extensive management and technical experience in the following areas:

- Hydrogeology
- Site Investigation
- Groundwater Remediation
- Hazardous Waste Site Remediation
- Superfund and RCRA Corrective Action
- Environmental Litigation Technical Support
- Groundwater Resource Development

REPRESENTATIVE EXPERIENCE

Project Director for a Remedial Investigation/Feasibility Study (RI/FS) at the Woodbrook Road Superfund Site in South Plainfield, New Jersey. Mr. Nachman responsibilities include directing a multidisciplinary project team, negotiating project scope with USEPA, presenting the technical aspects of the project to regulatory agencies, municipal entities and environmental organizations, and supporting efforts to enhance and conserve more than 100 acres of wetlands in the Dismal Swamp, one of the last extensive freshwater wetland environments in northern New Jersey. The site is a former unlicensed dump contaminated with PCBs. The RI/FS includes an evaluation of ecological and human health risks associated with PCBs in soil, sediment and surface water, and use of real-time data analysis to guide delineation efforts within an accelerated timeframe, with the goal of completing a *protective remedy that is integrated with the enhancement and preservation of a large tract of wetlands.*

Project Director for Remedial Investigations (RI) at the 1,300-acre Bayway Refinery in Linden, New Jersey and at the 288-acre Terminal in Bayonne, New Jersey for ExxonMobil. The projects included negotiations with the NJDEP, development of investigative strategies and techniques, characterization of complex hydrogeologic conditions and contaminant distribution in soil and groundwater, data presentation, risk assessment and evaluation of remedial alternatives. Mr. Nachman served as an advisor in the evaluation of the hydrogeologic constraints affecting the performance of a large remedial system at the Bayway Refinery.

Project Director for a Remedial Investigation (RI) at the closed Dover Township Municipal Landfill conducted under a Memorandum of Understanding (MOU) between Dover Township and the NJDEP. The RI included a thorough evaluation of the 3-dimensional groundwater flow dynamics in a 200-foot thick sand aquifer, delineation of the landfill leachate plume, negotiation of delineation criteria for conventional and area-specific contaminants of concern, and the presentation of the findings at regular meetings of a cancer cluster committee. The RI also included sophisticated investigative and computer modeling techniques to identify preferential contaminant migration pathways and design an optimal groundwater monitoring network, and a baseline ecological evaluation to assess potential impacts of the landfill leachate plume on nearby streams. Mr. Nachman served as the principal spokesperson for the Township in negotiations with the NJDEP and at public presentations.

Project Director for a Remedial Investigation (RI) and Remedial Action at the former Berlex R&D facility in Hanover, New Jersey. The RI included an evaluation of regional hydrogeologic and groundwater contamination conditions to obtain a No Further Action (NFA) designation for groundwater, and sufficient characterizations to obtain NFA designations for more than 25 other Areas of Concern (AOCs). The remedial action, which involved the capping of a historic fill area with a heterogeneous distribution of PCBs, was the result of precedent-setting negotiations with the USEPA and NJDEP. The approved capping remedy was the first nationwide under the federal TSCA Megarule.

SPECIALIZED TRAINING

- USEPA RCRA Corrective Action Workshop on Results-Based Project Management
- OSHA 40-Hour Hazardous Waste and Emergency Response Training
- OSHA 8-Hour Hazardous Waste and Emergency Response Training
- OSHA Supervisory Hazardous Waste and Emergency Response Training
- Ground Water Pollution and Hydrology, Princeton Associates - July, 1982

PROFESSIONAL AFFILIATIONS

- American Institute of Professional Geologists

TRC

CHARLES N. GUDER

EDUCATION

B.S., Chemical Engineering, Manhattan College, 1991

AREAS OF EXPERTISE

Mr. Guder is a Senior Project Manager, based in TRC's New York City office, in the Environmental Remediation and Site Assessment Practice. Mr. Guder has extensive management and technical experience in the following areas:

- Project Management
- Environmental Assessments and Audits
- Remedial Investigation Work Plan Preparation and Implementation
- Remedial Activity Oversight and Management
- Soil Vapor Intrusion Investigation and Mitigation
- Regulatory Compliance
- Equipment Decommissioning
- Structure Demolition
- Industrial Hygiene
- Remedial Design
- Brownfields Initiatives
- Permitting

REPRESENTATIVE EXPERIENCE

Mr. Guder has over 19 years of experience in environmental consulting. His qualifications include project scoping, budgeting, management, implementation, reporting, health and safety and close-out of large scale, multi-faceted environmental projects. Mr. Guder's background includes extensive service to public and private-sector clients including the NYCSCA, Consolidated Edison, NYCDOT, Nestle USA, and CSX Transportation. He currently has responsibility for project management and implementation of diverse environmental projects.

New York City School Construction Authority, On-Call Environmental Consulting Services Contract

Since 2006, Mr. Guder has served as the Project Manager for TRC's "on-call" hazardous materials service contract *with the New York City School Construction Authority (NYCSCA), under two consecutive $4 million contracts.* Mr. Guder has managed the performance of over 150 assignments consisting of a wide range of environmental consulting services. These have included due diligence investigations, petroleum bulk storage tank investigations, outdoor air assessments, indoor air quality sampling, spill closure projects, remedial design (including sub-slab depressurization systems, vapor barriers, and contaminated soil removals), construction oversight, contractor submittal reviews, and *emergency response to spills and releases. Mr. Guder has been responsible for technical oversight and reporting,* staff and financial management, field coordination and management, health and safety program management, and subcontractor procurement and management.

AIMCO, National Account Manager, Nationwide
Mr. Guder serves as the National Account Manager for a comprehensive open ended task order environmental services contract for one of the largest nationwide owners and managers of apartment building in the country. Environmental services provided include pre-acquisition and pre-divestiture due diligence, lead-based paint compliance, petroleum bulk storage compliance and permitting, asbestos inspection and operations and maintenance plan preparation and implementation, and indoor air quality testing and mitigation.

Consolidated Edison Company of New York, First Avenue Properties, New York, NY
Mr. Guder served as the full time Site Manager overseeing and managing the decommissioning, demolition, and site remediation of the 7-acre Waterside Steam Generating Station site located in Midtown Manhattan. Key components of the work directly managed by Mr. Guder included the asbestos abatement of two circa-1900 steam and electric generating stations, the removal of a 255,000 gallon fuel oil underground storage tank, decommissioning and removal of acid and caustic tanks, demolition of three steel and brick smokestacks, demolition of six eight-story high boilers, sealing of twelve-foot diameter cooling water tunnels, remedial investigations, excavation and disposal of 100,000 tons of contaminated soil, and sheeting and shoring to protect adjacent roadways and public right-of-ways. Mr. Guder oversaw a peak work force of two hundred trades-people, enforced health and safety provisions and plans, participated in public meetings and outreach initiatives, developed work plans, and interacted and negotiated with regulatory agencies overseeing the work.

HOK Sport, Pre-Demolition Survey of Shea Stadium, Flushing, New York
Mr. Guder served as the Project Manager for pre-demolition survey activities for Shea Stadium, the home of the New York Mets, in preparation for the upcoming new stadium construction. Pre-demolition survey activities consisted of asbestos surveys and hazardous materials inventory preparation and the preparation of biddable plans and specifications for asbestos abatement and hazardous materials removal.

Nestle USA, Inc., Environmental Site Assessments at Manufacturing Facilities, Various Locations
Mr. Guder served as the Project Manager responsible for assisting the Nestle USA environmental department in performing Pre-Divestiture and Pre-Acquisition environmental assessments for various properties in the United States. Mr. Guder provided consulting on regulatory implications and environmental liabilities based on current and historical property usage. Mr. Guder also completed subsurface investigations to define potential environmental conditions.

Metro-North Railroad, Metro-North Croton-Harmon Maintenance Facility Rehabilitation Design, Croton, New York
Mr. Guder functioned as the environmental task leader for a multi-disciplinary design team in the design of the reconstruction of Metro-North Railroad's largest maintenance and repair facility. Mr. Guder was responsible for the oversight and design review of four environmental subconsultant team members. Design work included oil-water separator design, petroleum bulk storage tank decommissioning and fabrication design, and development of a GIS/Key database. Additionally, Mr. Guder negotiated with regulatory agencies on the clients' behalf to obtain dewatering discharge approvals and for the reuse of soils on site.

SPECIALIZED TRAINING
- 40-Hour OSHA Health and Safety Training
- Supervisory OSHA Health and Safety Training

TRC

ROBERT S. KEANE, PE

EDUCATION
B.S., Civil Engineering, Lehigh University, 1990

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS
Professional Engineer, New York (No. 082015), 2004

AREAS OF EXPERTISE
Mr. Robert Keane is a Senior Project Manager in TRC's Environmental Remediation and Site Assessment Practice in the New York City office and has over 19 years of experience providing environmental engineering, remedial investigations, design, construction oversight and permitting services. He has managed many remedial investigations, feasibility studies, site assessments and remedial design and construction projects.

Mr. Keane has extensive management and technical experience in the following areas:

- Phase I and Phase II Environmental Site Assessments and Investigations
- Underground and Aboveground Storage Tank Management
- Remedial Design and Remedial Investigation
- Remedial Construction Management/Inspection
- Remedial System Operation and Maintenance
- Regulatory Compliance

Mr. Keane has extensive experience in connection with investigation, remediation and close-out of contaminated sites in New York. He has been responsible for engineering services in connection with inspection, testing, maintenance, spill prevention planning, remediation, closure and replacement of numerous storage tank systems in the New York City metropolitan area.

Mr. Keane provided environmental consulting services to the Town of Hempstead, New York for twelve consecutive years. This work included managing all phases of subsurface investigations, remedial design, pilot tests, quarterly sampling, AST/UST compliance, chemical bulk storage compliance, bid document preparation, cost estimating, and construction oversight.

Mr. Keane has performed, reviewed, and managed staff in connection with over one hundred Phase I Environmental Site Assessments for commercial, residential, industrial, manufacturing, and other properties in the New York City metropolitan area throughout his 19 year career. In addition Mr. Keane has supervised Phase II Environmental Site Investigations at over one hundred sites.

REPRESENTATIVE EXPERIENCE
Ozone Injections, Town of Hempstead, Uniondale, NY
Mr. Keane served as the Project Manager and identified, evaluated and prepared cost estimates for best remedial options to treat an off-site groundwater plume in four geographic areas around the Southern State Parkway on Long Island in New York. Technical evaluation and cost estimating indicated ozone injection through a portable ozone generator was the most economical and aggressive technology to treat BTEX in groundwater. Mr. Keane supervised the installation of 12 ozone injection wells, implemented a pilot study plan and oversaw ozone injection into the groundwater plume to remediate BTEX compounds. Additionally, he obtained NYSDOT and NYS Department of Parks, Recreation and Historic Preservation access permits to operate on parkland (Southern State Parkway).

UST Removal, Site Investigation and Spill Case Closure, Merrick, New York
After the Town of Hempstead condemned two contiguous properties and began to build a parking lot for the LIRR, 6 USTs were discovered. Mr. Keane supervised the removal of five 5,000-gallon USTs and one 550-gallon UST. Mr. Keane supervised the collection of post excavation soil samples and based on the sampling results supervised excavation of 450 tons of contaminated soil to facilitate parking lot construction. Mr. Keane designed a monitoring well network to determine local groundwater flow direction, and the extent of hydrocarbon contamination in groundwater. Mr. Keane successfully negotiated a limited remedial action consisting of the injection of Oxygen Release Compound (ORC) in to the subsurface to create a barrier to off-site contaminant migration and improve biodegradation of contaminants on-site. Mr. Keane managed quarterly groundwater sampling at the site for 3 years and supervised preparation of quarterly reports for submittal to the NYSDEC until the spill case was closed.

Petroleum Remediation System Design, Kimber Petroleum Facility, Hazlet, NJ
Mr. Keane conducted several rounds of groundwater sampling of monitoring wells to obtain groundwater quality data and groundwater elevations at the Kimber Petroleum facility on Route 36 in Hazlet, New Jersey. Mr. Keane evaluated the analytical data and plotted groundwater flow direction in order to design a remedial system. He designed and installed a groundwater interceptor trench to prevent hydrocarbon migration from the up-gradient gas station from impacting an adjacent stream that was designated by the as a trout stream. He also conducted a pump test on an extraction well to develop data for the design of a groundwater extraction and treatment system. Mr. Keane also prepared a NJPDES permit application to discharge effluent from the treatment system which included an oil/water separator and an activated carbon adsorption system.

Class V Injection Well Compliance Services, Town of Hempstead, NY
Mr. Keane served as the Senior Project Manager for a multi-year USEPA Consent Order with the Town of Hempstead regarding Class V injection wells. The project included reviewing all facilities that have vehicle repair areas or chemical storage areas with connections to floor drains that discharge into injection wells (drywells). The project involved mailing surveys to all facilities in the Town, preparing a list of suspect facilities, obtaining archived drawings, reviewing plumbing drawings and inspecting 26 facilities with potential UIC compliance issues. Under Mr. Keane's supervision, dye testing of floor drains was performed to verify discharge to drywells or storm sewers, interviews were conducted with site personnel, and a report was prepared and submitted to USEPA summarizing further investigation required. Following the initial report, investigations and corrective measures were implemented under Mr. Keane's supervision at sixteen facilities.

Pre-Purchase Audits, Conrail Yards, Buffalo and Syracuse, NY
Mr. Keane was the Project Manager and prepared multi-rail yard pre-purchase audits for both environmental due diligence and to identify environmental regulatory compliance issues at the Conrail Yards in Buffalo and Syracuse, New York. The project included site inspections, review of engineering drawings and utility plans for waste disposal and other environmental issues, interviewing site personnel, and review of environmental permits, chemical/petroleum storage permits, SPDES permits, RCRA-regulated units, storm water management conditions, spill plans, HAZCOM plans, SARA Title III reporting requirements and records of past spills.

SPECIALIZED TRAINING
- 40-Hour OSHA Health and Safety Training

PROFESSIONAL AFFILIATIONS
- American Society of Civil Engineers
- National Groundwater Association

TRC

ANDREW SMYTH, LSP, LEP, CPA, PG, BEAC EMS – 14001 PLUS

EDUCATION
M.S., Geology, with minors in Civil and Geologic Engineering, New Mexico State University, 1986
B.A., Geology, Ohio Wesleyan University, 1984

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS
Board of Environmental Auditor Certification EMS - 14001 Plus, 1998
BEAC Certified Professional Auditor, (#364), 1998
Licensed Site Professional (LSP), Massachusetts, (#9143),1996
Licensed Environmental Professional (LEP), Connecticut, (#267) 1996
Licensed Geologist, New Hampshire, (#612), 2003
Licensed Geologist, Tennessee, (#TN3652), 1997

REPRESENTATIVE EXPERIENCE
With over 20 years of experience, Mr. Smyth has led more than 200 separate environmental, health, and safety audits in his professional career. His auditing experience includes marine terminals/ports; airport facilities; aerospace manufacturing and testing facilities; oil and gas production, gathering, storage, and refining; smelting; metal forming and plating; electronics; computer; paper and wood processing; gas and power plant utilities; commercial treatment, storage and disposal facilities; universities; hotels; and railroad lines. He has in-depth experience with Environmental, Health and Safety (EHS) Auditing, Environmental Management Systems (EMS), preparation of facility EHS documents and environmental permitting.

Various Clients, Environmental Health and Safety Audits – Various States
Participated in more than 100 separate environmental, health, and safety audits, often including either team leadership or oversight responsibility. Audited the functional areas of confined space entry, lockout/tagout, hot work, hazard communication, fall protection, accident/incident, industrial hygiene, solid and hazardous waste management, waste water and spill control, air pollution control, surface water and ground water protection, drinking water, site security, medical, TSCA (including PCBs, chemical registering, and adverse reactions), pesticides and herbicides (FIFRA) control, SARA compliance, and overall management systems. Audited various types of facilities including aerospace; chemical; petrochemical; oil and gas production, gathering, storage, and refining; mining; smelting; metal forming and plating; tobacco, cement plants, electronics; computer; paper and wood processing; gas and power plant utilities; commercial treatment storage and disposal facilities; state universities; hotels; railroad lines; the U.S. Air Force and Department of Energy; and photochemical facilities. Ten of the above audits were conducted in Canada, three in Kazakhstan, and two in South America, with the remainder occurring in the United States.

CSX, Railroad Company, Environmental Audits – Various States
For the CSX railroad company, managed the implementation of 22 environmental audits at rail facilities in conformance with an EPA consent decree.

Burlington Environmental, Management Systems Assessment – WA
For Burlington Environmental, a TSDF operator, conducted a management systems assessment of its environmental response and field operations division, including an assessment of the client's field program effectiveness, readiness, staffing, QA/QC procedures and implementation. Conducted field tours of some of their

ongoing cleanup operations, met with senior staff and reviewed extensive documentation to assess their operations.

Brooklyn Union Gas Company, Wastewater and Stormwater Discharge Survey/Assessment – NY
Conducted a comprehensive survey of all waste water and stormwater discharges at six facilities. Following the survey, developed a sampling plan to characterize these discharges and assessed regulatory requirements for them. In conjunction with these studies, wrote spill reporting and response guidelines and chemical loading/unloading procedures for the facilities. In addition, reviewed their current spill control equipment and recommended upgrades and inspection frequencies for the equipment.

PAXAR, Environmental Report Preparation, NY
Preparation of routine quarterly and annual air emission, hazardous waste and SARA reports for a manufacturing facility.

NYEDD and NYSASS, P2 Evaluations – NY
Mr. Smyth was the lead technical manager and conducted Pollution Prevention (P2) training in association with a New York Economic Development Department's P2 project involving the New York State Association of Service Stations and the Service Station Dealers of Greater New York. The project included training, onsite P2 inspections of about 100 service stations, recommendations for reducing environmental impacts and energy demands and quantitative estimates of the amount of waste reduced and money saved by the recommendations.

Various Clients, Environmental Permit Transfers – Various States
Prepare the paperwork to allow for the transfer of air, water, waste, wastewater and tankage permits following due-diligence transactions.

US EPA Region V, Database Management System Development – Great Lakes
Developed the Great Lakes Environmental Database Management System (GLEDMS) currently used for characterizing confined disposal facilities (CDF). This database contains information on CDF's which may be accessed and updated through a menuguided, user-friendly system. Developed and utilized similar database systems for tracking the analytical and geohydrologic data that is commonly accumulated during site characterizations.

Algonquin Gas, Water Resources Assessment – NY
Prepared the water resources portion of a Federal Energy Regulatory Commission (FERC) submittal for a proposed one mile gas pipeline with a river crossing.

PROFESSIONAL AFFILIATIONS

- National Water Well Association
- Licensed Site Professional Association
- Auditing Round Table Member

TRC

JAMES PERONTO, PE, LEP

EDUCATION

M. S., Environmental Management Concentration, Rensselaer-Hartford, 2001
B.S., Civil and Environmental Engineering, University of Wisconsin-Madison, 1984

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Professional Engineer, Connecticut, 1989
Professional Engineer, New York, 2006

AREAS OF EXPERTISE

Mr. Peronto has over 24 years of experience providing environmental engineering consulting services and extensive management and technical expertise in the following areas:

- Site Characterization and Remedial Investigation
- Feasibility Studies and Remedial Design
- Remedial/Corrective Action Oversight and Management
- Environmental Regulatory Compliance and Permitting

REPRESENTATIVE EXPERIENCE

New York City Economic Development Corporation, On-Call Environmental Consulting Services Contract
Mr. Peronto has served as Project Manager for TRC's consecutive on-call environmental consulting contracts with the NYCEDC for over 15 years, supervising engineering investigation, remediation, compliance and permitting services for various City of New York properties and development projects. Projects have included numerous environmental site investigations and the preparation of remediation system engineering plans and specifications, Stormwater Pollution Prevention Plans, Army Corps of Engineers wetlands permit applications and Tank Closure Plans. Mr. Peronto has managed remedial action activities at sites proposed or planned for development. Remedial activities have been conducted at many sites including former gasoline stations, junkyards, former industrial facilities and abandoned disposal areas. Remedial site activities have included aboveground and underground storage tank removal, tank upgrades, soil removal, drum removal, waste removal, structure demolition and asbestos abatement. Under this contract with the NYCEDC, Mr. Peronto prepares the specifications and bid packages, conducts the bid evaluations, retains the contractors and manages remedial activities. Mr. Peronto also develops project budgets and schedules and monitors activities to ensure adherence to limits. He reviews compliance with local, state and federal environmental laws and regulations during all project activities.

Long Island Rail Road Arch Street Yard and Shop Maintenance Building and Railyard, Queens, New York.
Mr. Peronto managed environmental issues for the design/build team during the construction of the new Long Island Rail Road Arch Street Yard and Shop maintenance building and railyard in Queens, New York. This included the preparation of an Environmental Compliance Plan, Materials Management Plan, Waste Transportation Plan, and Health and Safety Plan for the construction activities. Mr. Peronto directed the investigation and characterization of over 25,000 cubic yards of excess soil and construction/demolition debris generated during construction for offsite disposal/recycling. Mr. Peronto managed the soil and groundwater investigations, asbestos and lead based paint surveys, noise surveys and dust monitoring on the site prior to and during construction. He prepared the NYCDEP water discharge permit application for construction dewatering discharges to the NYC sanitary sewer system. Mr. Peronto also prepared the notices and Stormwater Pollution Prevention Plans for the NYSDEC general permits associated with construction and industrial activities.

Petroleum Storage Compliance Audits, Columbia University Medical Center, New York, NY
Mr. Peronto conducted audits of existing conditions of over 150 petroleum storage tank systems at the main campus of the Columbia University Medical Center and several satellite campus locations. He assessed compliance with both state and federal environmental regulations pertaining to aboveground storage tanks, underground storage tanks and applicability of oil pollution prevention SPCC planning requirements. Mr. Peronto prepared a report on the findings of the audit and provided recommendations for maintaining compliance with the regulations. He completed four SPCC Plans in compliance with the federal oil pollution prevention regulations and prepared updates in compliance with the June 2002 SPCC regulations. He provided Professional Engineer certification of the final plans. Mr. Peronto also prepared detailed scopes of work, obtained bids and directed contractors in completing required petroleum storage tank system upgrades.

Remediation of the Bush Terminal Complex Railyard for the NYCEDC, Brooklyn, NY
Mr. Peronto managed a detailed investigation for the New York City Economic Development Corporation of the 15-acre railyard on the Bush Terminal complex in Brooklyn, New York to assess reported buried waste and drum areas (NYSDEC Spill No. 9802-957). Investigation activities included geophysical surveys, soil borings, test pit excavations, soil sampling and testing. He directed the remediation of buried drums, solid waste and contaminated soils. Mr. Peronto also managed the removal of over 450 drums of grease, 20 drums of abandoned chemicals and waste, over 40 compressed gas cylinders and over 300 tons of deteriorating bags of powdered boric acid from other waterfront property and piers on the complex. He prepared the associated work plans, conducted waste characterization sampling and testing, prepared waste removal scopes/specifications and bid schedules, evaluated bids and subcontracted all waste removal activities.

Remediation of the Bush Terminal Landfill Pier 1 to 4 for the NYCEDC, Brooklyn, NY
Mr. Peronto managed the investigation and remediation of the 17-acre Bush Terminal Landfill Piers 1 to 4 project site in Brooklyn. The investigation activities included soil gas surveys, soil borings, groundwater monitoring well installation and sampling, and sediment and surface water sampling. Mr. Peronto prepared the Site Investigation Work Plan and Site Investigation Report that were approved by state agencies He oversaw the preparation of the Proposed Remedial Action Plan for the landfill site that presented the recommended remedial alternative for public review and comment. Mr. Peronto also assisted in the preparation of the Record of Decision (ROD) for the landfill project. He directed and assisted in the preparation of detailed engineering plans and specifications for the landfill remediation, including construction of a soil cap and gas venting system, tidal pond filling and sediment capping, wetlands enhancement, and stone riprap landfill shoreline and pier stabilization. As part of the design, Mr. Peronto prepared detailed construction cost estimates. He completed the applications necessary to obtain Nationwide Permit #38 approval from the United States Army Corps of Engineers and 6NYCRR Part 608 water quality certification approval from NYSDEC for this project. He also prepared a Community Air Monitoring Plan (CAMP) and SWPPP for the site remediation construction activities. As the professional engineer of record, during remediation construction Mr. Peronto provides engineering support through review of contractor submittals for compliance with the project contract documents. He also manages continuous environmental monitoring activities during the remediation construction activities to document compliance with the site-specific CAMP and SWPPP requirements.

SPECIALIZED TRAINING

- 40-Hour OSHA Health and Safety Training
- 8-Hour OSHA Hazardous and Safety Supervisory Training
- 10-Hour OSHA Construction Safety Training
- OSHA Confined Space Entry Training

TRC

JEAN M. OLIVA, PE

EDUCATION

B.S., Civil and Environmental Engineering, University of Wisconsin Madison, 1983

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Professional Engineer, Connecticut, 1988
Professional Engineer, Wisconsin, 1988

AREAS OF EXPERTISE

Ms. Jean Oliva's experience includes remedial investigations and feasibility studies, environmental site assessments, environmental audits, industrial plant closures and environmental permit application preparation. Ms. Oliva has also managed the preparation of environmental compliance plans and studies including RCRA closure plans, stormwater management plans, solvent waste management plans, spill control and countermeasure (SPCC) plans, hazardous waste management plans, and wetland delineations and cultural resource surveys. Ms. Oliva has prepared more than twenty feasibility studies for regulatory and industrial clients and Superfund investigations under the procedures described in USEPA guidance and the National Contingency Plan (NCP).

Ms. Oliva has extensive management and technical experience in the following areas:

- Landfill Permitting, Design, Operation and Closure
- Remedial Investigation/Feasibility Studies (RI/FS)
- CERCLA Corrective Action/Remedial Activities
- Industrial Facility Closures

REPRESENTATIVE EXPERIENCE

New York City Economic Development Corporation, Bush Terminal Landfill Piers 1-4, a former landfill site located along Upper New York Bay. Under TRC's on-call environmental consulting services contract with the New York City Economic Development Corporation, Ms. Oliva prepared a Remedial Alternatives Report for the Bush Terminal Landfill Piers 1-4, a former landfill site located along Upper New York Bay that is to be developed as a public park. Ms. Oliva evaluated landfill cap, landfill gas management, groundwater and sediment remedial alternatives, and developed a combined recommended remedial action. Ms. Oliva identified regulatory/permit requirements and prepared cost estimates for the various alternatives. Maintenance of existing treed areas, protection/enhancement of wetland biological habitats and support of future public recreational use were key considerations in the development of this document. Following the selection of a remedial action for the site, Ms. Oliva prepared a scoping document for the remedial action work plan. Ms. Oliva also assisted the New York State Department of Environmental Conservation (NYSDEC) in the development of the Proposed Remedial Action Plan (PRAP), and with preparation of public meeting presentation materials (including PowerPoint presentation), fact sheets, newspaper advertisements and the final Record of Decision for the Bush Terminal Landfill Piers 1-4.

New York City Economic Development Corporation, former CSX railyard site developed as a minor league baseball stadium in Staten Island, NY. Ms. Oliva drafted an Engineering Report describing the remediation activities completed at a former CSX railyard site that was developed for the New York City Economic Development Corporation as a minor league baseball stadium in Staten Island, NY. This project was conducted under the Voluntary Cleanup Program (NYSDEC VCP Site No. V00228). The Engineering Report described the remedial activities and provided associated backup data documenting the completion of the activities. The remediation activities conducted at the site included soil/sediment remediation (hot spot removals and capping with

clean soil), petroleum tank removals, electrical transformer removals, groundwater monitoring, methane gas venting and monitoring, establishment of institutional controls, and activities related to health and safety issues (e.g., dust monitoring).

Remedial Investigation/Feasibility Study of the FAA Technical Center located at the Atlantic City International Airport in southern New Jersey. Ms. Oliva served as the Project Manager for the Remedial Investigation/Feasibility Study of the FAA Technical Center located at the Atlantic City International Airport in southern New Jersey. She has been involved in RI/FS activities at the site since 1988, including the performance of preliminary site investigations and remedial investigations and management of human health and ecological risk assessments. She has also participated in the preparation and evaluation of remedial designs, including the performance of an in-situ biodegradation treatability study and assisting in the preparation of a conceptual design for a combined free product removal/in-situ biodegradation/soil venting remedial action. She managed the preparation of feasibility studies for several areas of the site, including former fire training areas, fuel storage areas and a salvage yard area. More than 20 areas of potential contamination have been identified and investigated to date. Ms. Oliva prepared Records of Decision (RODs) for 22 areas of concern, including seven active remediation areas and fifteen no action/no further action areas. Ms. Oliva managed and participated in public meetings and participates in regularly scheduled technical meetings with regulators and other stakeholders.

Shieldalloy Metallurgical Corporation Superfund Site in Newfield, New Jersey. Ms. Oliva was responsible for senior technical review of initial site investigations and remedial investigations; management of supplemental soil, sediment and surface water quality investigations; management of human health and ecological risk assessments; and preparation of feasibility studies addressing groundwater, soil and sediment, and surface water operable units at the Shieldalloy Metallurgical Corporation Superfund Site in Newfield, New Jersey. Site conditions include chromium and chlorinated organic groundwater contamination and inorganic soil and sediment contamination. Environmental studies included an evaluation of sediment chemical analyses, toxicity testing (laboratory sediment bioassay) and macrobenthic community analyses. The results of the ecological studies and associated ecological risk assessment provided the framework for a proposed limited "hot spot" removal of contaminated sediments from within the stream. Work was conducted under the review of the NJDEP, USEPA and the USEPA Biological Technical Assistance Group (BTAG). Ms. Oliva also assisted NJDEP in the preparation of the proposed remediation plan and ROD, and participated in the public meeting for the groundwater operable unit. Currently she is participating in the completion of soil and surface water/sediment FS activities.

SPECIALIZED TRAINING

- OSHA 40-Hour Hazardous Waste and Emergency Response Training
- OSHA 8-Hour Hazardous Waste and Emergency Response Refresher Training
- OSHA 8-Hour Hazardous Waste and Emergency Response Supervisory Training
- OSHA 8-Hour Confined Space Entry Training
- OSHA 8-Hour Excavation and Trenching Safety Training

TRC

REBECCA K. HOLLENDER, CPG

EDUCATION

B.S., Geology, University of Minnesota, 1991

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

New Jersey-Certified Cleanup Star, January 2004
Certified Professional Geologist (No. 10694), American Institute of Professional Geologists, 2003
Registered Professional Geologist - Pennsylvania (No. PG-003789), 2000
New Jersey UST Subsurface Evaluator (No. 13224), 1994

AREAS OF EXPERTISE

Ms. Rebecca K. Hollender, CPG has over 15 years of experience encompassing:

- Project Management Services
- Remedial Investigations
- Interpretation and analysis of aquifer pumping test data
- Preparation of hydrogeologic study reports
- Design of ground water monitoring and recovery systems
- Site assessments at commercial and industrial facilities
- Delineation and remediation of soils and ground water
- Preparation of expert reports
- UST Closures and UST/AST installations

REPRESENTATIVE EXPERIENCE

Ms. Hollender is a Senior Project Manager for a wide variety of projects involving soil and ground water investigations and remediation for state and federal regulatory compliance. Her primary responsibilities include: supervising and instructing hydrogeologists, geologists and environmental scientists in the implementation of site investigations, remedial investigations, fractured bedrock investigations, aquifer pumping tests and remedial actions. She designs and organizes remedial investigation/action workplans, including those involving light non-aqueous phase liquids (LNAPL) and dense non-aqueous phase liquids (DNAPL); evaluates and incorporates remedial investigation findings to determine the appropriate remedial action, including natural remediation and classification exception areas (CEAs) for ground water, and Deed Notices for soil. Ms. Hollender assists municipalities and developers with Brownfield projects and remediation, and associated NJDEP grants.

Ms. Hollender has over 15 years experience managing a wide variety of projects involving soil and ground water investigations and remediation at a variety of residential, commercial and industrial sites. She is the primary contact with clients, attorneys and regulatory agencies. Her tasks include preparation and review of proposals, bid packages, investigative and remedial workplans and reports, recommendations and cost estimates. She manages the preparation and administration of budgets. Ms. Hollender assists clients in obtaining environmental insurance policies and NJDEP grants. Ms. Hollender assists municipalities and developers with Brownfield projects and remediation, and associated NJDEP grants. Ms. Hollender is the primary manager responsible for the training of geologists and environmental scientists.

Confidential Client, Remedial Investigations – Moonachie, NJ (Project Manager and Project Hydrogeologist: 1995 – 2006)
Ms. Hollender conducted subsurface investigations to delineate the extent of DNAPL and volatile organic compound (VOC) plumes at a former manufacturing facility in central New Jersey. Tasks associated with the project include identification and delineation of DNAPL zones, delineation of impacted soils, surface geophysics, sediment and surface water sampling of a nearby creek, geotechnical borehole logging, soil and ground water sampling, interaction with client and regulatory agencies, and preparation of a Remedial Investigation Report and Remedial Action Workplan.

Former Chemical Plant, Delineation and Remediation of Soils and Ground Water – Northern NJ (Project Manager and Project Hydrogeologist: 1999 – 2006)
Ms. Hollender conducted soil and ground water investigations at a former chemical plant in northern New Jersey. Major tasks included delineation of impacted soil, installation of recovery and monitoring wells, recovery of product, soil excavation activities, aerial photograph analysis, borehole logging, packer testing, and compilation of analytical results.

Commercial and Industrial Facilities, Site Assessments – Central and Northern NJ (Project Manager and Project Hydrogeologist: 1999 – 2006)
Ms. Hollender conducts and supervises Phase I and Preliminary Assessment site inspections, oversees the preparation of Phase I Environmental Site Assessment Reports and coordinates Phase II subsurface investigations and appropriate remedial measures for sites throughout central and northern New Jersey.

SPECIALIZED TRAINING

- Regulatory Training in Underground Storage Tanks, Rutgers University, Cook College, New Brunswick, New Jersey, 1993, 1996, 1999 and March 2003.
- Beyond the Basics: NJDEP Technical Requirements for Site Remediation, Rutgers University, Cook College, New Brunswick, New Jersey, 2002.
- In Situ Chemical Oxidation of Contaminated Soil and Ground Water, Interstate Technology and Regulatory Council, Internet Training Course, April 2002.
- *Using Diffusion Samplers to Obtain Volatile Organic Compound Concentrations in Wells, Interstate Technology* and Regulatory Council, Internet Training Course, September 2001.
- Enhanced In Situ Bioremediation of Chlorinated Solvents in Ground Water, Interstate Technology and Regulatory Council, Internet Training Course, May 2001.
- *Monitored Natural Attenuation for Ground Water in New Jersey, New Jersey Environment Association*, Cranbury, New Jersey, December 1998.
- ASTM Risk Based Corrective Action (RBCA) Training Seminar, Environ Corp., Millburn, New Jersey, June 1996.
- DNAPL Delineation and Remediation, Geotrans, Inc., Millburn, New Jersey, December 1995.
- Use of MODFLOW for Simulation of Ground Water Flow and Advective Transport, Philadelphia, Pennsylvania, April 1994.

PROFESSIONAL ORGANIZATIONS

- American Institute of Professional Geologists
- Geologic Association of New Jersey
- National Groundwater Association
- Association of Ground Water Scientists and Engineers

TRC

PETER GROGAN, PG

EDUCATION

B.A., Geology, Franklin and Marshall College, 1986

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Licensed Geologist (LG), North Carolina (No. 1274)
Professional Geologist (PG), Commonwealth of Pennsylvania (No. PG-002117-G)
Certified for UST Subsurface Evaluation, New Jersey (No. 2333)
Licensed Site Remediation Professional, New Jersey (No. 509872)

AREAS OF EXPERTISE

Mr. Peter Grogan has managed a wide range of projects involving remedial investigation and remediation of soil, sediment, groundwater and surface water contamination at former manufactured gas plants (MGPs), landfills, chemical manufacturing plants, brownfield sites and petroleum sites, including several sites with light non-aqueous phase liquids (LNAPL) and dense non-aqueous phase liquids (DNAPL).

Mr. Grogan has extensive management and technical experience in the following areas:

- Hydrogeologic Investigations
- Geologic and Geophysical Site Characterization
- Groundwater Contamination Investigation and Management
- Investigation and Management of Non-Aqueous Phase Liquids
- Environmental Litigation Technical Support
- Underground Storage Tank Closure and Subsurface Evaluation
- Project and Program Management

Primary responsibilities include preparation and review of proposals, bid packages, remedial investigation and remedial action work plans, reports and cost estimates; preparation and administration of project budgets; scheduling, coordination and supervision of in-house personnel and subcontractors to meet project objectives; interpretation and evaluation of data; preparation and supervision of data submittals and reports; and serving as the primary contact with clients, attorneys and regulatory agencies. Mr. Grogan has project experience with degradable and non-degradable contaminants, in both unconsolidated and fractured rock regimes. He directs projects under several federal and state regulatory programs.

REPRESENTATIVE EXPERIENCE

Newport Development project in Jersey City. Mr. Grogan served as Project Manager for the Newport Development project in Jersey City which is one of New Jersey's first and largest brownfield redevelopment projects along the Hudson River waterfront. Environmental concerns included mobile and immobile coal tar (DNAPL) from a former MGP, petroleum product (LNAPL) and historic fill. Mr. Grogan managed an interim remedial measure (IRM) to address the mobile coal tar consisting of passive recovery of free product. Mr. Grogan also supervised implementation of a remedial action: an injection well and recovery trench system were installed in an expedited manner to mitigate a portion of the coal tar using innovative methods to accommodate the construction schedule of a commercial building.

Celotex Park Brownfield Site in Edgewater, NJ. Mr. Grogan served as Project Manager for the Celotex Park brownfield site in Edgewater, NJ with metals and DNAPL contamination, with the initial remedy involving a costly soil excavation program prior to TRC's involvement. Based on discussions between Mr. Grogan and the New Jersey Department of Environmental Protection (NJDEP), and the performance of a comprehensive soil and groundwater investigation, impacted soils are being capped in-place and administered using engineering and institutional controls in accordance with an Administrative Consent Order with the NJDEP. As part of this project, Mr. Grogan directed a site-wide groundwater remedial investigation to delineate arsenic in groundwater and investigate geochemical controls on arsenic solubility and migration.

Quanta Resources National Priorities List (NPL) site in Edgewater, NJ. Mr. Grogan served as Project Manager for the Quanta Resources National Priorities List (NPL) site in Edgewater, NJ, which was a former industrial facility. The project involved building demolition, GPR survey, waste consolidation and disposal, and capping in accordance with an Administrative Order on Consent with the United States Environmental Protection Agency (USEPA).

Woodbrook Road NPL Site in South Plainfield, NJ. Mr. Grogan served as Project Manager for the Woodbrook Road Dump NPL Site in South Plainfield, NJ. This site was contaminated with PCBs and under an Administrative Order on Consent with USEPA. Mr. Grogan prepared the RI/FS and Removal Action Work Plans, including the Field Sampling Plan, Health and Safety Plan and Quality Assurance Project Plan. The project involved review of historical aerial photographs and assessment of historical records to determine the location of former dumping activities.

Newport Office Center I in Jersey City, NJ. Mr. Grogan served as Project Manager in response to a diesel fuel overfill at the Newport Office Center I in Jersey City, NJ, which resulted in discharge into the Hudson River and impact to subsurface soils. The project involved the delineation and removal of contaminated soils and recovery of diesel fuel from the Hudson River, performance of a baseline ecological evaluation and reporting to NJDEP.

SPECIALIZED TRAINING

- OSHA 40-Hour Hazardous Waste and Emergency Response Training
- OSHA 8-Hour Hazardous Waste and Emergency Response Training
- OSHA Hazardous Waste and Emergency Response Supervisory Training
- Migration, Assessment and Remediation of NAPLs, National Ground Water Association
- ASTM Risk Based Corrective Action (RBCA) Training

PROFESSIONAL AFFILIATIONS

- Association of Ground Water Scientists and Engineers
- National Water Well Association

TRC

JOSEPH F. ZIAYA, CHMM

EDUCATION

M.S., Environmental Engineering, Manhattan College, 1983
B.S., Environmental Biology, Manhattan College, 1981

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Certified Hazardous Materials Manager, Master Level, (No. 10890)
NJDEP certified Subsurface Investigator for USTs, (No. 0012541)
New Jersey Licensed Water and Wastewater Operator, N-2 Industrial, (No.0020298)

AREAS OF EXPERTISE

Mr. Joseph F. Ziaya has program management and technical experience in the following general areas:

- Manufactured Gas Plants (MGPs)
- Brownfield Redevelopment Projects
- Landfill Investigation and Closure
- Superfund Sites (Various Aspects)
- Site Remediation
- Sediment Investigation and Remediation
- Underground Storage Tanks
- Industrial Wastewater Treatment Systems
- Petroleum Refineries
- Property Transfer and Assessments (Phase I)
- Environmental Site Characterization
- Electrical Substation Investigations
- Highway Expansion
- Permitting, Reporting and Planning

REPRESENTATIVE EXPERIENCE

Mr. Ziaya has over 25 years experience in hazardous waste management projects, including site assessments, remedial investigations, remedial alternative analysis, remediation, Brownfields redevelopment, remedial construction oversight, engineering design, construction management, UST investigations and closure/removal, commercial and industrial property inspections, lead abatement, and public health concerns. He has extensive, diversified experience in conducting investigations and remedial activities in accordance with federal, state, and local regulations, including CERCLA, RCRA, NJDEP, NYSDEC, NYCDOT, ASTM, and TSCA requirements. As a component of his overall experience, Mr. Ziaya has dedicated over 13 years to former manufactured gas plant (MGP) site/remedial investigations, data analysis, engineering evaluation/ feasibility studies, remedial action selection, and remediation/oversight.

Mr. Ziaya has extensive knowledge of federal and state environmental regulations and possesses the ability to apply these regulations to field operations to implement cost effective solutions in the areas of site assessments, site restoration and remediation.

Camden Redevelopment Agency, Harrison Avenue Landfill Closure Project – Camden, NJ
Mr. Ziaya is the Project Manager responsible for the site and remedial investigations of soil, sediment, ground water, surface water, sediments, leachate, and landfill gas of an 84-acre municipal solid waste landfill along the Back Channel of the Delaware River. This project is being funded under the New Jersey Hazardous Discharge Site Remediation Fund (HDSRF) program. TRC prepared and received approval of two HDSRF grants for this project to date. A portion of the landfill is on a fast-track schedule to meet the deadlines for Brownfields redevelopment, with the planned construction of a Salvation Army community center. As part of this effort, a Conceptual Remedial Action Workplan was prepared by TRC and approved by the NJDEP for this area of the landfill, including source area removal and in situ ground water enhanced treatment. TRC's field work on the remainder of the landfill is ongoing.

National Retail Transportation, Underground Storage Tank Closure – North Bergen, NJ Mr. Ziaya is the Project Manager for the development and execution of a remedial investigation strategy to delineate soil contamination and free product observed in one of the monitoring wells adjacent to former UST excavation areas. Remedial investigations included the installation of permanent monitoring wells, the collection of soil samples, and the collection of ground water samples. Samples were analyzed for chemical parameters in accordance with NJDEP requirements for UST closure. Remediation strategies will be developed and implemented by TRC for the No Further Action consideration by the NJDEP.

New Jersey Natural Gas Company, Environmental Engineering Consultant Master Agreement
TRC was selected as one of New Jersey Natural Gas Company's contractors to provide environmental engineering consulting services, including work at former MGP sites. Mr. Ziaya is responsible for the management and execution of project-specific activities ranging from investigation to remediation services.

PSEG Services Corporation, Site Remediation Program – NJ
TRC was awarded a Master Services Agreement to provide engineering and construction oversight services. As Program Manager, Mr. Ziaya was responsible for managing, directing, and coordinating all aspects of the various MGP and non-MGP projects with the client, including staffing, development of technical and innovative strategies, performance, interfacing with regulatory agencies, and schedule and budget tracking. Mr. Ziaya was also responsible for client development; overall program management and coordination; developing competitive bidding strategies; and facilitating the achievement of the client's program objectives for sites in New Jersey.

SPECIALIZED TRAINING
Waste Management Employee Training, 2001
8-Hour OSHA Hazardous Waste Health and Safety Refresher Course – 2/2006
Underground Storage Tanks, 2001
DOT/HM-126F HAZMAT Training, 2000
8-Hour OSHA Hazardous Waste Health and Safety Supervisor Training – 1987 (Initial)
Advanced Field Training, 1985
Survey Instrumentation, 1985
40-Hour OSHA Hazardous Waste Health and Safety Training, 1984

TRC

JENNIFER MIRANDA

EDUCATION

M. S., Environmental and Occupational Health Science, Hunter College, 2002
National Institute of Environmental and Occupational Health Fellow, 2002
B.S., Anthropology and Human Biology, Co-Major Human and Natural Ecology, Emory University, 1998

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Certified Asbestos Inspector, New York State Department of Labor

AREAS OF EXPERTISE

Ms. Jennifer L. Miranda serves as a senior project manager in TRC's East Region Remediation Practice and is based in TRC's New York City office. During the past five years Ms. Miranda has served as project manager for the extensive investigations and remediation of the Queens West Development – Stage 2 Site located in Long Island City, Queens (described further below).

In addition to extensive investigation and remediation experience, Ms. Miranda also possesses extensive experience in environmental site assessment and has been responsible for managing the characterization of over 100 sites in New York State. Ms. Miranda has project management and technical experience in the following general areas:

- Environmental Site Assessments
- Remedial Investigation
- Remedial Construction Management
- Environmental Health and Safety Program Management
- Project Management

REPRESENTATIVE EXPERIENCE

Remediation of the Queens West Development – Stage 2 Site, the site of a former oil refinery in Long Island City. Since 2005 Ms. Miranda has served as the Project Manager for the over $45 million remediation of the Queens West Development – Stage 2 Site, the site of a former oil refinery in Long Island City. In addition to the presence of several historic abandoned underground storage tank systems, buried on the site was an extensive network of historic refinery piping. The Site was contaminated with petroleum-related VOCs and SVOCs and metals, in several instances found to be present at concentrations above TCLP regulatory limits, and a large LNAPL plume, resulting in several feet of LNAPL in several monitoring wells. In connection with Operable Units 3 and 4 (OUs 3 and 4) (NYSDEC VCP Site Nos. V00505C and V00505D, BCP Site Nos. C241095 and C241096), which consist of over 9 acres adjacent to the East River being developed for primarily residential/public recreational use, Ms. Miranda has been responsible for the preparation of the Remedial Investigation (RI) Work Plan, RI Report, Remedial Action Work Plan, Final Engineering Reports and Site Management Plans as well as Odor and Vapor Control and Enhanced Community Air Monitoring Plans. Ms. Miranda was also responsible for supervising implementation of the work plans. The RI included advancement and sampling of over 100 soil borings, installation and sampling of a monitoring well network, soil gas sampling within the footprints of the planned buildings, sediment and surface water sampling in the East River to determine potential site impacts, locating and characterizing buried historic refinery remnants, a tidal influence study, and a human health risk assessment and fish and wildlife impact analysis. Implementation of the remedial action work plan, supervised by Ms. Miranda, included high vacuum extraction of thousands of gallons of LNAPL, pre-excavation waste characterization and re-use sampling (over 250 borings and thousands of samples were collected for analysis),

excavation of over 90,000 tons of contaminated soil under negative pressure enclosures (i.e., tents) and off-site disposal of excavated material, and post-remediation soil, groundwater and soil gas sampling. Ms. Miranda has been responsible for financial management, investigation and construction phase field coordination and management, health and safety program management, daily and monthly reporting to the NYSDEC, community outreach program implementation and subcontractor procurement and management. Ms. Miranda has served as a primary point of contact for nearby residents during the site remediation, presented at public meetings, prepared fact sheets for distribution to the public, and served as a primary point of contact with the NYSDEC and NYSDOH in connection with responding to local citizens' concerns. In addition, Ms. Miranda managed implementation of a chemical oxidation pilot test on the site, including preparation of a NYSDEC-approved pilot test work plan.

Consolidated Edison Hudson Avenue Generating Station. The Consolidated Edison Hudson Avenue Generating Station is the 12-acre site of an active electric and steam generating plant that has been used as a generating station for over 80 years. Consolidated Edison is proposing to install new steam boilers to replace the existing steam boilers at the Hudson Avenue Generating Station. As part of re-development of the Hudson Avenue Generating Station, Ms. Miranda supervised the Phase I Environmental Site Assessment, Hazardous Materials Pre-Demolition Assessments (for all existing on-site structures), and preparation of the Phase II Environmental Site Investigation Work Plan and Health and Safety Plan.

New York City School Construction Authority. Under TRC's on-call hazardous materials services contract with the New York City School Construction Authority, Ms. Miranda has served as project manager for numerous site assessments. Responsibilities have included supervising the preparation of Phase I Environmental Site Assessment reports, preparation of a subsurface investigation summary report for a site with an active spill case, management of the preparation of Phase II Environmental Site Assessment reports, and focused regulatory agency database and prior report reviews for leased properties (over 50 properties).

New York City Economic Development Corporation. Under TRC's on-call environmental services contract with the New York City Economic Development Corporation (NYCEDC) Ms. Miranda has managed numerous environmental site assessments and site investigations.

SPECIALIZED TRAINING

- Practical Applications in Hydrogeology, Rutgers, May 2006
- EPA's All Appropriate Inquiry Rule, National Brownfield's Association, February 2006
- *USEPA Region 4 Standard Operating Procedures for Field Sampling 1999*
- Hazard Ranking System Training Course 2000
- OSHA 40-Hour Hazardous Waste and Emergency Response Training
- OSHA 8-Hour Hazardous Waste and Emergency Response Refresher Training

PROFESSIONAL AFFILIATIONS

- 2008-2009 Board Member, New York City Partnership of Brownfield Practitioners

TRC

JENNIFER A. DIPILATO, PE

EDUCATION

M. S., Chemical Engineering, Manhattan College, 2004
B.S., Environmental Engineering, University of Rochester, 1999

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Professional Engineer, New York

AREAS OF EXPERTISE

Ms. Jennifer DiPilato serves as a Project Manager in TRC's Remediation and Site Assessment Practice in the New York City Office and has over 10 years of experience providing environmental engineering, investigation, design and construction phase services.

Ms. DiPilato has management and technical experience in the following areas:

- *Project Management*
- Remedial Design and Construction Inspection
- Remedial Investigation
- *Soil Vapor Intrusion Mitigation*

REPRESENTATIVE EXPERIENCE

Long Island City (Queens West Development - Stage 2 Site - VCP Site Nos. V00505A and V00505B)

Ms. DiPilato served as the project manager for the design and during construction of the sub-slab depressurization systems (SSDSs) for three new residential buildings constructed on the site of a former oil refinery in Long Island City on the East River. Services provided included reviewing building plans and foundation drawings, developing design details, and conducting site inspections during construction. Ms. DiPilato supervised pilot testing and sized the suction fans. She also conducted sub-slab vapor sampling, smoke tests to inspect for leaks, and carbon monoxide monitoring (for back draft) of appliances which rely on natural draft.

Long Island Rail Road (LIRR) Morris Park Yard (NYSDEC Spill No. 92-12990), Queens, NY

Ms. DiPilato prepared design drawings and specifications for the bioventing, bioamendment, and product recovery remediation systems at the Long Island Rail Road (LIRR) Morris Park Yard. The design tasks included review and revision of drawings and specifications, blower and pump sizing. In addition, Ms. DiPilato provided engineering services during construction, including technical review of contractor submittals.

Exxon Mobil Sludge Lagoon Operable Unit (SLOU) at the Bayway Refinery in Linden, NJ

Ms. DiPilato served as the lead design engineer for the design of the hydraulic control system for the Sludge Lagoon Operable Unit (SLOU) at the Bayway Refinery in Linden, NJ. The hydraulic control system, designed by Ms. DiPilato, includes 21 dual pump extraction wells, thousands of feet of buried piping, and sophisticated instrumentation and controls. The dual pump extraction wells were designed to automatically extract separately groundwater (for hydraulic control) and oil in the SLOU.

New York City School Construction Authority, On-Call Environmental Consulting Services Contract

Under TRC's "on-call" contract with the New York City School Construction Authority, Ms. DiPilato has served as the lead design engineer for vapor intrusion mitigation systems, consisting of vapor barriers and sub-slab depressurization systems, for more than ten (10) New York City public schools (new construction). The design

efforts included reviewing building plans and foundation drawings, developing design drawings and specifications for public bidding as part of the new school construction bid packages, and coordinating with architects and design engineers. Ms. DiPilato also supervised construction phase services provided by TRC.

Mattiace Petrochemical Superfund Site (NYS Site Registry No. 130017) in Glen Cove, New York
Ms. DiPilato serves as the project engineer for the operation, maintenance and monitoring of the soil vapor extraction (SVE) and ground water pump and treat remediation system at the 1.9-acre Mattiace Petrochemical Superfund site. The site had been used for solvent storage and distribution. Responsibilities included evaluating performance of the existing remediation systems, optimizing the current pump and treat ground water system, evaluating the performance of the thermal oxidation unit for the treatment of vapors from the SVE system, and conducting an analysis of the effectiveness of air sparging at the Site. Ms. DiPilato also evaluated the results of an air sparge pilot test, recommended actions, and summarized the findings in a report which was submitted to USEPA.

Former Deutsche Bank Building located at "Ground Zero"
During deconstruction and decommissioning, Ms. DiPilato provided services relating to hazardous waste management at the former Deutsche Bank Building located at "Ground Zero" and damaged by the collapse of the World Trade Center towers. Ms. DiPilato performed periodic inspections of the hazardous waste storage area and of hazardous waste handling practices, submitted summaries of hazardous waste handling practices and deficiencies, and trained staff on hazardous waste management. Ms. DiPilato also calculated the quantities of hazardous waste generated during demolition/decommissioning and filed an annual hazardous waste report with the NYSDEC Division of Solid and Hazardous Materials.

Consolidated Edison of New York Echo Avenue Site in New Rochelle, NY
In connection with the Consolidated Edison of New York Echo Avenue Site in New Rochelle, Ms. DiPilato oversaw implementation of remediation by means of excavation at the former substation. Prior use had resulted in polychlorinated biphenyl (PCB) impacts to the soil and sediment of Echo Bay. Ms. DiPilato's responsibilities included overseeing implementation of the remedial action plan, health and safety oversight, managing sediment sampling, coordinating subcontractor schedules, client correspondence, subcontractor management, and interfacing with the NYSDEC. Following the close out of the remediation, Ms. DiPilato summarized the remediation activities in a remedial action report.

Golden Horseshoe Shopping Center (NYSDEC VCP Site No. V00309-3), Scarsdale, NY
Ms. DiPilato served as the project manager for the design and construction of a sub-slab depressurization installed in a United States post office which is part of a shopping center in Scarsdale, New York. The post office is partially situated in a store area that was previously occupied by a dry cleaner. As a result of dry cleaning activities, volatile organic compounds are present in the soil vapor. The SSDS design prepared by Ms. DiPilato was approved by the NYSDEC and the NYSDOH and constructed under the supervision of Ms. DiPilato.

SPECIALIZED TRAINING

- *OSHA 40-Hour Health and Safety Training*

TRC

MARC J. LAWLOR, P.P., AICP

EDUCATION

MCRP (Masters), City and Regional Planning, Rutgers University, 1980
B.S., Biology & Environmental Science, Upsala College, 1976

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Professional Planner, State of New Jersey (No. 3013)
Member - American Institute of Certified Planners (AICP)

AREAS OF EXPERTISE

Mr. Lawlor, P.P., AICP has significant expertise and experience in the following general areas:

- Project Management
- Environmental Impact Assessment
- National Environmental Policy Act
- New York SEQRA and New York City CEQR
- Military Initiatives and Development Projects
- Energy and Power-related Projects
- Infrastructure and Transportation
- International Projects – United Arab Emirates

REPRESENTATIVE EXPERIENCE

Mr. Lawlor has over 28 years of diverse, multidisciplinary environmental consulting experience working with private and public clients, ranging from state and city governments, utility companies, to the Department of Defense, and international development companies. The focus of his professional experience has been project management where client interaction and regulatory agency coordination and negotiation have been successfully performed.

As Project Manager on hundreds of projects he has been responsible for leading and managing interdisciplinary teams in the delivery of products, within defined schedules and budgets. He has managed and prepared a wide variety of environmental documentation including environmental impact statements (EIS) and environmental assessments (EA) at the federal, state, and local levels. He has managed and participated in a variety of studies for transportation, utility and infrastructure works such as highways, pipelines, transmission lines, etc. Mr. Lawlor has worked on numerous public and private initiatives in New York State and New York City, gaining experience in the SEQRA and CEQR processes. He has had substantial experience with the military in the northeast US. He had spent more than one year in the United Arab Emirates, primarily in Dubai. There, he was involved with ensuring environmental compliance of development projects, with a focus on environmental impacts of projects on air, noise and water/water quality.

enXco Development Company, Environmental Assessment (EA) for a 17.0 MW Solar Project on Long Island, NY

Mr. Lawlor was the Project Manager for the preparation of an Environmental Assessment (EA) under the New York State Environmental Quality Review Act (SEQRA) for a 17.0 megawatt (MW) solar project in Suffolk County Long Island. The developer, enXco - an affiliate of EDF Energies Nouvelle (formerly SIIF Energies) - entered into a power purchase agreement (PPA) with the Long Island Power Authority (LIPA). Located on seven county-owned parcels,

the solar photovoltaic (PV) panels will be installed on top of newly constructed carports, which will be located in the existing parking lots of the county properties. In total, the panels (on the carports) will cover an estimated 40 acres of area across the seven parcels. The EA was prepared within a compressed schedule to meet the developer and utility-related PPA requirements. The EA addressed construction and operational impacts on the environment. A construction management strategy was developed, including a parking management scheme to avoid parking impacts and the permanent loss of parking spaces, including those at three Long Island Railroad (LIRR) sites, owned by the county. The EA resource issues included visual /aesthetic impacts of the carport structures, infrastructure requirements for interconnections to the LIPA electrical system, hazardous material screening at all seven sites, natural resources (wetland) impacts, and electromagnetic forces (EMF). A clearance from FAA will be needed at one site adjacent to MacArthur Airport; freshwater wetland permits will be needed at two sites where construction will be done within the designated adjacent wetland area; an application will be required for one site that lies within the Peconic River Wild, Scenic and Recreational River (WSRR) boundary. The EA received a negative declaration (neg dec) from the lead agency, LIPA, in December 2009.

New York City Department of Sanitation, Environmental Impact Statement (EIS) for a Sanitation Garage Complex

The New York City Department of Sanitation (DSNY) proposed to consolidate the operations of three Manhattan district garages at a new facility in lower Manhattan. The new garage complex and salt shed allowed DSNY to comply with its legal obligation to vacate the Gansevoort Peninsula in Hudson River Park. Mr. Lawlor was the Project Manager for the Draft Environmental Impact Statement (DEIS) under CEQR. The project was controversial given its use and proximity to an increasingly residential Hudson Square neighborhood. The Scoping Meeting was held based on a presentation prepared by Mr. Lawlor. Potential significant analysis issues include: land use compatibility with the encroaching residential uses; effects of shadows from the 15-story garage on local open spaces, including the Hudson River Park; visual impacts and aesthetics of a 400+ K sq ft garage building; traffic impacts of trucks and equipment on local streets; noise impacts from mobile sources operating in the early morning hours; air quality impacts from increased use of trucks including carbon monoxide (CO) and particulate matter ($PM_{2.5}$). The requisite Uniform Land Use Review Procedure (ULURP) documentation was also prepared. The DSNY action included site selection and acquisition for a capital project and ULURP approval, special permits for a height variance and relief from street wall setback requirements, Art Commission review, City construction contracts, and consistency review with the City's Waterfront Revitalization Program for actions in the designated Coastal Zone. The scope of work also included the preparation of the associated Fair Share analysis. The DEIS and ULURP documentation were approved by NYC regulators.

New York City Waterfalls Environmental Assessment Statement

Mr. Lawlor was the Project Manager of one of two consultant teams that prepared the analysis (EAS under CEQR) of a proposed environmental art installation in lower Manhattan around NY Harbor. Called the "Waterfalls" by artist O. Eliason, the project was a set of five waterfalls (freestanding structures of 60 to 85 ft tall over which pumped water was allowed to fall) on the waterfront that operated the summer and early fall of 2009. The EAS was completed within an ambitious schedule requiring close coordination with the consultant team and the client. Mr. Lawlor was responsible for the delivery of impact analyses and write-ups for the EAS, including land use/zoning, socioeconomics, water quality, shadows, public health, etc. The pubic health analysis required the consideration of rainfall and CSO effects on the quality of the water (e-coli/pathogens) being pumped and sprayed over the falls. The EAS was approved in adequate time to allow for the successful installation and operation of the waterfalls.

TRC

BARRY KLINE, PE

EDUCATION

B.S., Chemical Engineering, Pennsylvania State University, 1991

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Professional Engineer, Connecticut (No. 24856), 1996
Professional Engineer, Massachusetts, 1998

AREAS OF EXPERTISE

Mr. Barry Kline has 17 years of experience in environmental and civil engineering with emphasis on remediation of hazardous waste sites. Mr. Kline's experience includes conceptual design, detailed design, cost estimating, construction management and overall project/operational management of soil, soil vapor and groundwater remediation systems. Mr. Kline has served as project manager and designer for soil vapor extraction, air sparging, bioventing, dual phase vacuum extraction (DPVE), surfactant injection, oxidizer injection, separate phase product recovery, and groundwater extraction and treatment systems. Mr. Kline is experienced with the design and implementation of process equipment (including blower systems, packed tower air strippers, low profile air strippers, activated carbon systems, oil/water separators, catalytic and thermal vapor treatment, gravity settlers, water pumping systems and product pumping systems) and the implementation of process controls (including programmable logic controllers; level, pressure, and temperature instrumentation; and remote monitoring). Mr. Kline is also experienced in the design and construction of vapor intrusion and radon abatement systems.

Mr. Kline also has experience in the design, construction and operation of landfill gas collection and flaring systems, as well as other aspects of landfill design and operation (capping, storm water management, and leachate management).

Mr. Kline's background includes extensive service to the public agencies including the Federal Aviation Administration, New York City Economic Development Corporation, Connecticut Resources Recovery Authority, City of New Haven, and Connecticut Department of Public Works.

Mr. Kline has program management and technical experience in the following general areas:

- Remedial Design and Construction
- Remedial Systems Operations, Monitoring and Maintenance
- Vapor Intrusion Mitigation
- Construction Management
- Landfill Design and Operations
- Permitting

REPRESENTATIVE EXPERIENCE

Voluntary Cleanup Program (NYSDEC VCP Site No. V00228) New York City. Mr. Kline was responsible for the design of a gas venting system below a minor league baseball stadium in New York City, which was constructed on a brownfield site under the Voluntary Cleanup Program (NYSDEC VCP Site No. V00228). The design included the layout of the vent piping, development of a plan to convert the system from passive to active if conditions warrant, design of a system to ventilate void areas beneath the stadium, development of piping details, layout of explosive gas monitors, design of an explosive gas monitoring system and preparation of specifications.

Mr. Kline's responsibility also included coordination with other subcontractors and trades, and inspections during construction. The system was designed to integrate into new facility structural and architectural features.

New York City Economic Development Corporation. Under TRC's on-call environmental services contract with the New York City Economic Development Corporation, Mr. Kline was responsible for the design of a gas venting system below a museum expansion (for the Museum of Moving Images in Queens). The design included the layout of the vent piping, development of piping details and preparation of specifications. The system was designed by Mr. Kline to integrate into new facility structural and architectural features, including locating vent stacks in a non-visible location as not to interfere with the building aesthetics.

Federal Aviation Administration Technical Center in Atlantic City, NJ. Mr. Kline was responsible for design and construction phase services for an approximately 800 gallon per minute (gpm) groundwater extraction and treatment system at the Federal Aviation Administration Technical Center in Atlantic City, NJ. The design provides for groundwater extraction from four different areas of the facility with treatment at a central treatment plant. Tasks performed by Mr. Kline included: review of pumping and injection test data; review of historical site investigation data; development of a strategy for additional site investigation activities; development of an excavation and disposal strategy for contaminated soil; development of a conceptual and detailed remedial design strategy for ground water extraction and treatment including dividing system construction into various phases in accordance with FAA's budget requirements; detailed design of four separate ground water extraction networks; design of 18 extraction wells, 13 injection wells, and 15 monitoring wells; design of a recharge basin; design of site piping systems including piping between sites located over a mile apart; design of five treatment system buildings and renovation of an additional existing building as an office/locker room/storage facility; detailed design of civil site features including roadways and drainage; detailed design of storm water collection, conveyance and subsurface infiltration structures; design of an 800 gpm water treatment system integrating water from up to four different areas of the facility, which includes pumps, system piping, tanks, controls, chemical oxidation and clarification units, greensand filtration, activated carbon, and potentially ultrafiltration, reverse osmosis, or ion exchange; design of a wetlands sprinkler system to return a portion of the treated water to adjacent wetlands; and oversight of permitting including NJDEP and New Jersey Pinelands Commission wetland related permits; and, providing construction phase services including review of submittals and inspection during component installation and system start-up.

Columbia University in New York City. Mr. Kline is responsible for the design of a new UST fuel farm to replace an existing fuel farm that is to be abandoned and remediated at Columbia University in New York City. The design included a new UST to be installed beneath an existing building floor, new fill box, fill piping, secondary containment vault, distribution piping, new fuel oil pumping system, return piping, vent piping, connection to existing tanks, automated valving, leak monitoring, level monitoring and system controls. The existing tanks were closed in place.

SPECIALIZED TRAINING

- OSHA 40-Hour Hazardous Waste and Emergency Response Training
- OSHA 8-Hour Hazardous Waste and Emergency Response Refresher Training
- OSHA Confined Space Entry Training
- OSHA Excavation and Trenching Safety Training

TRC

DAVID J. SHOTTS, PE

EDUCATION

B.S., Mechanical Engineering, Virginia Polytechnic Institute and State University, 1984

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Professional Engineer, New York, (No. 068480), 1991

AREAS OF EXPERTISE

Mr. David J. Shotts, PE, has project management and technical experience in the following general areas:

- New Source Review (PSD and Non-Attainment) Air Permitting
- Air Pollution Engineering and BACT/LAER Analysis
- Title V Operating Permit and Inventory Assistance
- Regulatory Compliance Analysis and Audits
- *Environmental Liability Due Diligence Review*
- Fugitive Dust Analysis
- Monitoring Analysis

REPRESENTATIVE EXPERIENCE

Mr. Shotts is the Principal Engineering Consultant and Air Quality Engineering Practice Manager in TRC's Mid-Atlantic Office located in Lyndhurst, New Jersey. He is a registered Professional Engineer in the State of New York with 25 years of experience in the fields of air pollution control, engineering, permitting and environmental compliance auditing and analysis. His experience ranges from the preparation of environmental impact analyses, air permit applications and facility audits for Virginia Power to air quality project management and BACT/LAER analyses. Mr. Shotts has extensive experience in air emissions permitting and engineering and specializes in studies for the power, refining, chemical, pharmaceutical and manufacturing industries.

Goldman Sachs, Fossil Stations Compliance Audits – Various, NJ (Project Manager: 2003 – 2005)

Mr. Shotts conducted air quality and component of internal environmental audits for two of Goldman Sachs's generating stations acquired from Cogentrix – the gas-fired Linden Cogeneration facility and the Carney's Point coal-fired facility. Tasks included site visits, interviewing operations staff and preparation of audit reports identifying incidents of noncompliance with emissions or record keeping requirements and providing recommendations for compliance and best management practices. These two audits were part of TRC's project to audit EH&S compliance across all assets acquired from Cogentrix.

Mirant, Generating Facilities Compliance Audit – Various, NY & MD (Project Manager: 2000 – 2001)

Mr. Shotts conducted air quality component of internal environmental and safety audits for Mirant's coal-fired generating stations in Maryland and New York State. Tasks included site visits, interviewing operations staff and preparation of audit report sections identifying exceptional practices, deficiencies and recommendations.

Constellation Energy, Fossil Stations Compliance Audits – Various (Project Manager: 2003)

Mr. Shotts conducted air quality and asbestos components of internal environmental and safety audits for eight of Constellation's generating stations in Maryland and in their National Fleet. Baltimore area facilities audited include the coal-fired C. P. Crane Station, gas and oil-fired boilers and turbines at Riverside Station and combustion turbines at Perryman and Philadelphia Road. National Fleet sites audited consist of multiple gas-fired simple cycle combustion turbine installations at Big Sandy (VA) University Park (IL), Wolf Creek (WV) and Handsome Lake (PA).

Tasks included site visits, interviewing operations staff and preparation of audit reports identifying incidents of noncompliance with emissions or record keeping requirements and providing recommendations for compliance and best management practices, as well as citing good practices.

Waste Management Incorporated, Resco Waste-to-Energy Facility Compliance Audit – Saugus, MA (Project Manager: 2001)
Mr. Shotts conducted air quality component of an internal environmental and safety audit for Waste Management, Inc.'s Wheelabrator Technologies, Inc. (Resco) waste-to-energy electricity generating station in Massachusetts. Tasks included a site visit, interviewing operations staff and preparation of audit report sections identifying findings of compliance issues and recommendations.

Virginia Power, Possum Point Air Quality Compliance – Dumfries, VA (Project Manager: 1986 – 1989)
Mr. Shotts coordinated air quality compliance activities for the Possum Point Power Station, including notification, reporting, and compliance inspections and audits. The 1400 MW station consists of two coal-fired boilers, three oil-fired boilers, and six combustion turbines. Duties included observing visible emissions and electrostatic precipitator operation, and reporting and inspecting extensive asbestos removal work.

Federal Energy Regulatory Commission, Pumped Storage Hydroelectric Project EIS – Summit, OH (Project Manager: 1992)
Mr. Shotts prepared an air quality impact assessment for the Summit (Ohio) Pumped Storage Hydroelectric Project as a part of the FERC Environmental Impact Statement. He characterized air quality affects for construction and operation phases and compared to alternative peaking capacity additions for the region.

Virginia Power, Radioactive Waste Processing Compliance Evaluation – North Anna and Surry, VA (Project Manager: 1987)
Mr. Shotts evaluated aspects of radioactive waste processing and disposal options relevant to air quality. He coordinated preparation of submittals to air agencies resulting in exemptions for low-level waste processing facilities at the North Anna and Surry Nuclear Power Stations.

Air Quality Compliance Coordinator, Virginia Power Possum Point Ash Pond – Expansion, VA (Project Manager: 1987)
Mr. Shotts served as air quality coordinator for construction of a new coal ash disposal area, which required relocation of an inactive refuse landfill. He obtained a burning permit, conducted compliance inspections, and oversaw landfill excavation to identify hazardous materials for segregation.

SPECIALIZED TRAINING

- Certified Method 9 Opacity Smoke Reader, 1984-1989

PROFESSIONAL AFFILIATIONS

- AWMA Old Dominion Chapter, Secretary-Treasurer, 1988-89
- EPRI Gas Turbine NOx Control Committee, 1987-88
- UARG PSD/Nonattainment Committee, 1987-88

TRC

CARLA M. ADDUCI

EDUCATION

M.A., Business Management, Marshall University, 1996
B.S., Chemical Engineering, West Virginia University, Institute of Technology, 1992

REPRESENTATIVE EXPERIENCE

Ms. Adduci is a Principal Air Quality Engineer in TRC's Mid-Atlantic (Lyndhurst) office with over 16 years of experience in the fields of air quality engineering, permitting, pollution control, regulatory development and compliance assistance. Her experience ranges from the preparation of environmental impact analyses, air permit applications and BACT/LAER analyses to air quality project management and regulatory development. Ms. Adduci has extensive Clean Air Act regulatory experience and specializes in air emissions permitting for various industries such as electric generation, petroleum refineries and the chemical, pharmaceutical and manufacturing industries.

TransGas Energy Systems, LLC – Brooklyn, NY
Ms. Adduci provided PSD/ Non-Attainment air permitting for a 1,100 MW combined cycle power generation facility in Brooklyn, NY. The project consists of four Siemens Westinghouse W501F combustion turbines, two auxiliary boilers, and two steam turbine generators. Air permitting activities included performing emissions calculations, preparation of a BACT/LAER control technology analysis and preparation of a regulatory analysis describing all applicable federal and state air quality regulations.

PSEG Power LLC, North Bellport Energy Center – Town of Brookhaven, Suffolk County, NY
Ms. Adduci prepared a Part 201 State Facility Air Permit Application for the construction and operation of a 79.9 MW simple cycle peaking facility located in Brookhaven, NY for submittal to the New York State Department of Environmental Conservation. The project's draft Part 201 Air Permit and a SPDES permit for the project site were issued in December 2002.

KeySpan Energy Development Corporation, Spagnoli Road Energy Center – Huntington, NY
Ms. Adduci provided air permitting for the construction of a 250-megawatt combined-cycle facility in the Town of Huntington, Nassau County, NY. Ms. Adduci also assisted in the preparation of the Article X Application. The Article X Certificate was issued in May 2003.

Entergy Power Group, Indian Point Peaking Facility – Village of Buchanan, Westchester County, NY
Ms. Adduci provided air permitting assistance for a 360 MW simple cycle power facility to be developed by Entergy Power Group. Air permitting activities included performing emissions calculations and preparation of a regulatory analysis describing all applicable federal and state air quality regulations.
Ms. Adduci also assisted in the preparation of the Article X Application.

Caithness Long Island, LLC, Caithness Long Island Energy Center – Town of Brookhaven, Suffolk County, NY
As an employee of the U.S. Environmental Protection Agency, Ms. Adduci reviewed and developed the PSD permit for a proposed 350 MW combined cycle facility to be located in the Town of Brookhaven, Suffolk County, NY. Draft and Final PSD permits were issued in January 2005 and April 2006, respectively.

West Virginia Air Emissions Inventory
When working for the State of West Virginia, Ms. Adduci served as the project manager for the development and preparation of the state's air emissions inventory for submittal to the U.S. Environmental Protection Agency. This included performing emission calculations for all of the area, mobile and non-road mobile sources in the state. In addition, Ms. Adduci assisted in the development of state-specific emission inventory software to be used for reporting by stationary sources.

Englewood Hospital, Emission Inventory – Englewood, NJ
Ms. Adduci prepared the annual emissions inventory for a hospital containing several boilers and combustion devices. As part of the preparation of the inventory, Ms. Adduci conducted a site visit to the facility, developed an equipment and emissions inventory for submittal to NJDEP.

Consolidated Edison, Hudson Avenue Station – New York
As an employee of the U.S. Environmental Protection Agency, Ms. Adduci developed an Order in response to a petition filed by NYPIRG which objected to the facility's title V operating permit. In responding to the petition, Ms. Adduci reviewed the permit to ensure compliance with federal and state regulations, coordinated input among the various EPA offices and developed an Order which was signed by the Administrator. Ms. Adduci also worked with the NYSDEC to provide guidance on how the issues granted in the Order were to be addressed.

Sirmos Division of Bromante – Long Island City, NY
As an employee of the U.S. Environmental Protection Agency, Ms. Adduci developed an Order in response to a petition filed by NYPIRG which objected to the facility's title V operating permit. The Sirmos facility molds, decorates, fabricates and assembles decorative lamps and fixtures. In responding to the petition, Ms. Adduci reviewed the permit to ensure compliance with federal and state regulations, coordinated input among the various EPA offices and developed an Order which was signed by the Administrator. Ms. Adduci also worked with the NYSDEC to provide guidance on how the issues granted in the Order were to be addressed.

Confidential Surface Coating Facility – MI
Ms. Adduci developed monthly compliance reports which were required as part of the facility's title v permit. As part of this effort, Ms. Adduci gathered emissions data, performed emissions calculations and prepared various spreadsheets and forms for the numerous coatings and solvents used on site. Ms. Adduci also prepared monthly reports which were submitted to the State.

Confidential Automotive Coating Manufacturer – MI
Ms. Adduci provided compliance review and assistance for an automotive coating manufacturer in the state of Michigan. Duties involved reviewing all of the facility's current coatings as well as newly developed coatings to ensure compliance with state and federal VOC and air toxics regulations.

SPECIALIZED TRAINING
- Certified Method 9 Opacity Smoke Reader, 1997-1999
- 40-Hour OSHA Health and Safety Training, 1999-2000
- Supervisory OSHA Health and Safety Training, 1999

TRC

STEVEN P. FARRICK, LEP

EDUCATION
B.S., Chemical Engineering, University of New Hampshire, 1984

PROFESSIONAL REGISTRATIONS
Licensed Environmental Professional, Connecticut (No. 136), 1997
Engineer-in-Training, Massachusetts, 1986

REPRESENTATIVE EXPERIENCE
Mr. Farrick is a Senior Project Manager in TRC's Hazardous Materials Division and a Licensed Environmental Professional (LEP) with over 22 years of regulatory, technical, and practical experience encompassing a wide range of environmental services including day-to-day compliance support to manufacturing, power generation, architect and engineering firms, and Department of Defense clients. Mr. Farrick has experience in the areas of permitting, permit compliance and applicability, regulatory compliance audits and corrective action implementation, compliance plan preparation and procedure development, hazardous waste site investigations, site assessments, remedial investigations, and due diligence assessments. Mr. Farrick has directed and acted as lead auditor for numerous projects that included performing compliance audits, due diligence/fatal flaw analyses, and tasks associated with various EPA initiatives under the Audit Policy Program.

Various Clients, Spill Prevention Control and Countermeasure Plan (SPCC) and Stormwater Pollution Prevention Plan Preparation – CT, RI, NH, ME, VA, NJ and NY
Mr. Farrick has been instrumental in the preparation of dozens of SPCC plans for a wide variety of facility types including Department of Correction facilities, private manufacturing concerns, Department of Navy facilities, including shore-side and pier operations, municipalities, colleges, financial institutions, and general industrial clients. In addition, Mr. Farrick has prepared over a dozen Stormwater Pollution Prevention Plans for municipalities, tribal clients, power generation facilities, and private industrial and manufacturing clients. In support of plan development, he has provided guidance and on-site training and prepared necessary inspection and documentation for clients to demonstrate on-going compliance with regulatory requirements.

Winchester Electronics Corporation, Regulatory Compliance – Watertown and Wallingford, CT
Mr. Farrick assisted electronics connector facility with environmental matters related to plant closure and re-location. He prepared an environmental compliance calendar and schedule/sequence of events to allow the necessary transfer of EPA identification numbers and wastewater permits. He conducted hazardous waste determinations, closure activities, prepared wastewater discharge permits, TRI reports, and established personnel environmental compliance training and contingency plan requirements. Mr. Farrick evaluated, permitted, and re-located an on-site hazardous waste concentration tank used to minimize the volume and toxicity of hazardous waste generated by production activities. He also developed and prepared an electronic database system to allow establishment of concentrations of restricted use chemicals in company products in accordance with ISO 14000 requirements and customer requirements including those related to European Union (EU) procurement standards.

Bechtel Power Systems Corporation, Connecticut Yankee Atomic Power Company, Compliance Engineering – Haddam Neck, CT
Mr. Farrick provided day-to-day environmental compliance support to the A/E responsible for the decommissioning of the Connecticut Yankee Atomic Energy facility. He provided consultation, permitting, and guidance for a broad variety of environmental issues including mixed waste characterization, handling and management, hazardous waste management, transient non-community and non-transient non-community drinking water, air emissions,

underground storage tanks, stormwater management, integrated response plan development and revision, wetland evaluations, certificate of permission applications, biennial hazardous waste reporting, RCRA storage closure area closure and closure cost estimate report submittals. Mr. Farrick prepared procedures and permit applications to support waste determinations, spill response plans, wetlands delineations, and spill response. He prepared environmental permits necessary for successful siting of an independent spent fuel storage installation at the facility. He also updated the Integrated Contingency Plan during decommissioning.

Confidential Municipal Client, Underground Storage Tank Inventory and Compliance Assessment – CT
Mr. Farrick conducted an inventory of existing active and inactive underground storage tanks in a large city in Connecticut. He assessed the nature of each UST through record review and inspection of monitoring and control equipment. He also prepared an electronic database of UST's along with an assessment of the compliance status of each regulated UST, including cathodic protection requirements, and end-of-life expectancy determinations. Data from the assessment was used to develop requirements for the removal and replacement of tanks near or at the end of their life expectancies.

Naval Undersea Warfare Center, Environmental Compliance Engineer – Newport, RI
Mr. Farrick served as Project Manager for environmental compliance project including an on-site staffing presence. During this time he worked as an on-site environmental compliance engineer for the Naval Undersea Warfare Center (NUWC) Division, Newport facility located in Newport, Rhode Island. He worked with Naval facility staff on a day-to-day basis to develop a strong internal environmental compliance group and provided support to the education and reinforcement of environmental concerns across the facility and command structure. Mr. Farrick supervised TRC staff involved with a large number of facility renovation and construction projects at the facility with respect to identification and abatement of lead paint and asbestos hazards. He conducted numerous multimedia environmental compliance audits at NUWC Division, Newport facilities located in Newport, Rhode Island; Niantic and New London, Connecticut; Virginia Beach, Virginia; Fishers Island, New York; Leesburg, Florida; and Andros Island, Bahamas. Mr. Farrick assisted with development and implementation of a variety of environmental compliance programs including internal environmental compliance audits, prepared RCRA less than 90-day closure plans, and performed sampling, analysis, and preparation of more than 25 individual wastewater discharge permit applications. He also assisted with development of a facility-wide environmental compliance program. He prepared compliance plans for this multi-facility client including a Waste Minimization Plan, a Spill Prevention Control and Countermeasures (SPCC) Plan, a Hazardous Waste Management Plan, an Environmental Training Plan, and a Waste Analysis Quality Assurance Plan. Mr. Farrick conducted a process evaluation and designed and procured a wastewater treatment system to reduce generation of regulated waste in such a manner as to allow the wastewater to be discharged to the local sanitary sewer system. Additional tasks included development and implementation of closure activities at BRAC facilities in Connecticut and Florida.

SPECIALIZED TRAINING

- LEP Mandated Continuing Education Courses/Seminars: 1998 to present
- OSHA Hazardous Waste Site Training, 40 hours, 1984 to 2005
- OSHA Hazardous Waste Site Supervisor Training, 8 hours, 1989, 2005
- Advanced Hazardous Waste Management, 2000
- Radiation Worker, 1999
- Red Cross First Aid and CPR Certified, 1984 -1994
- Introduction to Professional Practice, 1992

PROFESSIONAL AFFILIATIONS

- American Institute of Chemical Engineers (AICHE)

TRC

RALPH P. PERAGINE, PE

EDUCATION
B.S., Engineering, University of Connecticut, 1980

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS
Professional Engineer, State of Connecticut (No. 14428), 1986
Professional Engineer, State of New York (No. 064266), 1988

AREAS OF EXPERTISE
Mr. Ralph P. Peragine, PE has project management and technical experience in the following general areas:

- Environmental Impact Statements
- Site Development Plans
- Subdivision Plans
- Highway and Traffic Signal design
- Parking Facilities Design
- Stormwater Pollution Prevention Plans (SWPPP)
- Reinforced Concrete Retaining Walls
- *Sanitary and Stormwater Pumping Stations*
- SWPPP Inspections
- Construction Inspections

REPRESENTATIVE EXPERIENCE
Mr. Peragine has over 26 years of experience and progressive responsibility in civil engineering consulting. He currently serves in the capacity of Senior Project Manager and heads a Design Team for the Civil Engineering Group in the Hawthorne, NY office. His qualifications include extensive hands-on planning, field investigation and construction management, design, permitting, cost estimating, and project management. Mr. Peragine background includes extensive service to both public and private-sector clients.

Toll Brothers, Greens at North Street – White Plains, NY
Mr. Peragine was the Project Manager for the development of a 16-acre site for a residential project in a specially designated Conservation District. Services included the preparation of a Phase I Environmental Site Assessment in conformance with the ASTM Standard; preparation of site layout and grading, drainage and utilities design, including the design of a municipal sanitary sewer and pumping station to serve the site.

Toll Brothers, Fairways – White Plains, NY
Mr. Peragine was the Project Manager for preparation of documents for complete site engineering services for the subdivision of 29-acres into 55-residential lots. Services included preparation of site layout and grading, drainage and utilities design, all in conformance with the zoning regulations and approved Environmental Impact Statement.

Fairview Corporate Park, Route 9A – Greenburgh, NY
Mr. Peragine was the Project Manager for a Mixed Use development of 900,000 s.f. on a 59-acre site. Services included the preparation of Site Plan Approval Drawings for each of the seven (7) individual lots in conformance the zoning regulations and the Comprehensive Plan Approval; the preparation of a Phase I

Environmental Site Assessment for an 8.73 acre and 0.73 acre parcels of land in conformance with the accepted ASTM standard; the development of highway improvement plans for the extension of the northbound left turn lane on NYS Route 9A at the intersection of Fairview Park Drive; Town Road improvement plans for Field Crest Drive; HEC-2 analyses of the Saw Mill River. All documents were prepared in conformance with the applicable the applicable requirements of NYSDOT, NYSDEC, Corps of Engineers, Westchester County Department of Health and the Town of Greenburgh.

Indian Hill Estates – Yorktown Heights, NY
Mr. Peragine was the Project Manager in connection with the preparation of a Phase I Environmental Site Assessment for a 200 acre parcel of land located in the Towns of Putnam Valley and Yorktown, New York. The report was conducted and prepared in conformance with the accepted ASTM standards.

Town of Bloomfield, Clarks Pond Dam – Bloomfield, NJ
Mr. Peragine was the Project Manager and engineer for the reinforced concrete dam restoration project that included a new concrete spillway and training walls, stilling basin, design report and erosion control plans.

Hebrew Hospital Home of Westchester – Greenburgh, NY (Project Manager: 1991 – 1994)
Mr. Peragine was the Project Manager for the development of a 160 bed nursing facility on a 29-acre site including a 1600 foot access road and ancillary parking facilities and the addition of a 100-foot long left turn lane within NYS Route 100 in order to provide improved access to the proposed development. Services included the preparation of site layout and parking, grading, drainage and utilities design, all in conformance with the zoning regulations; highway improvement plans in conformance with NYSDOT requirements and Construction Inspection and Observation services.

The Wartburg Residential Community – Mount Vernon, NY
Mr. Peragine was the Project Manager for the development of the several improvement projects on the Wartburg campus including the Meadowview at the Wartburg, a 100 unit assisted living facility; Wartburg Meadow, improvements to the central meadow are including a gazebo, mini-roundabout and parking area improvements; and vehicle storage garage, on the property of the Wartburg Residential Community. Services included preparation of site demolition plans, layout and parking, grading, drainage and utilities design, all in conformance with the zoning regulations.

Westchester Meadows – Greenburgh, NY (Project Manager: 1997 – 2000)
Mr. Peragine was the Project Manager for the development of a Continuing Care Retirement Community on a 58 acre site. The development consisted of 120 independent living units, 10 assisted living units and 20 nursing beds. Services included preparation of site layout and parking, grading, drainage and utilities design, all in conformance with the zoning regulations.

PROFESSIONAL AFFILIATIONS

- Member – New York State Society of Professional Engineers
- Member – American Society of Civil Engineers
- Member – American Water Works Association

TRC

STEPHEN TAPPERT, CPG

EDUCATION

M. A., Geology, Temple University, 1987
B.A., Philosophy, LaSalle University, 1973

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Certified Professional Geologist, American Institute of Professional Geologists
Commonwealth of Pennsylvania (CPG), 1995
New Jersey – Certified for UST Subsurface Evaluation and Closure

AREAS OF EXPERTISE

Mr. Stephen Tappert has experience in the management of environmental investigations, specializing in groundwater. Project experience includes groundwater investigations and remediation, soil remediation, preparation of agency submissions, industrial property transactions and preparation of environmental litigation technical support documents. Projects include groundwater and soil remediation systems, free product recovery systems, landfill investigations and brownfield redevelopment projects.

Mr. Tappert has extensive management and technical experience in the following areas:

- Hydrogeologic and Remedial Investigations
- Groundwater and Soil Remediation
- Regulatory Compliance
- Water Supply Development
- Environmental Liability Transfer

REPRESENTATIVE EXPERIENCE

Remediation of the Lockheed Martin Former LEC Facility, North Plainfield, NJ. Mr. Tappert is the Project Manager for remediation of the Lockheed Martin Former LEC Facility in North Plainfield, NJ, contaminated with organic solvents. He directed a groundwater investigation of a 1.5 mile long TCE plume in bedrock originating from a former electronics manufacturing facility. Mr. Tappert's responsibilities included development of a remedial plan, oversight for site development of a major shopping center, and interfacing with local municipalities and the NJDEP to implement the project. Project activities, performed under Mr. Tappert's supervision, included groundwater and surface water sampling, aquifer testing and preparation of a Remedial Action Work Plan. Project issues that were addressed included the discharge of contaminated water to a stream, potential migration of contaminants to potable water supply wells and related litigation.

Remediation of the Washington Forge Cutlery Site in Englishtown, NJ. Mr. Tappert is the Project Manager for remediation of the Washington Forge Cutlery Site in Englishtown, NJ. Site conditions include a chlorinated solvent plume in the overburden aquifer, free product and soil contamination. Mr. Tappert's responsibilities include contaminant delineation, in-situ treatment of the groundwater plume and free product removal. Pilot testing for in-situ treatment using an organic substrate, under Mr. Tappert's supervision, has been completed and full-scale remediation will be completed in 2010.

Permeable Reactive Barrier (PRB) in New Jersey at the Allen Bradley Site in Fairfield. Mr. Tappert was the Project Manager for the installation of the first continuous permeable reactive barrier (PRB) in New Jersey at the Allen Bradley Site in Fairfield, which was the former location of an electronics manufacturing facility. Mr. Tappert

directed the remediation of a DNAPL pool and designed a PRB to remediate high concentrations of chlorinated solvents, working closely with Envirometal Inc. (patent holders for the PRB technology). The project was fast-tracked to meet a tenant's schedule and received an award for excellence from the Interstate Technology Remediation Cooperation Work Group.

Multi-site remediation projects for SP Industries, involving three sites near Vineland, New Jersey and one in Gardiner, New York. Mr. Tappert is the Project Manager for multi-site remediation projects for SP Industries, involving three sites near Vineland, New Jersey and one in Gardiner, New York. The sites manufactured laboratory glassware using chromic acid to etch gradations, mercury, and various solvents. Sites conditions include a hexavalent chromium plume located in the Pinelands area of New Jersey (Wilmad site), chlorinated solvent plumes, mercury-impacted soils, and ISRA compliance issues. Current remedial technologies include the following: 1) groundwater extraction and treatment system and point-of-use treatment systems at the New York site (being reviewed as a candidate for recirculating wells that will reduce remedial costs and timeframe), 2) in-situ treatment designed to take advantage of the natural geochemistry for the hexavalent chromium plume at Wilmad, and 3) natural attenuation for solvent plumes at two other sites in New Jersey.

Gulton Industries Site, Metuchen, New Jersey. Mr. Tappert is the Project Manager for the Gulton Industries Site, which is a brownfield redevelopment site in Metuchen, New Jersey. The site is a former battery and electronics manufacturing facility contaminated by chlorinated solvents in soil and groundwater, heavy metals in soils and wetland sediments, PCBs in soil, and metals in surface water. Mr. Tappert is responsible for implementing remedial actions that include in-situ treatment of groundwater, soil and sediment excavation, calculation of risk-based cleanup criteria, implementation of engineering controls, ecological evaluations, wetland mitigation, and vapor intrusion mitigation. Pilot tests for both organic and iron-based amendments have been completed under Mr. Tappert's supervision, and full-scale remediation is expected in 2011.

Upper Penn's Neck Landfill, Carneys Point, New Jersey. Mr. Tappert was the Project Manager for an investigation of the Upper Penn's Neck Landfill, an uncontrolled landfill in Carneys Point, New Jersey. The remedial investigation included soil, sediment and groundwater sampling, baseline ecological assessment, wetlands delineation, soil vapor survey, surface emissions sampling and aquifer testing. As part of this project, Mr. Tappert handled key issues, which included impact of the landfill on local water supply, methane gas migration, impact on wetlands and surface water bodies, and the effect of the landfill on local development.

SPECIALIZED TRAINING

- OSHA 40-Hour Hazardous Waste and Emergency Response Training
- OSHA 8-Hour Hazardous Waste and Emergency Response Training
- Remote Sensing: Applications to Hydrogeology, NWWA
- Aquifer Analysis Short Course, NWWA
- Applications of Ground Water Chemistry, NWWA
- Introduction to Applied Ground Water Modeling, NWWA
- Hazardous Waste Management Course, Lion Technology
- Ensys Field Method Certification Training, Ensys Inc.
- Radiation Worker Training 12-Hour Course, Battelle, Inc.
- Advanced Technologies for Natural Attenuation, Regenesis Inc.
- Regulatory Training in Underground Storage Tanks, Rutgers University

TRC

JEFFREY C. POWLEY, PG

EDUCATION
B.A., Geological Sciences, Rutgers College, 1986

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS
New Jersey Department of Environmental Protection (NJDEP) Certified
Underground Storage Tank Subsurface Evaluator (No. 0011309), 1991
Professional Geologist, Pennsylvania (No. PG000690G), July 1995

AREAS OF EXPERTISE
Mr. Jeffrey C. Powley, PG has program management and technical experience in the following general areas:

- Geology and Hydrogeology
- Site Remediation Services
- Underground Storage Tank Services
- Litigation Support/Expert Witness Reports/Testimony
- Environmental Insurance Services
- Due Diligence Services
- New Jersey Brownfields Redevelopment
- Remediation Cost Estimation and Evaluation

REPRESENTATIVE EXPERIENCE
Mr. Powley has over twenty-two years of experience and progressive responsibility including sixteen years of environmental consulting and project management involving soil and groundwater contamination; three years of environmental insurance risk analyses, management and loss control; and, three years of state regulatory agency case management involving underground storage tank releases and the evaluation of wastewater and potable water treatment plants for regulatory compliance.

TRC Environmental Corporation, Millburn, New Jersey
Mr. Powley is a project director responsible for multiple environmental remedial investigations at industrial facilities and litigation support. His responsibilities include preparation of Remedial Investigation and Remedial Action Workplans, administration of project budgets, coordination and supervision of personnel and contractors in the implementation of field activities, interpretation and evaluation of data, and preparation of Remedial Investigation and Remedial Action Reports. He also provides regulatory support and interfaces with clients, attorneys and regulatory agencies for these projects. Regulatory areas include the New Jersey Industrial Site Recovery Act (ISRA), Administrative Consent Orders (ACOs), New Jersey Pollution Discharge Elimination System (NJPDES), New Jersey Underground Storage Tank UST Regulations, and the Resource Conservation and Recovery Act (RCRA).

EcolSciences, Inc., Rockaway, New Jersey
Mr. Powley managed projects for the company involving due diligence and the investigation of contaminated properties, including Brownfields sites in preparation for residential/commercial redevelopment. This work, conducted on behalf of commercial and residential real estate developers, primarily includes Phase I Environmental

Site Assessments and NJDEP Preliminary Assessments, and groundwater and soil remedial investigations. Mr. Powley's work assisted real estate developers in assessing and revitalizing vacant and underutilized properties, in compliance with local, state and federal regulations. Mr. Powley developed preliminary assessment reports, remedial investigation reports and remedial action workplans for these projects. Additionally, Mr. Powley conducted an evaluation of regional hydrogeology and

AquaTek Environmental Consulting, Inc., Livingston, New Jersey
Mr. Powley trained, supervised and instructed a staff of geologists and environmental scientists in all aspects of preliminary assessments, site investigations, remedial investigations, aquifer tests and remedial actions at commercial and industrial sites and gasoline service stations. Mr. Powley was responsible for the development of remedial action workplans and cost estimates for the company's projects and assisted clients in obtaining NJDEP grants. Mr. Powley provided litigation support and expert testimony to clients with environmental liability problems that included the evaluation of past and future environmental investigation/remediation costs; conducting contaminant fate and transport evaluations; and assessing the performance of remedial investigations and actions.

SPECIALIZED TRAINING

- Forty-Hour OSHA Health and Safety Training, June 1987.
- New Jersey Geological Survey: The Geology and Hydrogeology of New Jersey, Fall 1987.
- Annual Eight-Hour OSHA Refresher Training, 1988 through the Present.
- Underground Storage Tanks – Mandates, Strategies & Options, September 1988.
- Groundwater Flow/Fate and Transport Modeling Using MODFLOW, Summer 1989.
- NJDEP Underground Storage Tanks, Rules and Regulations Course, Fall 1991.
- Technical and Regulatory Training in Underground Storage Tanks, October 1994; Attended additional refresher courses through present to maintain license.
- Risk-Based Corrective Action (RBCA), ASTM Training Seminar, June 1996.
- DNAPL Site Characterization and Remediation, The Waterloo Short Course, December 1996.
- Cleanup Cost Cap Underwriting and Engineering Training Course, October 1998.
- Pollution Legal Liability (PLL) Underwriting Training Course, May 1999.
- Basics of Risk Assessment using Palisades Corporation Software and Cleanup Cost Underwriting and Engineering Training Course, June 1999.
- Cleanup Cost Cap/PLL Underwriting and Engineering Training Course, November 2000.
- 21st Century Due Diligence: The Evolving Role of the Phase I Professional, March 2002.
- Hydrogeology of Fractured Rock: Characterization, Monitoring, Assessment and Remediation, April 2002.
- 2002 NGWA Northeast FOCUS Groundwater Conference, October 2002.
- Brownfields Redevelopment-A New Jersey Opportunity, June 2003
- Natural Resource Damages, May 2004.
- USEPA/NGWA Fractured Rock Conference: State of the Science and Measuring Success, September 2004.
- The Changing Face of Site Remediation: Public Notification & Outreach, September 2006.
- NJDEP's Soil Remediation Standards: Applications & Implications, October 2008

PROFESSIONAL AFFILIATIONS

- National Ground Water Association
- The Association of Environmental & Engineering Geologists
- The Geological Association of New Jersey
- The Technical Regulatory Advisory Coalition

TRC

SARAH J. TROMBETTA, CPG, LEP, CHMM

EDUCATION

M.S., Geology, University of Massachusetts, 1990
B.S., Geology, with Honors, Lafayette College, 1984

PROFESSIONAL REGISTRATIONS

Certified Professional Geologist, American Institute of Professional Geologists, (No. 8899), 1993
Licensed Environmental Professional, State of Connecticut, (No. 294), 1998
Certified Hazardous Materials Manager, 2010

AREAS OF EXPERTISE

Ms. Sarah J. Trombetta, CPG, LEP has program management and technical experience in the following general areas:

- Project Management, On-Call Contracts
- Brownfields and Property Redevelopment
- Permitting and Environmental Impact Evaluations
- Phase I, II, and III Environmental Site Assessments
- Compliance Audits
- Hazardous Waste Site Investigations
- Remedial Program Implementation Oversight
- Pollution Prevention
- Water Supply and Aquifer Protection Investigations
- Environmental Training

REPRESENTATIVE EXPERIENCE

Ms. Trombetta has over 24 years of experience. She serves as a project manager for remedial program implementation for commercial, industrial and government clients. Her experience ranges from Project Manager/Field Operations Manager at Superfund or listed hazardous waste sites to the management of field investigations at petroleum, chlorinated solvent, and polychlorinated biphenyl (PCB) impacted sites. Several of these sites have progressed into remediation design and implementation. Ms. Trombetta has managed or provided technical review for over 500 Phase I, II and III environmental site assessments. She has also managed aquifer investigations.

New York City Department of Environmental Protection, On-Call Contract – NY

Ms. Trombetta served as Project Manager for three year contract for NYCDEP to complete Phase I site assessments on properties to be purchased as part of a Land Acquisition and Stewardship Program. The Phase I assessments include evaluation of land use surrounding these properties located with watershed boundaries. Ms. Trombetta has managed and coordinated Phase I ESAs in rural and suburban areas and has identified, through the Phase I and potential Phase II process, hazards to the surface and ground water quality of the watersheds at sites where the potential exists for contaminants to have been released to the ground. Phase II scopes of work are prepared to investigate the soil and ground water quality at the site. Site assessment services are conducted in accordance with American Standard Testing and Materials (ASTM), municipal, New York State and federal regulations and guidelines.

Major Lending Company, Environmental Assessments/Audits – Various States
Ms. Trombetta served as Project Manager for various projects with a major lending company. She provided technical oversight and senior review of environmental assessments, audits, and subsurface investigations completed prior to property financing. Projects included multi-site commercial facilities, industrial complexes and other commercial/retail properties.

Ulbrich Stainless Steel and Special Metals, Inc., Environmental Site Assessments/Compliance Audits – Various States
Ms. Trombetta provided senior technical review and oversight for environmental assessments and compliance audits which included asbestos and lead paint surveys, underground storage tank testing and management, subsequent subsurface investigations, industrial hygiene inspections, and stormwater/National Pollutant Discharge Elimination System (NPDES) permitting.

New York City Department of General Service, Former Landfill Investigation – New York, NY
Ms. Trombetta served as Field Operations Manager for a methane/hazardous waste/indoor air quality project at the site of a former NYC landfill currently occupied by a correctional facility. The project included installing over 120 soil borings, conducting a facility-wide geophysical investigation and evaluating the effects of landfill gases on indoor air quality.

New York City Housing Authority, Underground Storage Tank Investigations – New York, NY
Ms. Trombetta participated in the investigation of soil and ground water contamination due to underground storage tanks. Investigations included drilling, monitoring well installation and interpretation of soil and ground water contamination in a variety of geologic settings throughout the five boroughs including marine deposits, bedrock, glacial outwash and till. She prepared Investigation Summary Reports and Remedial Plans for various sites. The focus of the program was to characterize and delineate the extent of oil-contaminated soils and ground water contamination, prior to remediation.

SPECIALIZED TRAINING

- 40-Hour OSHA Health and Safety Training
- OSHA Hazardous Waste Supervisors Training

PROFESSIONAL AFFILIATIONS

- American Institute of Professional Geologists

TRC

ROBERT J. LIPPENCOTT, Ph.D., CHMM

EDUCATION

B.S., Biology, Montana State University, 1984
M.S., Environmental Science, New Jersey Institute of Technology (NJIT), 1993
Ph.D., Environmental Science, Rutgers University and NJIT, 2005

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Certified Hazardous Materials Manager (CHMM), Master Level, 1994 (No. 7013)
Certified UST Subsurface Evaluator, New Jersey, 1996 (No. 0011998)
NJDEP Site Remediation Program Cleanup Star, 2003

AREAS OF EXPERTISE

Dr. Robert J. Lippencott has management and technical experience in the following areas:

- Site Remediation Design, Implementation and Project Management
- Hazardous Waste Management
- Environmental Due Diligence
- Litigation Support
- Environmental Toxicology and Chemistry
- Surface and Ground Water Investigation and Permitting
- Surface Water and Sediment Quality Evaluation
- Ecological Evaluation and Wetlands Permitting

REPRESENTATIVE EXPERIENCE

Dr. Lippencott has over 20 years of combined experience and progressive responsibility in environmental consulting, managing all aspects of site investigation and remediation projects, including field services, reporting, estimating and budgets for a variety of clients. His experience covers environmental compliance issues at a broad range of industrial and non-industrial facilities, as well as undeveloped and natural areas, including oil refineries, pharmaceutical facilities, printing concerns, chemical facilities, dry cleaners and brownfield sites.

As Principal Environmental Scientist and Senior Project Manger, Dr. Lippencott manages environmental projects for compliance with New Jersey's ISRA, MOA, UST and Brownfields Programs, surface water discharge permitting and site remediation requirements, and USEPA's CERCLA, RCRA and TSCA regulatory requirements. Dr. Lippencott's other responsibilities include directing technical staff in field activities including soil/ground water/surface water sample collection, well installation, soil excavation and monitoring, management of technical staff preparing various plans, reports and permit applications. Dr. Lippencott also provides TRC's Project Managers in the New Jersey regional offices with advanced technical support and expertise for various projects, including new project proposals and cost estimates. As TRC Raviv's Corporate Laboratory Certification Program Director, Dr. Lippencott provides oversight of staff, training, and maintenance of laboratory equipment and regulatory compliance.

Pharmaceuticals Manufacturing Facility Permitting and Remediation – Northern NJ

Dr. Lippencott directed technical staff in all phases of field and office tasks implemented to design and construct a 7-acre soil cap in compliance with NJDEP and USEPA (TSCA) regulations to address PCB – contaminated fill. A unique aspect to the project was the incorporation of a local stream and wetlands reconstruction that were an integral part of the overall remedial scheme capping system that required procurement of wetland permits, wetland mitigation, and wetland restoration monitoring. As an extension of the wetland task oversight, Dr. Lippencott also provided technical and regulatory assistance to the client's legal team in the successful settlement of a natural

resources damages claim involving freshwater wetlands.

Petrochemical R&D Facility, Ecological Evaluation – Central New Jersey
Dr. Lippencott directed and performed a baseline ecological evaluation for a large petrochemical R&D campus pursuant to NJDEP requirements, including an advanced impact evaluation of surface water and sediment for fresh water environments that was complicated by a large amount of legacy data of varying quality. He developed standard approach and reporting format for completing baseline ecological evaluations under the NJDEP's Technical Requirements for Site Remediation.

Large Oil Refinery Site, Soil Reuse and Hazardous Waste Management – Northeast NJ
Dr. Lippencott provided evaluation, advisement and oversight of all aspects of soil reuse and waste management issues for over 20,000 tons of soil, including sampling plans and oversight of field staff, waste identification/classification determinations, consultation, strategies for compliance and report preparation, and state agency approvals.

SPECIALIZED TRAINING

- "Methodology for Delineating Wetlands", Rutgers University, 2008
- "Introduction to Wetland Identification", Rutgers University, 2007
- "Natural Resources Damages", Rutgers University, 2004
- "Site Remediation Basics", Rutgers University, 2003
- "Bioremediation in Petroleum Contaminated Salt Marshes", Rutgers University, 2001
- "Environmental & Ecological Risk Assessment for Hazardous Waste", Rutgers University, 2001
- "Due Diligence at Dawn", Environmental Data Resources, Inc., 2000
- "Technical and Regulatory Training in Underground Storage Tanks", Rutgers University, 1992, 1995, 1998, 2001, 2004 and 2007.
- "WET & TIE Workshop" Omni Environmental Corp. and Aqua Survey, Inc., 1998
- "Hazardous/Toxic Waste Management", Lion Technologies, Inc., 1997
- "RBCA ASTM - Risk Based Correction Action", Environ Corp., 1996
- "Hazardous Waste Generator Seminar", New Jersey Department of Environmental Protection (NJDEP), 1995
- "DNAPL Delineation and Remediation", J.W. Mercer, 1995
- "Stormwater Permit Seminar", Rutgers University, 1993
- "The RCRA Toxicity Characteristic Leaching Procedure (TCLP): Implementation and Compliance", United States Environmental Protection Agency (USEPA) Region II, 1993
- "Establishing NJPDES Permit Effluent Limitations", Rutgers University, 1992
- "Comprehensive Ground Water Contamination Management: A Short Course for Environmental Professionals in Industry", Association of Ground Water Scientists and Engineers, 1991
- "Safety at Hazardous Materials Sites", The National Water Well Association, 1988

PROFESSIONAL AFFILIATIONS

- Academy of Certified Hazardous Materials Managers (National and Local Chapters)
- Institute of Certified Hazardous Materials Managers

TRC

ANDREA M. CONNELL

EDUCATION

B.A, Geography/Planning, State University of New York at Geneseo, 1980
Certificate, Geographic Information Systems, Penn State University, 2001

AREAS OF EXPERTISE

Ms. Andrea M. Connell is a Project Manager at TRC and has 23 years of experience encompassing:

- Traffic Engineering Studies
- Traffic Planning Studies
- Parking Studies
- Environmental Impact Statements
- Geographic Information Systems (GIS)

REPRESENTATIVE EXPERIENCE

The Mills Corporation, Meadowlands Xanadu – East Rutherford, NJ

Ms. Connell is currently the Project Manager of Traffic Engineering Studies for a 4.76 million s.f. Mixed Use development to consist of 2.2 million s.f. Retail/Entertainment, 1.76 million s.f. Office, a 520–room Hotel and a minor league ballpark. Project Site is on lands surrounding the Continental Airlines Arena facility within the Meadowlands Sports Complex. Services include preparation of traffic studies in support of permit application submissions to the New Jersey Department of Transportation and the New Jersey Turnpike Authority, assistance in preparation of an Environmental Impact Statement and development of Conceptual Plans for Highway Improvements required to mitigate the impacts of the project on the surrounding roadway network. Additional services include the development of a detailed Transportation Management Plan for on-site traffic operations during various professional sporting events at the Meadowlands Sports Complex venues, taking into account the traffic circulation and parking demands by event type, day of week and time of day.

Peapack DG Properties, LLC, Peapack Corporate Center – Peapack & Gladstone, NJ

Ms. Connell was the Project Engineer of Traffic Engineering Services for a 376,000 sf Office Development. Services included preparation of traffic studies in support of permit application submissions to the New Jersey Department of Transportation, Somerset County and to the Borough of Peapack & Gladstone and development of Conceptual Plans for Highway Improvements required to mitigate the impacts of the project on the surrounding roadway network. All projections and analysis prepared in accordance with NJDOT Access Code standards.

Simon Property Group, Jefferson Valley Mall – Yorktown, NY

Ms. Connell was the Project Engineer of Traffic Engineering Services for a 290,000 sf expansion to the Jefferson Valley Mall. Her involvement included preparation of traffic studies for a multi-phase expansion in support of submissions to the New York State Department of Transportation, Westchester County Planning Department and the Town of Yorktown. Ms. Connell also prepared a study in support of a request for a new site driveway along an existing "no access" portion of a state highway and analyzed the Mall's future parking needs. All projections and analyses prepared in accordance with NYSDOT specifications.

New Jersey Department of Transportation, Traffic Impact Studies and Highway Access Plans Review – Statewide, NJ
Ms. Connell was responsible for the review of Traffic Impact Studies and Highway Access Plans for developments seeking access along the New Jersey State Highway System. The purpose of the review was to ensure that the proposed access conforms to State Standards and follows sound engineering principles.

City of Hoboken, NJ, South Waterfront Redevelopment Project – Hoboken, NJ
Ms. Connell was the Project Engineer of Traffic Engineering Services for a two million s.f. mixed-use project located on three Hudson River piers in the South Waterfront area of Hoboken, NJ. Services included preparation of traffic studies for the Project and its various stages, assistance in preparation of an Environmental Impact Statement and development of Conceptual Plans for Highway Improvements required to mitigate the impacts of the project on the surrounding roadway network.

JMB Realty, Riverside Square – Hackensack, NJ
Ms. Connell was the Project Engineer of Traffic Engineering Services for the expansion of a 500,000 s.f. regional shopping center. Services included preparation of studies for entire complex and its various stages, and development of plans for specific Highway Improvements required to mitigate the impacts of the project on the surrounding roadway network. All projections and analysis prepared in accordance with NJDOT requirements.

Wal-Mart Realty, Nassau Park – West Windsor, NJ
Ms. Connell was Project Engineer of Traffic Engineering Services for a 610,000 s.f. regional shopping center. Services included preparation of studies for entire complex and its various stages, and development of plans for specific Highway Improvements required to mitigate the impacts of the project on the surrounding roadway network. All projections and analysis prepared in accordance with NJDOT requirements.

SJP Properties, Ryland Inn Office Park – Readington Township, NJ
Ms. Connell was Project Engineer of Traffic Engineering Services for an office park of 300,000 s.f. Services included preparation of studies for entire complex and its various stages, and development of plans for specific Highway Improvements required to mitigate the impacts of the project on the surrounding roadway network. All projections and analysis prepared in accordance with NJDOT requirements.

Beaverbrook, Clinton Township, NJ
Ms. Connell was the Project Engineer of Traffic Engineering Services for a 1200-acre site for 756 residential units and a 300-room hotel adjacent to a golf course. Services included preparation of studies for entire complex and its various stages, and development of plans for specific Highway Improvements required to mitigate the impacts of the project on the surrounding roadway network. All projections and analysis prepared in accordance with NJDOT requirements.

PROFESSIONAL AFFILIATIONS

- Institute of Transportation Engineers
- American Planning Association

TRC

KAREN VETRANO, PhD

EDUCATION

Ph.D., Toxicology, University of Connecticut, 1992
B.S., Toxicology, Northeastern University, 1986

AREAS OF EXPERTISE

Dr. Karen Vetrano manages TRC's Risk Assessment and Toxicology Practice, as well as the Odor Evaluation and Control Groups. Dr. Vetrano supervises and provides senior level support for projects that include human health and ecological risk assessments, toxicological evaluations, exposure assessments, labeling and preparation of material safety data sheets (MSDS), odor evaluation, indoor air quality and industrial hygiene program reviews. She also provides expert witness and litigation support services for risk assessment, odor and lead poisoning matters.

Dr. Vetrano provides management and technical support for the various components of human exposure and health risk assessments under regulatory programs such as Superfund, the Resource Conservation and Recovery Act (RCRA), California Proposition 65, Massachusetts Contingency Plan (MCP), as well as other individual State programs, and the USEPA Brownfield Program. The general components in these assessments include validation of data, modeling of environmental concentrations, identification of relevant land uses and activities, assessment of chemical intakes, evaluation of chemical toxicity and characterization of potential health risks from chemical exposures.

Dr. Vetrano has extensive management and technical experience in the following areas:

- Expert Testimony and Environmental Litigation Technical Support
- Human Exposure and Risk Assessment
- Ecological Hazard Characterization and Risk Assessment
- Environmental Fate and Transport
- Toxicological Evaluations
- TSCA Pre-Manufacture Notice Submissions
- Exposure Assessments
- Odor Evaluation
- Indoor Air Quality Investigations

REPRESENTATIVE EXPERIENCE

One Liberty Plaza, NY. Dr. Vetrano served as Task Manager for a human exposure and risk assessment pertaining to indoor environmental contamination as a result of the World Trade Center disaster. She evaluated indoor air and dust wipe sample data obtained from eight floors of a building located at One Liberty Plaza. The data was incorporated into a site-specific human health risk assessment following USEPA guidelines. The human health risk assessment was conducted to provide a site-specific evaluation of the current environmental conditions in the workspaces and common areas at One Liberty Plaza in order to determine whether or not it was safe to re-occupy the workspaces. Dr. Vetrano participated in employee public meetings to present the findings of the human health risk assessment and answer concerned employee questions.

Consolidated Edison Waterside Steam Station under the NYSDEC Voluntary Cleanup Program. Dr. Vetrano conducted a human exposure and risk assessment pertaining to environmental contamination at the Consolidated

Edison Waterside Steam Station under the NYSDEC Voluntary Cleanup Program (VCP Site Nos. V00429 - V00432). Dr. Vetrano evaluated soil, groundwater and indoor air pathways to assess risk to construction workers and future resident receptors following New York State and USEPA guidelines.

New York City Economic Development Corporation. Under TRC's ongoing on-call environmental services contract with the New York City Economic Development Corporation, Dr. Vetrano conducted human exposure assessments for PAH contamination at the St. George Ballfield Site, which is a NYSDEC Voluntary Cleanup Program site (VCP No. V0028) and the Powell's Cove Site. She evaluated receptor risk to exposure to PAH contamination on the sites.

Technical expertise to assess the risks from the emissions from a rotary kiln and a fixed box incinerator located in upper New York State. Dr. Vetrano is currently providing technical expertise to assess the risks from the emissions from a rotary kiln and a fixed box incinerator located in upper New York State. A protocol for the multiple pathway human health and ecological risk assessments, which follow current USEPA and New York State guidance for hazardous waste incinerators/combustion emissions, was prepared by Dr. Vetrano and submitted to the appropriate regulatory agencies. Upon approval, Dr. Vetrano prepared a site-specific risk assessment which included risk assessment modeling and provided technical expertise in the areas of identification and assessment of multiple routes of exposure, including inhalation, ingestion of locally produced food (vegetables, beef and dairy) and locally caught fish. Constituents of potential concern included metals (including mercury), chlorine, volatile organic compounds, semi-volatile organic compounds, PCBs and dioxins.

SPECIALIZED TRAINING

- ITRC Vapor Intrusion Pathway: A Practical Guideline.
- Dose-Response Modeling for Occupational and Environmental Risk Assessment, Society of Toxicology
- Nanotoxicology: The Science of Developing a Safe Technology, Society of Toxicology
- Vapor Intrusion Attenuation Workshop - A Study of Observed Vapor Intrusion Attenuation
- Risk Assessment for Metals, Society of Toxicology
- Mid-America Toxicology Course
- Practical Issues in the Use of Probabilistic Risk Assessment, USEPA and the University of Florida
- MSDS: Preparing for the Next Wave of Hazard Communication Requirements
- Overview of Uncertainty Analysis, Society of Toxicology
- Risk Communication: Making Risk Management More Effective, Society of Risk Analysis
- Toxicokinetics: Study Design and Data Analysis, Society of Toxicology
- Risk: Science, Assessment and Management Mini-Course, Office of Continuing Education and the Center for Risk Analysis, Harvard School of Public Health
- Risk Communication: Problems, Perceptions and Practice, Society of Toxicology
- Environmental Toxicology, Society of Toxicology
- OSHA 40-Hour Hazardous Waste and Emergency Response Training
- OSHA 8-Hour Hazardous Waste and Emergency Response Training

PROFESSIONAL AFFILIATIONS

- Society of Toxicology
- Northeast Chapter of the Society of Toxicology, past Councilor 1997-1999
- Society for Risk Analysis, New England Chapter, Secretary
- Society for Risk Analysis

TRC

KATARINA T. RUTKOWSKI

EDUCATION

M.S., Environmental Quality Science, University of Alaska, 1999
B.S., Electro-Optics, University of Houston, 1986

REPRESENTATIVE EXPERIENCE

Ms. Rutkowski is a Risk Assessor working in the Health and Safety Assessment Division's Risk Assessment and Toxicology Group. She provides technical oversight support to government agencies on site investigation and remediation projects. She provides technical support for various components of human health and ecological risk assessments under such programs as Superfund, Resource Conservation and Recovery Act (RCRA), the Massachusetts Contingency Plan (MCP) and other individual State programs and U.S. EPA's Brownfield Program. The general components in these assessments include validation of data, modeling of environmental concentrations, identification of relevant land uses and activities, assessment of chemical intakes, evaluation of chemical toxicity and characterization of potential health risks from chemical exposures. Ms. Rutkowski also has state government experience working on the development of risk-based regulations as well as conducting public training on risk-related topics. She was previously a project manager overseeing the cleanup of formerly used defense sites (FUDS).

Confidential Client, Vapor Intrusion Evaluation - New York City, NY (Technical Support: 2004 to 2006)
Ms. Rutkowski conducted human health evaluation of residual MGP-related constituent vapors in soils and ground water for multiple project sites. Analysis included risk screening and site-specific analysis of soil gas samples and modeling of ground water concentrations to evaluate potential future construction worker and resident exposure. The evaluation was conducted in accordance with current U.S. EPA guidance. Modeling was conducted using the current version of U.S. EPA's revised Johnson and Ettinger model (March 2003 version). Ms. Rutkowski provided mediation support, including the preparation of position papers on the vapor intrusion methodology for inclusion in legal briefs. She prepared Exposure Assessments in accordance with NYSDEC guidance for MGP sites.

Confidential Client, Human Exposure - Somers, NY (Project Manager: 2006)
Ms. Rutkowski is overseeing the field investigation of indoor air quality associated with a chlorinated plume and conducted a human health risk analysis of a residual chlorinated solvent constituent in ground water. An initial screening level assessment was conducted followed by a more site-specific assessment using U.S. EPA's current version of the Johnson and Ettinger model (February, 2003 version).

FAA Technical Center, Area U, Human Exposure - Atlantic City, NJ (Technical Support: 2002)
Ms. Rutkowski conducted a human health risk assessment of residual contaminants in soil, surface water and sediment for an outside worker, recreational user and trespasser fish angler in accordance with CERCLA guidance. She developed a trespasser fish angler exposure scenario, including the development of a site-specific site use factor to apply to fish ingestion rates to represent recreational fish consumption from an illegal fishing area. She drafted technical memorandum documenting the approach for developing site-specific exposure parameters for presentation to the U.S. EPA.

GE Silicones, Ecological Risk Assessment - Waterford, NY (Team Leader: 2004 to Present)
Ms. Rutkowski prepared an ecological risk assessment work plan for this hazardous waste combustion facility and conducted the ecological risk assessment in compliance with U.S. EPA's guidance on conducting multi-pathway ecological risk assessments for combustion facilities.

Confidential Client, Vapor Intrusion Evaluation - Petty Island, PA (Technical Support: 2005)
Ms. Rutkowski conducted a human health risk analysis of commercial worker exposure to chemicals in indoor air associated with the vapor intrusion exposure pathway. The analysis was conducted in accordance with current U.S. EPA guidance. A risk screening was conducted to evaluate potential future commercial worker exposure to *volatile petroleum constituents in indoor air volatilizing from ground water. The evaluation was conducted using the* U.S. EPA's revised Johnson and Ettinger model (February 2003 version).

Confidential Client, Human Exposure - Boston, MA (Task Leader: 2005)
Ms. Rutkowski conducted a Method 3 Risk Characterization in accordance with current Massachusetts Department of Environmental Protection (MADEP) guidance, including current technical updates. Receptors included an evaluation of a construction worker, commercial worker and off-site resident and significant exposure pathways included the inhalation of particulates and volatiles in ambient air from soil and ground water, and dermal exposure to and incidental ingestion of soil and ground water. A hot spot analysis was conducted and an area identified which was evaluated separately in the risk characterization.

Confidential Client, Human Exposure - Brockton, MA (Task Leader: 2005)
Ms. Rutkowski conducted a Method 3 Risk Characterization in accordance with current MADEP guidance, including current technical updates. Receptors included construction workers, commercial workers and recreation users of the site. Landscaping and gardening activities were also quantified and the evaluation of exposure areas facilitated targeting areas requiring cleanup. Significant exposure pathways evaluated included the inhalation of particulates and volatiles in ambient and indoor air, and dermal exposure to and incidental ingestion of soil and ground water.

Confidential Client, Human Exposure - Salem, MA (Task Leader: 2005)
Ms. Rutkowski conducted a Method 3 Risk Characterization in accordance with current MADEP guidance, including current technical updates. Receptors included construction workers, commercial workers, on-site and off-site residents, and recreational users. Significant exposure pathways evaluated included the inhalation of particulates and volatiles in ambient air and dermal exposure to and incidental ingestion of soil, ground water, sediment and surface water. Further risk characterization was conducted to evaluate specific land uses, such as landscaping and gardening, to assist in determining appropriate remedial actions to protect public health.

SPECIALIZED TRAINING

- Vapor Intrusion Conference, AWMA, Philadelphia, PA, 2006
- Advanced Statistics Training Course, EPOC, Hartford, Connecticut, 2005
- CT RSR Training, Hartford, CT 2004
- MCP Method 3 Seminar, LSPA, Marlborough, Massachusetts 2004
- Vapor Intrusion Seminar, EPOC, Hartford, Connecticut 2004
- Vapor Intrusion Seminar, U.S. EPA, Amherst, Massachusetts 2004
- Statistics Training Course, EPOC, Hartford Connecticut, 2004
- Risk Communication. U.S. Army, Anchorage, Alaska, 1999
- Public Participation. U.S. Environmental Protection Agency, Anchorage, Alaska, 1999
- *Risk Communication and Risk Assessment. New York University, New York, NY, 1998*
- PCB Megarule and RCRA LDR. U.S. EPA Region 10, Anchorage, Alaska, 1998
- RCRA Training. McCoy and Associates, Anchorage, Alaska, 1998
- Risk Assessment Guidance for Superfund. U.S. EPA, Anchorage, Alaska, 1998

TRC

DIANE M. SILVERMAN, Ph.D.

EDUCATION

Ph.D., Toxicology, University of Rochester, 1982
B.S., Biology, Rensselaer Polytechnic Institute, 1977

REPRESENTATIVE EXPERIENCE

Dr. Silverman is an experienced toxicologist with 25 years of experience in human health risk assessment. She supervises projects that include human health and ecological risk assessments and has served as a toxicologist for the Massachusetts Department of Environmental Protection. Dr. Silverman provides technical support for the various components of human exposure and health risk assessments under such programs as Superfund, Resource Conservation and Recovery Act (RCRA), the Massachusetts Contingency Plan (MCP) (as well as other individual State programs) and EPA's Brownfield Program. The general components in these assessments include development of sampling approaches, data evaluation, modeling of environmental concentrations, identification of applicable land uses and activities, assessment of chemical exposures, evaluation of chemical toxicity and characterization of potential health risks and hazards.

New York Transit Authority, Screening-Level Risk Assessment – NY (Lead Risk Assessor: 2005)
Dr. Silverman conducted screening-level risk assessments for each construction phase of New York City's Second Avenue subway project to determine possible hazards for workers during tunnel construction and for individuals living or working in the vicinity of the tunneling. The major focus of the project was the development of project-specific risk-based action levels for soil, groundwater, and air and air screening levels using contaminant fate and transport modeling of soil and groundwater. The measured medium-specific concentrations were compared to the risk-based action levels in the field to determine the need for worker protection or engineering controls to protect residents and workers.

Confidential Client, Major Preservatives Manufacturer, Chemical Toxicity Review – NY (Toxicologist: 1996)
Dr. Silverman performed an annual review of the toxicity of a number of chemical preservatives including chromated-copper arsenate and pentachlorophenol. She utilized toxicological expertise in the evaluation and interpretation of the toxicological data for these chemicals.

EPA Region I, Brownfields Program, Risk Assessment Support – New England (Lead Risk Assessor: 2000 – 2005)
Dr Silverman performed preliminary screening-level risk assessments on initial environmental data collected at a number of Brownfield sites to guide future sampling efforts, as necessary. The assessments considered type and quantity of supplemental data required based on future use (e.g., commercial or recreational), media of concern (e.g., indoor air or soil), and contaminants of potential concern (e.g., metals or volatile organic compounds). Following supplemental data collection, Dr. Silverman used baseline risk assessment methods for sites where screening indicated a potential health concern. The risk assessments were focused on future intended land use and included the need for and type of institutional controls or activity and use limitations in recommendations for each site.

EPA Region I, Durham Meadows Superfund Sites, Baseline Human Health Risk Assessment – Durham, CT (Lead Risk Assessor: 2002 – 2005)
Dr. Silverman completed the baseline risk assessments for the Durham Meadows Superfund site. The evaluation determined risks to human receptors exposed to contaminants in soil and groundwater, in an area of extensive

private well usage. The groundwater risk assessment addressed household groundwater use pathways, industrial process water use, and direct contact by workers during subsurface investigation. The vapor intrusion pathway was evaluated through the use of groundwater and soil volatile contaminant data in fate and transport models to estimate the impact on indoor air quality.

EPA Region I, Pownal Tannery Superfund Site, Baseline Human Health Risk Assessment – Pownal, VT (Lead Risk Assessor: 2000 – 2005)
Dr. Silverman finalized the baseline human health risk assessment for the Pownal Tannery Superfund site for soil, sediment, surface water, and groundwater. The results of the risk assessment were used in calculating risk-based preliminary remediation goals for the site's feasibility study. During the active remediation phase, Dr. Silverman conducted a supplemental risk evaluation to determine whether, based on anticipated future site use, cover and berm soils containing contaminant levels slightly in excess of PRGs for a small number of compounds could be safely reused as backfill on site.

EPA Region I, Wells G&H / Industri-Plex Superfund Sites, Baseline Human Health Risk Assessment – Woburn, MA (Lead Risk Assessor: 1999 – present)
Dr. Silverman directed the baseline risk assessments for the Wells G&H and Industri-Plex Superfund sites in Woburn, Massachusetts. The evaluation determined risks to human receptors exposed to contaminants in sediments, surface water, surface soil, and fish tissue within the 26-mile reach of the Aberjona River between North Woburn and Arlington. The groundwater risk assessment addressed household groundwater use pathways, industrial process water use, the use of groundwater in a warm-water car wash, and direct contact by workers during subsurface investigation. The vapor intrusion pathway was evaluated through soil gas data and groundwater and soil volatile contaminant data used in fate and transport models to estimate the impact on indoor air quality. Dr. Silverman also presented the results of the evaluation at a series of public meetings and participated in the completion of the second five-year review report for the site. Evaluations are on-going, focusing on impacts to the Central Area, a potential drinking water source area.

EPA Region V, Superfund Sites, Baseline Human Health Risk Assessment Oversight – North Central US (Lead Risk Assessor: 2002 – 2008)
Dr. Silverman worked with EPA to provide technical support and oversight of baseline risk assessments for five Superfund sites within Region V, being completed by the Potentially Responsible Parties. The complex sites involved the use of multiple pathway evaluations to assess the risk associated with human exposure to contaminants in soil, drinking water, and indoor air.

EPA Region I, Shpack Landfill Superfund Site, Baseline Human Health Risk Assessment – Attleboro, MA (Lead Risk Assessor: 2000 – 2003)
Dr. Silverman completed a baseline human health risk assessment for the Shpack Landfill Superfund site, with contaminants in soil, sediments, groundwater, and surface water including radionuclides (primarily uranium and radium isotopes) as well as metals and volatile organic compounds. She used a risk-based approach to evaluate radionuclides and compared the results to those obtained through a dose-based evaluation requested by the Massachusetts Department of Environmental Protection. The results of both evaluations were merged to develop site-specific cleanup levels for radionuclides in soil. Dr. Silverman also presented the results of the health evaluation at a series of public meetings.

TRC

KEVIN BOGER

EDUCATION

B. S., General Engineering, Gonzaga University, 2005
B.A., *Business Administration, Gonzaga University*, 2004

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Engineer in Training (EIT), New York, 2006

AREAS OF EXPERTISE

Mr. Kevin Boger is based in TRC's New York City office and has four years of environmental consulting experience with progressively increasing responsibilities primarily in design and construction oversight of remedial actions and soil vapor intrusion mitigation systems. Mr. Boger has expertise in the following general areas:

- Remedial Design
- Remedial Construction Inspection
- Vapor Intrusion Mitigation System Design
- Remedial Construction Management
- Environmental Site Assessments
- Remedial Investigations
- Underground Storage Tank Testing, Removal, and Closure
- Indoor Air Quality Investigations

REPRESENTATIVE EXPERIENCE

New York City School Construction Authority (NYCSCA). Under TRC's on-call hazardous materials services contract with the New York City School Construction Authority (NYCSCA), Mr. Boger has served as project engineer/construction inspector for the design and inspection of construction of vapor intrusion mitigation systems for over ten (10) New York City public schools. In connection with design, Mr. Boger's responsibilities have included the design and of active sub-slab depressurization systems (SSDSs) and gas vapor barrier systems. Specific design tasks performed by Mr. Boger have included specification writing, drawing preparation, engineering calculations and coordination with architects and engineers. In connection with construction, Mr. Boger responsibilities have included submittal review, and performing inspections at critical milestones including: completion of construction of gas permeable aggregate layer, completion of construction of sub-slab depressurization pits and piping, pressure testing of piping, completion of construction of suction fans and instrumentation, completion of preparation of sub-grade for application of gas vapor barriers, and startup and testing of active SSDSs. As a construction inspector, Mr. Boger has been also been responsible for preparing inspection reports, identifying construction deficiencies, attending meetings with contractors, and performing sub-slab *pressure field testing to verify performance of SSDs.*

Also under TRC's on-call hazardous materials services contract with the NYCSCA, Mr. Boger has served as project engineer and construction inspector for over five (5) remediation projects. Specifically, Mr. Boger has prepared drawings and specifications for removal of underground storage tanks and contaminated soil and performed inspection during excavation of hazardous and petroleum contaminated soils and underground storage tank removals. Also Mr. Boger has been responsible for review and processing of submittals, including Excavated Materials Disposal Plans and Tank Closure Plans. For example, in connection with NYSDEC Spill No. 0508302, Mr. Boger reviewed the submittals and oversaw the excavation of over 7,500 cubic yards of petroleum

contaminated soil at the site known as the New Settlement Community Center located on Jerome Avenue in the Bronx. This project, which involved installation of soldier piles and lagging and excavation to bedrock (approximately 20 feet below ground surface), as well as active odor suppression techniques (foaming), Mr. Boger's responsibilities included site visits, confirming compliance with the contract drawings and specifications, attendance at construction meetings, and verifying compliance with the project community air monitoring plan.

Exxon-Mobil Bayway Facility in Linden, New Jersey. Mr. Boger served as a project engineer in support of the design of the groundwater extraction system for the sludge lagoon operable unit (SLOU) at the Exxon-Mobil Bayway facility in Linden, New Jersey. The purpose of the groundwater extraction system is to effect hydraulic control over the SLOU. Design of twenty-one dual pump extraction (groundwater and oil) wells, thousands of feet of buried piping, and complex controls and instrumentation was required. Specific tasks performed by Mr. Boger included selecting and specifying equipment, and design and preparation of drawings for sub-grade piping drainage and isolation pits.

Queens West Development – Stage 2 Site in Long Island City, Queens. Mr. Boger served as project engineer for design of the active sub-slab depressurization systems (SSDSs) for the new high-rise residential buildings constructed on the Queens West Development – Stage 2 Site in Long Island City, Queens (NYSDEC VCP Site Nos. V00505A and V00505B). The Queens West Development – Stage 2 Site is the site of a former oil refinery. Mr. Boger coordinated the SSDS designs with building foundation plans and coordinated locations for sub-slab depressurization pits and monitoring points with the architects and engineers for the buildings. Mr. Boger was also responsible for inspection during construction of the SSDSs and performed pressure field testing using the sub-slab monitoring points following start-up of the SSDSs to verify sub-slab depressurization.

New York City Department of Environmental Protection (NYCDEP) Chemical Bulk Storage (CBS) projects. Mr. Boger served as project engineer on several New York City Department of Environmental Protection (NYCDEP) chemical bulk storage (CBS) projects. Mr. Boger was responsible for construction inspection of chemical bulk storage facilities, utilized for the storage of chlorine and other chemicals related to the water treatment and distribution systems, operated by the NYCDEP throughout New York City. The chemical bulk storage facilities were inspected by Mr. Boger for compliance with New York State Department of Environmental Conservation CBS regulations.

New York State Hazardous Waste Reduction Plans, and annual RCRA reports for a semi-conductor manufacturing facility in New York. Mr. Boger was responsible for preparing quarterly hazardous waste reports, New York State Hazardous Waste Reduction Plans, and annual RCRA reports for a semi-conductor manufacturing facility in New York. Mr. Boger also oversaw decommissioning of Solid Waste Management Units within the semi-conductor manufacturing facility. Specific tasks performed by Mr. Boger included overseeing coordination between several contractors, oversight of sampling activities and correspondence with the New York State Department of Environmental Conservation.

SPECIALIZED TRAINING

- OSHA 40-Hour Hazardous Waste and Emergency Response Training
- OSHA 8-Hour Hazardous Waste and Emergency Response Refresher Training
- OSHA 10-Hour Construction Safety Training
- MTA Long Island Rail Road Roadway Protection Training

TRC

DANIEL A. SCHMIDT, LEED AP

EDUCATION

B.S., Environmental Engineering, University of Delaware, 2006

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Professional Engineer-in-Training, Delaware, 2005
Leadership in Energy and Environmental Design (LEED) Accredited Professional, 2009

AREAS OF EXPERTISE

Mr. Schmidt has experience in the following general areas:

- Environmental Site Investigation
- Groundwater and Soil Remediation
- Underground Storage Tank Testing, Removal and Closure
- Remediation Oversight

REPRESENTATIVE EXPERIENCE

Mr. Schmidt has over 2 years of environmental consulting experience. Specifically he has experience working in remediation design and site investigation.

Ferry Point Park – Bronx, NY

Mr. Schmidt serves as a project engineer for design of a golf course and community park at Ferry Point Park, which is located in Bronx, NY, and is the site of a former landfill. Mr. Schmidt's responsibilities have included providing assistance in the design of the landfill gas extraction well and piping network for the 200+ acre site.

Long Island Railroad – New York City, NY

Mr. Schmidt has served as a project scientist for quarterly groundwater sampling programs at the Long Island Rail Road Morris Park Yard and Richmond Hill Yard in Queens, NY. In connection with the quarterly sampling events, which include over 50 monitoring wells, Mr. Schmidt performed groundwater sampling.

Columbia University – New York City, NY

Mr. Schmidt provided oversight of cleaning and backfilling of Underground Storage Tanks (USTs) at Columbia University.

ExxonMobil Bayway Refinery – Linden, NJ

In connection with design of a hydraulic control system for the sludge lagoon operable unit at the ExxonMobil Bayway refinery in Linden, NJ, Mr. Schmidt was responsible for preparing profiles for thousands of feet of groundwater extraction system piping. Mr. Schmidt evaluated bend radii for the HDPE piping, and using AutoCAD prepared drawings which maintain piping below the frost line, at appropriate and uniform slopes and shallow enough to facilitate trenching for installation.

New York City School Construction Authority – New York City, NY
Under TRC's on-call hazardous materials services contract with the New York City School Construction Authority Mr. Schmidt has served as a project engineer in connection with several underground storage tank removal projects and in connection with construction of vapor intrusion mitigation systems at several new schools. Mr. Schmidt has been responsible for review of contractors' submittal for vapor barriers and has performed inspections of active sub-slab depressurization systems constructed at new public schools. In addition, Mr. Schmidt has performed review of 100% complete bid documents for public school construction to verify environmental requirements specified by TRC were properly included.

SPECIALIZED TRAINING

- 40-Hour OSHA Health and Safety Training (September 2008)
- MTA Long Island Rail Road Roadway Protection Training (September 2008)

TRC

PATRICK NAREA

EDUCATION

B.A., Geology, State University of New York at Buffalo, 1998

AREAS OF EXPERTISE

Mr. Patrick Narea has over eight years of experience and has assumed progressively increasing responsibility in environmental consulting. His experience includes site characterizations, remedial investigations, environmental site assessments, soil vapor intrusion investigations, and construction inspection. Mr. Narea's background includes service to public and private-sector clients including the Queens West Development Corporation, New York City Department of Environmental Protection, New York City Economic Development Corporation, New York City School Construction Authority and Consolidated Edison of New York.

Mr. Narea has experience in the following areas:

- *Environmental Site Characterization and Assessment*
- Remedial Investigation
- Investigation of Contaminated Bedrock
- Remedial Construction Inspection
- *Soil Vapor Intrusion Investigation*
- Underground Storage Tank Testing, Removal, and Closure
- Community and Indoor Air Monitoring

Mr. Narea is based in TRC's New York City office and currently serves in the capacity of Assistant Project Manager.

REPRESENTATIVE EXPERIENCE

New York City School Construction Authority. Under TRC's on-call hazardous materials services contract with the New York City School Construction Authority, Mr. Narea served as the project geologist and assistant project manager for preparation and implementation of the remedial investigation work plan and preparation of the RI report for a petroleum contaminated site (NYSDEC Spill No. 0508302) located on Jerome Avenue in the Bronx. The site, known as the New Settlement Community Center, is being re-developed into a New York City public school and community center. Mr. Narea supervised the waste characterization sampling for disposal, and delineation of petroleum contaminated soil and a floating gasoline plume. The field activities, supervised by Mr. Narea, included investigation of shallow bedrock for petroleum-related impacts, including collection of rock cores and construction of a bedrock well. Mr. Narea prepared the RI Report, including bedrock and groundwater surface elevation contour maps. The RI report, which included detailed recommendations for remediation, was accepted by NYSDEC Region 2.

Consolidated Edison Waterside Generating Station (NYSDEC VCP Site Nos. V00429 – V00432) Site in Midtown Manhattan. Mr. Narea served as the project geologist for the environmental investigation of the 7-acre Consolidated Edison Waterside Generating Station (NYSDEC VCP Site Nos. V00429 – V00432) site located in Midtown Manhattan. The scope of the contract included the decommissioning and demolition of all structures and environmental remediation. Mr. Narea coordinated field activities, and supervised the installation of soil borings and monitoring wells, collection for analysis and description of soil and groundwater samples, and the collection of rock core samples. The field activities, supervised by Mr. Narea during the collection of rock cores, consisted of visual inspection and screening with a PID for petroleum-related contamination, recording of rock quality

designation (RQD), and construction of bedrock wells.

Consolidated Edison (Con Edison) Hudson Avenue Generation Station property, Brooklyn, New York. Mr. Narea served as the project geologist and project manager for the environmental investigation of a planned project site on the Consolidated Edison (Con Edison) Hudson Avenue Generation Station property, located in Brooklyn, New York, and known as the "Hudson Avenue Replacement Project" (HARP). Con Edison is proposing to construct a new generating plant on the project site to replace the existing steam plant. The planned project area encompasses areas of known spills of petroleum products. The field activities, supervised by Mr. Narea, included the investigation of deep bedrock for manufactured gas plant (MGP) impacts, which included the collection of 30 rock cores. Rock cores were visually inspected and screened with a PID by Mr. Narea for MGP impacts, and the RQD for each rock core was recorded. Mr. Narea also supervised the delineation of petroleum contaminated soil and light non-aqueous phase liquid (LNAPL) within the planned project site via installation of soil borings and groundwater monitoring wells, and performed sub-slab soil vapor sampling in the basement of maintenance building on the project site. Mr. Narea prepared the Site Investigation Report which included groundwater surface elevation contour maps and recommendations for remediation.

Long Island Rail Road (LIRR) West Side Storage Yard (NYSDEC Spill No. 0407411) in Manhattan. Mr. Narea served as the project geologist and assistant project manager for the environmental investigation of an open spill case which was assigned to the Long Island Rail Road (LIRR) West Side Storage Yard (NYSDEC Spill No. 0407411) in Manhattan. The field activities, performed in accordance with a NYSDEC-approved work plan and supervised by Mr. Narea, included installation and sampling of groundwater monitoring wells, characterization of the local groundwater flow regime, a tidal influence study, and the delineation of petroleum contaminated soil and groundwater. The field activities were performed on an active rail yard with limited site access, adjacent to the Hudson River, and at NYSDEC's request included collecting groundwater samples from each monitoring well at multiple depth intervals using low-flow sampling techniques. Mr. Narea prepared the RI Report which included high and low tide groundwater surface elevation contour maps and detailed recommendations for future site management activities.

SPECIALIZED TRAINING

- OSHA 40-Hour Hazardous Waste and Emergency Response Training
- OSHA 8-Hour Hazardous Waste and Emergency Response Refresher Training
- LIRR Roadway Worker Protection Training

TRC

STEPHEN TARANTO, P.G.

EDUCATION
B.A., Geology, Hamilton College, 2001

PROFESSIONAL REGISTRATIONS
Professional Geologist, Pennsylvania, 2007 (#PG004782)
NJDEP UST Subsurface Evaluation, New Jersey, 2004 (#207332)

REPRESENTATIVE EXPERIENCE
Mr. Taranto has experience with environmental investigations associated with the Industrial Site Recovery Act (ISRA), leaking underground storage tanks (USTs) and environmental due-diligence investigations associated with property transactions. He has been involved with various Site/Remedial Investigations of known or suspected contaminated sites. His work on these projects includes soil/groundwater sampling for investigation, delineation and monitoring purposes, installation of bedrock and overburden monitoring wells, subsurface evaluation for UST closures, oversight of remedial activities and vapor intrusion evaluation/investigation. He has also been involved with aquifer pumping tests and geophysical testing for water supply projects. Mr. Taranto is familiar with NJDEP requirements as well as analytical methods used for the collection of "Analyze Immediately" water chemistry parameters.

Remedial Investigation, Former Safer Textiles, Moonachie, New Jersey
Responsible for performing field tasks associated with the remedial investigation activities at this former textile manufacturing facility. Work at this site included logging of soil borings, and collecting soil delineation samples at this DNAPL contaminated site. The field screening methods included PID screening and the use of hydrophobic dyes to delineate the extent of liquid phase chlorinated solvents. Other tasks included the installation and sampling of temporary wells and quarterly sampling of permanent monitoring wells for dissolved phase contamination.

Remedial Investigation, ExxonMobil, Hopewell, New Jersey
Responsible for performing remedial investigation activities at this petroleum company's former research and development facility. Work at this site included quarterly ground water elevation measurements at monitoring wells and surface water points, sampling of ground water monitoring wells, and delineation of dissolved phase volatile organic compounds within the bedrock aquifer. The delineation of the ground water contamination involved the completion of bedrock boreholes, geophysical logging of open boreholes, packer-testing and installation of overburden and bedrock monitoring wells.

Site Investigation, Former Lyons, Paterson, New Jersey
Responsible for remedial investigation activities at this former manufacturing complex that is being redeveloped for reuse as retail property. Activities included installation of shallow overburden, deep overburden, and bedrock monitoring well clusters. Collection of ground water samples for VOC analysis. Installation of approximately 20 temporary monitoring wells for delineation of dissolved phase VOC plume. Assisted in obtaining monitoring well construction variances from the NJDEP for temporary and permanent monitoring wells that had to be installed/constructed in a manner inconsistent with regulations. Coordinated acquisition of bedrock geophysical data from existing on-site potable wells. Evaluated geophysical data and assisted in refinement of existing bedrock hydrogeologic frame-work model for the site. Coordinated design and construction of remote well sampling system required for wells within footprint of proposed retail building.

Site Investigation, Middlesex County Utilities Authority, Woodbridge/Sayreville, New Jersey
Oversight of combined geotechnical/environmental investigation and preparation of environmental report used in the design and construction phases of a tunneling project for a sanitary sewer force-main proposed beneath the Raritan River. Responsible for oversight of driller installing geotechnical borings in the vicinity of proposed vertical shaft locations. Responsible for characterization, field screening, and subsurface soil sample collection for both geotechnical and environmental purposes. Preparation of environmental investigation report used for tunnel design and construction bid documents.

Remedial Investigation/Action, New Jersey Transit, Union City, NJ
Planning/execution of field activities and preparation of the semi-annual remedial action progress reports for the NJDEP. Activities include monthly manual LNAPL recovery from monitoring wells, quarterly low flow ground water sampling for volatile and semi-volatile organic compounds, total lead and dissolved lead in thirteen shallow overburden monitoring wells. Prepared site specific UST Closure Plan/HASP, solicited proposals from sub-contractors and submitted application forms to NJDEP BUST for UST removal. Organized and lead a soil boring and temporary well investigation to delineate known contaminated areas as well as areas of suspected contamination. Prepared *Remedial Investigation Report* summarizing the results of the soil and ground water sampling. Helped prepare design and bid documents associated with the proposed treatment system.

UST Removal Subsurface Evaluation, Thermo Electron Corporation, Copiague, New York
Oversight of UST removal and UST system testing for client (tenant), prior to termination of lease. Field direction of UST tightness testing performed to document the integrity of the UST system. Oversight of the removal of an out-of-service UST. Directed soil excavation based on results of field screening and collected post-excavation soil samples to document removal of petroleum impacted soil. Coordinated with state and local regulatory agencies for inspection and approval of the tank excavation following UST and soil removal. Assisted with preparation of *Remedial Action Report*. Remedial action was approved by local health department as well as NYDEC.

SPECIALIZED TRAINING

- OSHA 40-hour Health and Safety Training, 2001
- OSHA Construction Safety Outreach Training, 2002
- OSHA 8-Hour Supervisor Training, 2003
- Permit Required Confined Space Entry OSHA Cert. 2004
- NJDEP Triad 1-day Seminar, 2004
- Ground Water Flow in Fractured Bedrock Aquifers of the Newark Basin – Apr. 2005

TRC

ANGELA OLDENBURG

EDUCATION

M. S., Environmental Studies, Adelphi University, 2007
B.A., Anthropology, Adelphi University, 2006

AREAS OF EXPERTISE

Ms. Angela Oldenburg's possesses three years of experience in the field of environmental science and consulting. Ms. Oldenburg worked for the New York City Urban Parks Department where she taught young children in the field of environmental science in such areas as ecology, conservation, and energy use. At TRC Ms. Oldenburg has provided a broad range of environmental consulting services to public and private-sector clients including the New York City School Construction Authority, Queens West Development Corporation, New York City Economic Development Corporation, and the Consolidated Edison Company of New York. Serving as a Project Scientist at TRC, Ms. Oldenburg's has developed expertise in site characterization, remedial investigation, soil vapor intrusion investigation and site management.

REPRESENTATIVE EXPERIENCE

Site Management Plan (SMP) for OUs 1 and 2 of the Queen West Development - Stage 2 Site, an approximately 12-acre portion of the site of a former oil refinery in Long Island City, New York. Ms. Oldenburg serves as the Project Manager for implementation of the Site Management Plan (SMP) for OUs 1 and 2 of the Queen West Development - Stage 2 Site, an approximately 12-acre portion of the site of a former oil refinery in Long Island City, New York (NYSDEC VCP Site Nos. V00505A and V00505B). Prior use of the property resulted in metals and petroleum-related contamination in soil and groundwater. Ms. Oldenburg's responsibilities include managing and conducting quarterly groundwater sampling events, management and evaluation of laboratory analytical data, sub-slab vapor sampling in newly constructed high-rise residential buildings on the site, oversight of utility clearance utilizing ground penetrating radar (GPR), supervising the installation of monitoring wells, developing recommendations for supplementary remedial actions, and preparing quarterly groundwater sampling reports and annual reports, all in accordance with NYSDEC-approved Site Management Plans. As part of Ms. Oldenburg's responsibilities in connection with this project she recently developed plans, which were approved by NYSDEC Region 2, for an additional round of injection of oxygen release compound to reduce the concentrations of petroleum-related VOCs in an on-site groundwater monitoring well.

New York City School Construction Authority. Under TRC's on-call hazardous materials services contract with the New York City School Construction Authority (NYCSCA), Ms. Oldenburg has served as a Senior Project Scientist for over fifteen (15) environmental site assessments (site characterizations) in connection with planned new construction and alteration of New York City public school sites. Ms. Oldenburg's responsibilities included scoping and implementation of Phase I Environmental Site Assessments, Phase II Environmental Site Investigations, oversight of utility clearance utilizing GPR, indoor air quality assessments, soil vapor samplings, soil sampling, water quality testing, groundwater sampling, evaluation of laboratory analytical data, and related report preparation. In addition, under TRC's on-call contract with the NYCSCA Ms. Oldenburg has been responsible for over five (5) projects involving construction management of soil remediation and underground storage tank closures.

NYSDEC approved Remedial Action Work Plan (RAWP) for the Lands Ends Apartments in New York City, New York. Ms. Oldenburg served as a Senior Project Scientist for implementation of the NYSDEC approved Remedial Action Work Plan (RAWP) for the Lands Ends Apartments in New York City, New York. Ms.

Oldenburg's responsibilities included preparing the site health and safety plan; oversight of utility clearance utilizing GPR, oversight of removal of underground storage tanks, soil management, and injection of oxygen release compound; and managing and conducting quarterly groundwater sampling.

Hudson Avenue Generating Station (HGS), an active electric and steam generating plant, located in Brooklyn, New York, owned by Consolidated Edison. Ms. Oldenburg served as a Senior Project Scientist for the environmental site assessment (site characterization) for the 12-acre Hudson Avenue Generating Station (HGS), an active electric and steam generating plant, located in Brooklyn, New York, owned by Consolidated Edison. Ms. Oldenburg's responsibilities included preparation of a comprehensive Phase I Environmental Site Assessment of the HGS and preparation of the Phase II Environmental Site Assessment Work Plan.

Waterside Station (NYSDEC VCP Site Nos. V00429 - V00432), a former manufactured gas plant and fuel oil and gas-fired steam and electric generating facility in midtown Manhattan. TRC completed abatement, decommissioning and remediation of the 7-acre Waterside Station (NYSDEC VCP Site Nos. V00429 - V00432), a former manufactured gas plant and fuel oil and gas-fired steam and electric generating facility in midtown Manhattan. Following remediation, Ms. Oldenburg was responsible for implementation of the site management plan. Ms. Oldenburg managed and conducted quarterly groundwater sampling events and related reporting to NYSDEC, including preparation of quarterly groundwater sampling reports. NYSDEC has recently determined additional groundwater monitoring is no longer required.

New York City Economic Development Corporation, Brooklyn Cruise Terminal in Brooklyn, New York and at an automobile parking garage in Manhattan. Under TRC's on-call environmental services contract with the New York City Economic Development Corporation, Ms. Oldenburg was responsible for an environmental site assessment and site investigations at the Brooklyn Cruise Terminal in Brooklyn, New York and at an automobile parking garage in Manhattan. Responsibilities included oversight of utility clearance utilizing GPR, oversight of the injection of Adventus EHC-O (an oxygen-releasing compound), and preparation of a Phase I Environmental Site Assessment report.

Long Island Rail Road Morris Park Yard, Queens, New York. Ms. Oldenburg served as the project scientist for the remedial investigation performed by TRC of the Long Island Rail Road Morris Park Yard in Queens, New York. The focus of the RI was to identify the source and extent of chlorinated fluorocarbons and chlorinated volatile organic compounds in the upper glacial aquifer over 100 feet deep, overlying subsurface soil and shallow and deep soil gas. Ms. Oldenburg served as one of the primary authors of the RI report which included an assessment of potential off-site sources based on the results of sampling of deep upgradient off-site groundwater monitoring wells; research and evaluation of historic and current potential upgradient sources; and mapping of the surface elevation of the clay layer underlying the upper glacial aquifer. Ms. Oldenburg's responsibilities also include conducting quarterly groundwater monitoring at the LIRR Morris Park Yard.

SPECIALIZED TRAINING

- OSHA 40-Hour Hazardous Waste and Emergency Response Training
- OSHA 8-Hour Hazardous Waste and Emergency Response Refresher Training
- MTA Long Island Rail Road Roadway Protection Training
- Asbestos Awareness Training

TRC

MENACHEM C. SOKOLIC

EDUCATION

M.A., Environmental Science w/Conc. Environmental Management, Montclair State University, 2007
B.S., Environmental Science (Honors), Kingston Upon Thames University, England, 2000

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

New Jersey Underground Storage Tank (UST) Subsurface Evaluator (No. 207326), 2006
Certified Microbial Remediator, Indoor Air Quality Association (No. CMR 03181)

AREAS OF EXPERTISE

Mr. Menachem Sokolic has program management and technical experience in the following general areas:

- Project Management
- Due Diligence
- ISRA Compliance
- Preliminary Assessments
- Site and Remedial Investigations
- Aboveground and Underground Storage Tank Closures
- Indoor Environmental Air Quality Investigations
- Soil and Groundwater Remediation

REPRESENTATIVE EXPERIENCE

TRC Environmental Corporation, Inc. (Formerly TRC Raviv Associates, Inc.), Millburn, New Jersey

Mr. Sokolic conducts, manages, and reviews due diligence and site investigation projects. Mr. Sokolic prepares, budgets, proposals, and reports, establishes priorities for staff members; coordinates and supervises field activities; and serves as a primary liaison for client and regulatory agency communications. As Project Manager, Mr. Sokolic prepares documents required for ISRA compliance projects, including Preliminary Assessment reports, Site Investigation reports, and Remedial Investigation workplans and reports. In addition, Mr. Sokolic prepares Phase I Environmental Site Assessments and coordinates Phase II subsurface investigations and appropriate remedial measures.

GZA GeoEnvironmental, Inc. - Wayne, New Jersey

In addition to the above activities currently performed at TRC, Mr. Sokolic supervised and/or managed environmental hazard site inspections (including asbestos, lead-based paint, and mold), underground storage tank (UST) and aboveground storage tank (AST) closure activities, indoor environmental air quality investigations, construction oversight, geotechnical subsurface investigations, and soil and groundwater remediation activities. Mr. Sokolic served as an Environmental Scientist for a broad range of environmental and geotechnical projects, including the collection and laboratory analyses of air, bulk, soil, and groundwater samples.

SPECIALIZED TRAINING

- Forty-Hour Occupational Health and Safety Training Program, 29 CFR 1910.120, OSHA, January 2001.
- 8-Hour Supervisor Training Program, 29 CFR 1910.120 and 1926.65, OSHA, November 2001.
- *Due Diligence at Dawn, Environmental Data Resources, Inc., 2001*
- Mold, Allergens, Sampling, and Report Interpretation Training Seminar, Environmental Microbiology Laboratory, Inc., May 2005.
- Fundamentals of Project Management Training Course, GZA GeoEnvironmental, Inc., April 2005.

- *The Groundwater Pollution and Hydrology Course, Princeton Groundwater, Inc., February, 2006*
- Annual 8-Hour Refresher Course, 29 CFR 1910. 120, OSHA, December 2006.
- Environmental Site Assessments for Commercial Real Estate, ASTM, June 2007

PROFESSIONAL AFFILIATIONS

- American Water Resource Association (AWRA)
- National Groundwater Association (NGWA)
- National Association of Toxic Mold Remediators
- Indoor Air Quality Association
- Phi Kappa Phi Honor Society
- UJA Northern New Jersey (UJA NNJ) Young Professional Association
- Young Real Estate Professionals New York (YREPNY)

LINDSAY METCALF

EDUCATION

B.A., Environmental Studies, Union College, 2007

AREAS OF EXPERTISE

Ms. Metcalf's background includes three years of experience in the field of environmental science/environmental consulting in New York State, encompassing:

- Environmental Site Assessments and Audits
- Soil and Groundwater Remediation
- Ambient Air Monitoring
- Indoor Air Quality Assessments

REPRESENTATIVE EXPERIENCE

Ms. Metcalf's experience includes: Environmental Site Assessments, hazardous materials building assessments, remediation oversight, LNAPL remediation systems (product skimmers) installation oversight, monitoring well/product gauging and LNAPL extraction, monitoring well installation oversight, soil sampling, groundwater sampling, implementation of Community Air Monitoring Plans (CAMP) and air monitoring, and fuel release investigations. Ms. Metcalf's background includes service to public and private-sector clients including Queens West Development Corporation, New York City School Construction Authority, Long Island Railroad, Consolidated Edison Company of New York, Inc., and Liberty Mutual Insurance Company. She currently serves as a Project Scientist for TRC.

Queens West Development – Stage 2 Site; Long Island City, NY

Ms. Metcalf serves as the lead Project Scientist for environmental tasks relating to the remediation of Operable Units (OUs) 3 and 4 of the Queens West Development – Stage 2 Site (NYSDEC VCP Site Nos. V00505C and V00505D, BCP Site Nos. C241095 and C241096) in Long Island City, Queens, NY. The site is an approximately nine-acre parcel which is the location of a former oil refinery. Prior use of the property resulted in metals and petroleum-related contamination in soil and groundwater, including an approximately one-acre LNAPL plume. Ms. Metcalf has been responsible for in-place waste characterization sampling, remedial construction oversight, installation of over 50 soil borings and collection and characterization of soil samples, supervision of the installation of over 50 groundwater monitoring wells, weekly LNAPL vacuum extraction oversight, monitoring well development, groundwater sampling, implementation of the CAMP, and oversight of utility clearance utilizing ground penetrating radar (GPR), and all related reporting. In addition, Ms. Metcalf provided field oversight during implementation of a large scale chemical oxidation pilot test using a soil-mixing rig outfitted with an injection tool and direct push injection. Ms. Metcalf assumed lead project scientist responsibilities in preparation of various reports for this Site, including the In-Situ Chemical Oxidation Pilot Test Report, a Post-Remediation Sampling Report, the Final Engineering Report for OU3, and a Remedial Action Work Plan Amendment.

New York City School Construction Authority; New York, NY
Ms. Metcalf serves as an environmental scientist performing site assessments for new construction and renovations of New York City Public Schools. Responsibilities include the performance of Phase I Environmental Site Assessments, Phase II Environmental Site Investigations, Indoor Air Quality Investigations, and Outdoor Air Assessments.

Long Island Rail Road, Morris and Richmond Hill Yard Parks; Queens, NY
Ms. Metcalf serves a project scientist for the Long Island Rail Road in Queens, NY. Responsibilities include conducting quarterly groundwater sampling events.

Consolidated Edison Company of New York, Inc.; 59th Street Substation, Manhattan, NY
Ms. Metcalf performed air monitoring for ammonia during chemical cleaning activities and collected integrated air samples for laboratory analysis. When elevated levels of ammonia were identified, Ms. Metcalf informed the on-site Con Edison representative and workers either increased their level of PPE to complete the work or cordoned off the work area to restrict access.

Consolidated Edison Company of New York, Inc.; Newtown SS Project, Long Island City, NY
Ms. Metcalf provided drilling subcontractor oversight of geotechnical boring installations throughout this property. Ms. Metcalf collected and characterized soils for delineation purposes and in-situ waste characterization profiling to support a "load and go" scenario for future soil excavation and off-site transportation and disposal. Following the field work and in accordance with the regulatory agency-approved Remedial Action Work Plan (RAWP), Ms. Metcalf provided contractor oversight of three chemical oxidation injection events each consisting of 81 injection locations on-site to address residual petroleum impacts in the soil and groundwater. In addition, Ms. Metcalf performed low-flow groundwater sampling and managed the community air monitoring program (CAMP) for monitoring well decommissioning, soil excavation, and the groundwater remediation activities. Following the implementation of agency-approved RAWP, Ms. Metcalf prepared the Final Engineering Report.

Consolidated Edison Company of New York Inc.; Hudson Avenue Hazardous Material Inventory Assessment, Brooklyn, NY
Ms. Metcalf assisted with the preparation and implementation of a hazardous material inventory assessment. In the field, Ms. Metcalf recorded the description, location, specifications, and potential environmental concerns of regulated and hazardous building materials in support of proposed demolition. In addition, Ms. Metcalf collected samples for laboratory analysis of potentially hazardous materials consisting of paint chips, window caulking, liquid chemicals, solid chemicals, and dusts/residues.

SPECIALIZED TRAINING

- OSHA 40-Hour HAZWOPER Training (June 2007) and 8-hour Refresher (October 2009)
- OSHA 10-Hour Construction Safety and Health Training (October 2008)

DANIEL H. WARREN

EDUCATION

B.Sc., Horticulture, Magna cum Laude, University of Connecticut, 2007

AREAS OF EXPERTISE

Mr. Daniel H. Warren, has field experience in the following general areas:

- Environmental Site Investigation
- Groundwater and Soil Remediation
- Remediation Systems Operations Management and Maintenance
- Underground Storage Tank Removal
- Hazardous Waste Assessment

REPRESENTATIVE EXPERIENCE

Mr. Warren has over two years of experience working in the professional field of environmental science. His qualifications include field investigation and plant facilities operations.

Former Mattiace Petrochemical Superfund Site- Glen Cove, NY

For over a year Mr. Warren served as plant operator and now serves as plant manager of the groundwater and soil vapor extraction and treatment facility at the Mattiace Petrochemical NPL site (NYSDEC Site Registry No. 130017) in Glen Cove, New York. The treatment system includes a metals removal train with pH adjustment, flocculation, precipitation, and filtering unit operations, as well as a stacked tray air stripper and granular activated adsorption vessels for removal of VOCs. His responsibilities have included operation and maintenance optimization, monthly and semi-annual reporting to USEPA and assisting with the development of a phytoremediation and enhanced biorestoration system, including preparation of a Focused Feasibility Study. Also, Mr. Warren was responsible for effluent sampling and compliance reporting in connection with the permitted treated water discharge to the publicly owned treatment plant. Mr. Warren has been responsible for implementing a variety of process modifications, including installation of a network of bladder pumps for groundwater extraction and installation of an automated LNAPL removal skimmer and pump system in an existing deep groundwater monitoring well at the site.

Ferry Point Partners, Ferry Point Park- Bronx, NY

Under TRC's contract with the New York City Department of Parks and Recreation, Mr. Warren performed methane monitoring and site inspections at the 200+ acre Ferry Point Park site which is located in the Bronx, NY and was a former landfill. His responsibilities included monitoring of more than 60 landfill gas monitoring points using a portable methane monitoring device. Mr. Warren also performed subsurface soil vapor characterization investigations across the entire site in connection with a pre-design study to determine landfill gas control needs required in connection with development of the site into a public golf course.

New York City School Construction Authority, New York City, NY

Under TRC's on-call hazardous materials services contract with the New York City School Construction Authority (NYCSCA), Mr. Warren has been responsible for performing the field activities in support of

several Phase II environmental site investigations at properties being considered for construction of New York City public schools. Mr. Warren has been responsible for groundwater, soil and soil vapor sampling. In addition, at an existing public school in upper Manhattan (PS 192M), in connection with an active spill case (NYSDEC Spill No. 0301927), Mr. Warren was responsible for field activities for pilot testing of a belt skimmer to recover No. 6 fuel oil below the building basement floor. Mr. Warren procured, set up, monitored, tested, optimized and reported on the performance of the belt skimmer, which has been effective at removal of the fuel oil from below the basement floor.

Long Island Railroad- New York City, NY
Under TRC's general engineering contract (GEC) for environmental services with the MTA Long Island Rail Road (LIRR), Mr. Warren serves as Field Team Leader for quarterly groundwater sampling at the Morris Park Yard which has been impacted by petroleum releases (NYSDEC Spill Nos. 92-12990 and 89-08760). His responsibilities include field activity management and report preparation for a groundwater monitoring well network consisting of over 50 wells. Mr. Warren also serves as a coordinator for bi-weekly groundwater sampling associated with a product recovery and bioamendment remediation system at the site.

Avis Budget Group, Inc.- New York City, NY
Mr. Warren serves as the field investigator and assistant project manager for various Avis Budget Group car rental facilities with underground storage tanks and active spill cases in New York City (NYSDEC Spill Nos. 95-00664, 99-14694, 07-11724 and 09-07633). His responsibilities have included site investigation, oversight of tank closures and removals, closure report preparation, and oversight of a third party remedial excavation project.

Con-Edison, New York City, NY
Mr. Warren served as a field investigator for various abandoned facilities in New York City. Responsibilities included inspection, documenting and sampling of potentially hazardous waste.

SPECIALIZED TRAINING

- 40-Hour OSHA Health and Safety Training, January 2008
- 8-Hour OSHA Health and Safety Training, January 2009
- Confined Space Health and Safety Training, June 2008
- Asbestos Awareness Health and Safety Training, June 2008

PROFESSIONAL AFFILIATIONS

- Gamma Sigma Delta, Honorary Society of Agriculture

TRC

WES D. LINDEMUTH

EDUCATION

B.S., Environmental Science, Kutztown University, 2004

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

NYSDOL – Certified Asbestos Air Technician (No. 06-04502)
NYSDEC – Erosion and Sediment Control Training (No. 8492)

AREAS OF EXPERTISE

Mr. Wes D. Lindemuth, has technical experience in the following general areas:

- Environmental Remediation
- Construction Inspection and Construction Management
- Environmental Site Assessments and Audits
- Site Investigations
- Underground Storage Tank Investigation, Testing, Removal, and Closure
- Hazardous Materials Building Inspections
- Asbestos, Lead Based Paint, and Mold Surveys
- *Indoor Air Quality Surveys*
- Ambient Air Monitoring
- Soil Vapor Intrusion Investigations

REPRESENTATIVE EXPERIENCE

Mr. Lindemuth has over five years of experience and has been assigned progressively increasing responsibilities in environmental consulting. His experience includes oversight of environmental remediation, construction inspection and construction management, environmental investigations, permitting, cost estimating, and project management. Mr. Lindemuth's background includes service to public and private-sector clients including Queens West Development Corporation, New York City School Construction Authority, New York City Economic Development Corporation, Con Edison, Lower Manhattan Development Corporation, and a large real estate investment trust (REIT). He currently serves in the capacity of Assistant Project Manager in TRC's Remediation Practice and is based in the New York City office.

Queens West Development – Stage 2 Site, Operable Units 3 and 4, Long Island City, New York

Mr. Lindemuth served as the site construction manager during the first phase of remediation of Operable Units (OUs) 3 and 4 (NYSDEC BCP Site Nos. C241095 and C241096) of the Queens West Development – Stage 2 Site. OUs 3 and 4 consist of over 9 acres being developed for primarily residential and public recreational uses. The site is the location of a former oil refinery in Long Island City adjacent to the East River. Under the supervision of Mr. Lindemuth over 90,000 tons of contaminated soil were excavated under negative pressure enclosures (tents) for off-site disposal. Mr. Lindemuth also oversaw the removal of LNAPL via high vacuum extraction and implementation of an in-situ chemical oxidation pilot test using direct injection methods and a 5-foot diameter soil mixing/injection tool. Mr. Lindemuth was also responsible for post-excavation (end point) soil sampling, and post-remediation groundwater monitoring well construction and sampling and soil gas sampling. Mr. Lindemuth is presently the site manager for supplemental remediation

activities on the BCP Sites and in this capacity his responsibilities include overseeing excavation of approximately 10,000 yards of "grossly contaminated" soil below a lower permeability "peat" layer and the water table. In this capacity Mr. Lindemuth's responsibilities include daily reporting to NYSDEC Region 2, oversight of excavation, dewatering, management of separate phase product, off-site transportation and disposal of excavated material, post-excavation sampling, procurement of clean soil backfill, backfilling of excavations and implementation of the site stormwater pollution prevention plan, community air monitoring plan and health and safety plan.

New York City School Construction Authority, New York, New York
Under TRC's "on call" hazardous material services contract with the New York City School Construction Authority (NYCSCA) Mr. Lindemuth has performed environmental site assessments, remedial investigations and indoor air quality surveys and oversight in connection with remediation projects at many New York City school sites. Mr. Lindemuth has completed over 25 Phase I Site Assessments and 10 Phase II Environmental Site Investigations in connection with proposed New York City School sites. Mr. Lindemuth's responsibilities have included all aspects of preparation of Phase I ESA reports and all elements of field investigations, subcontractor supervision and report writing associated with completion of Phase II ESIs. Additionally, Mr. Lindemuth has supervised the removal of underground storage tank systems and remediation of contaminated soil at five New York City school sites.

NYC Economic Development Corporation – Brooklyn, NY
Under TRC's "on-call" environmental consulting services contract with the New York City Economic Development Corporation, Mr. Lindemuth was responsible for construction oversight during preparation of the Bush Terminal Landfill for development into a park. Responsibilities included oversight of dynamic compaction activities on the landfill, storm water management, remedial investigations, and the performance of soil gas sampling.

Con Edison Inc., NY
Mr. Lindemuth served as Assistant Project Manager during subsurface investigations and hazardous materials building inspections at Consolidated Edison properties in Brooklyn including at the Hudson Avenue Generating Station. His responsibilities included oversight of Phase II Environmental Site Investigations and performing inspections of former substations to identify hazardous materials and characterize waste streams.

AIMCO, West Harlem Portfolio – Manhattan, NY
Mr. Lindemuth has performed pre-acquisition due diligence surveys for 95 apartment buildings located throughout Harlem, New York for AIMCO, a real estate investment trust company. His responsibilities also included preparation of Phase I Environmental Site Assessments reports for each property and radon sampling. Additionally, Mr. Lindemuth has provided construction oversight for remediation projects and oversaw the removal of an underground storage tank system, in-situ chemical oxidation for groundwater remediation, and several Phase II Environmental Site Assessments for AIMCO.

TRC

HENRY DELGADO

EDUCATION

A.A.S., Applied Sciences, Bergen Community College, 2006

AREAS OF EXPERTISE

Mr. Henry Delgado has nearly two years experience encompassing:

- Drafting and design technology
- HVAC system design
- Heat loss and Heat Gain scenario calculations
- Site and floor plans and elevations
- 3-D models

REPRESENTATIVE EXPERIENCE

Mr. Delgado has experience and progressive responsibility as CAD operator for TRC within the Remediation and Site Assessment Practice where his responsibilities include implementing CAD and graphic support services for environmental remediation and design projects. His qualifications include extensive use of AutoCAD, Architectural Desktop 3.3 and 2006, as well as Microsoft Office software. Mr. Delgado's project experience includes:

City of Danbury, New Vehicle Fueling Station – CT

Mr. Delgado assisted with design of the new vehicle fueling facility for the City of Danbury, Connecticut including the preparation of detailed AutoCAD drawings.

City of Danbury, CAD Stormwater Management Plans at Danbury Facilities – CT

Mr. Delgado prepared Site Plan drawings in AutoCAD in connection with the Stormwater Management Plans for the City of Danbury Department of Public Works Complex and the City's Water Pollution Control Plant.

Former Mattiace Petrochemical Superfund Site – Glen Cove, NY

Mr. Delgado prepared groundwater surface water elevation contour maps using Land Desktop (AutoCAD) for the Former Mattiace Petrochemical Superfund Site in Glen Cove, NY. Mr. Delgado worked directly with the Project manager and remediation managers on site drawings and maps.

Queens West Development, Stage 2 Site – Long Island City, NY

Mr. Delgado prepared AutoCAD drawings for the sub-slab depressurization systems for new construction of residential high rise apartment buildings for the Queens West Development site in Long Island City, Queens. Mr. Delgado worked with the Project Manager and remediation system designer on detailed project drawings.

Municipal Building Consultants Inc., CAD and Drafting Services – NY

Mr. Delgado was responsible for the design of suspended scaffold projects using Computer Aided Design (CAD). For various end clients, he scheduled site visits to assess the site conditions, validate data and discuss project specifics with end client managers. Additionally, Mr. Delgado expedited drawing/CAD files to the NYC Department of Buildings for approval.

Section E

NAMES, TITLES AND HOURLY RATES

Name	Project Title	Hourly Rate
	Principal / Contract Manager	$225.00 (*)
	Client Relations Manager	$50.48
	Sr. Technical Advisor	$225.00 (*)
	Sr. Technical Advisor	$225.00 (*)
	QA/QC Officer	$45.40
	Health and Safety Officer	$59.12
	Certified Industrial Hygienist	$225 (*)
	Program Manager	$225 (*)
	Program Manager	$225 (*)
	Program Manager/Sr. Engineer	$81.66
	Program Manager/Sr. Engr.	$63.46
	Program Manager/Sr. Engineer	$77.91
	Program Manager/Sr. Geologist	$82.20
	Sr. Project Manager	$65.39
	Sr. Project Manager	$64.90
	Sr. Project Manager	$57.43
	Sr. Project Manager/Sr. Engineer	$65.14
	Sr. Project Manager/Sr. Engineer	$61.11
	Sr. Project Manager/Sr. Geologist	$54.75
	Sr. Project Manager/Sr. Geologist	$47.71
	Sr. Project Manager/Sr. Scientist	$67.50
	Sr. Project Manager/Sr. Scientist	$55.29
	Project Manager	$45.68
	Project Manager	$56.73

Name	Project Title	Hourly Rate
	Sr. Engineer	$57.93
	Sr. Engineer	$73.54
	Sr. Engineer	$57.69
	Sr. Engineer	$45.29
	Sr. Engineer	$61.97
	Sr. Geologist	$64.78
	Sr. Geologist	$51.49
	Sr. Scientist	$50.20
	Sr. Scientist	$58.16
	Sr. Scientist	$50.09
	Toxicologist	$53.70
	Risk Assessor	$35.98
	Risk Assessor	$53.86
	Project Engineer	$33.66
	Project Engineer	$35.58
	Project Engineer	$28.85
	Project Geologist	$35.58
	Project Geologist	$30.84
	Project Scientist	$30.29
	Project Scientist	$35.70
	Project Scientist	$29.81
	Project Scientist	$25.00
	Project Scientist	$32.21
	CADD Technician	$24.04

(*) Billing Rate

Premium Pay Policy: Non-exempt employees (**) will be paid one and one half times their regular hourly pay rate for all hours worked in excess of forty (40) hours each work week. All others will be invoiced at the straight time rate for premium time. There are no premium pay policies related to holidays, shift differentials, weekend and night work or union required payments.

RELEVANT EXPERIENCE

TRC Engineers, Inc. (TRC) is a wholly owned subsidiary of TRC Companies, Inc., a **$432 million** publicly-owned corporation traded on the New York Stock Exchange. TRC is a leader in the environmental field, with extensive experience in the areas of:

- Environmental Site Assessments and Site Investigations
- Remedial Design and Cost Estimating Services
- Remedial Construction Management Services
- Remedial System Operations, Maintenance and Monitoring
- Underground Storage Tank Management
- Indoor Air Quality Management
- Emergency Response Services
- Environmental Compliance Audits
- Toxicology and Risk Assessment
- PCB Remediation

For over 40 years TRC has provided technically sound and cost-effective environmental consulting and engineering services to many New York and New Jersey agencies and authorities. **TRC will manage this project primarily from our New York City office in Midtown Manhattan, and our Millburn, New Jersey office, with staff experienced in managing multi-site, multi-task environmental engineering services contracts.** TRC's East Region Remediation and Site Assessment Practice includes over 175 environmental professionals in the northeast, which enables TRC to apply resources to immediately respond to any Port Authority environmental need in a timely and cost-effective manner. TRC routinely incorporates sustainable practices into environmental engineering services. If among the Port Authority's needs, TRC will incorporate consideration of energy efficiency, waste minimization, air and water emissions, and land and ecosystem improvements into the services we provide.

Several TRC senior staff members have held high positions with the New Jersey Department of Environmental Protection (NJDEP), and continue to serve on regulatory advisory committees. **TRC staff serve as instructors at Rutgers University (Office of Continuing Professional Education) for the "Regulatory Training in Underground Storage Tanks" course, which is required for individuals seeking NJDEP certification for installation, closure and testing of USTs and certification to perform subsurface evaluations in connection with USTs.** TRC staff also serve as members of the NJDEP's Site Remediation Advisory Group, on Governor Christie's Environmental Transition Team, on NJDEP's new Science Advisory Board, and on the Communications outreach committee for the Licensed Site Remediation Professionals Association (LSRPA). In May 2009, New Jersey's Site Remediation Reform Act (C.58:10C-1 et seq.) (SRRA) was signed into law and TRC, as a member of the LSRP Consultant Coalition, played a significant role in assisting with the development of the new law. ***Presently TRC has more NJDEP LSRPs than any other firm.***

UNDERSTANDING OF SERVICES REQUIRED

TRC has reviewed the RFP for the Performance of Expert Professional Environmental Engineering Services as Requested on a "Call-In" basis during 2011 and has an understanding of the services and commitment required. TRC has extensive experience and qualified professionals available to serve the Port Authority in each of the service areas identified in the RFP. **TRC has provided similar environmental engineering services to local agencies and authorities in support of construction of billions of dollars of capital projects,** including the MTA Long Island Rail Road (LIRR), New York City School Construction Authority (NYCSCA), New York City Economic Development Corporation (NYCEDC), New York City Department of Environmental Protection (NYCDEP), and Lower Manhattan Development Corporation (LMDC). TRC is prepared to dedicate staff in our NY and NJ offices to respond to the Port Authority's needs.

SUMMARY OF EXPERIENCE AND QUALIFICATIONS

Brief summaries of experience and qualifications for each of the Scope of Work items identified in Attachment A of the RFP are presented below.

SOIL & GROUNDWATER INVESTIGATIONS - TRC has preformed hundreds of soil and groundwater investigations in NY and NJ during the past three (3) years. In addition to routine soil and groundwater investigation techniques, **TRC's experience at sites in NY and NJ includes implementation of: expedited site assessments, surface water and sediment sampling, investigations in fractured bedrock, groundwater flow and contaminant transport modeling, aquifer testing and analysis, geophysical surveys, and tidal influence studies**. TRC has conducted site investigations inside of buildings, in waterfront areas, in and adjacent to the Hudson River, the East River and the Arthur Kill, in city streets and sidewalks, in congested private and public parking lots, in high level security government facilities, and in active rail yards and airports. TRC has extensive experience working with regulators in NY and NJ to achieve closure. Our clients have seen us facilitate closures for hundreds of projects directed by the NYSDEC and NJDEP. **As described further below, TRC has investigated soil and groundwater and provided engineering services for remediation of sites that are among the largest in NY and NJ including the Queens West Development – Stage 2 Site (on the East River in Long Island City), the Consolidated Avenue First Avenue Site (on First Avenue in Midtown Manhattan), the Bush Terminal Landfill (on Upper New York Bay in Brooklyn), the Bayway Petroleum Refinery (in Linden, NJ on the Arthur Kill) and the FAA Technical Center (in Atlantic City).** By way of example, TRC has characterized the aquifer beneath the FAA Technical Center through the installation and sampling of over 300 monitoring wells. At the Bayway refinery TRC installed over 500 groundwater monitoring wells, 1,500 soil borings and test pits, *and collected over 10,000 groundwater, soil and sediment samples.*

REMEDIATION DESIGN - TRC ranks among the top firms in the country in connection with providing environmental engineering services for remediation of sites in NY and NJ. TRC's remedial design, construction phase and OM&M experience includes: air sparging, biosparging, automated product recovery systems, soil vapor extraction, bioremediation/monitored natural attenuation, in-situ chemical oxidation, vapor intrusion mitigation, in-situ thermal treatment, dual-phase/multi-phase extraction, and permeable reactive barrier walls as well as traditional groundwater extraction and treatment and excavation and disposal techniques. Brief highlights of several examples of TRC's remedial design experience include the following:

- TRC was responsible for providing all of the engineering services for the over **$100 million decommissioning and remediation of the former Con Edison "First Avenue Properties"** encompassing a total of 9.2 acres located in mid-town Manhattan and the location a former power plant. TRC has successfully obtained closure of the former power plant site under the NYSDEC Voluntary Cleanup Program (VCP).
- TRC was responsible for providing all the engineering services for the over **$30 million remediation of the Queens West Development – Stage 2 Site**, under the NYSDEC VCP and Brownfield Cleanup Program (BCP).
- At the FAA Technical Center in NJ, **in connection with an AOC impacted by a 300,000-gallon jet fuel spill**, TRC designed a remediation system for groundwater extraction, soil vapor extraction, and free-phase product removal.

- TRC designed the hydraulic control system for the Sludge Lagoon Operable Unit (SLOU) at the Bayway Refinery in Linden, NJ. The hydraulic control system includes 21 dual pump extraction wells, thousands of feet of buried piping, and sophisticated instrumentation and controls

TRC has designed soil vapor intrusion mitigation systems in connection with dozens of capital construction projects in NY and NJ including warehouses, high-rise residential buildings, manufacturing facilities, and schools. **TRC has developed template design drawings and specifications for sub-slab depressurization for the NYCSCA, which are routinely incorporated into the bid packages for construction of new public schools**. Under the NYSDEC VCP TRC recently prepared the IRM Work Plan and performed pilot testing and **designed a sub-slab depressurizations system for a 200,000-square foot former manufacturing building in the City of Yonkers**, NY (the former Stewart EFI facility on Central Avenue). TRC's work plans, pilot test report, and design have all been approved by the NYSDEC and NYSDOH allowing the property owner to proceed with the sale of the facility.

COMPLIANCE AUDITS - TRC has been conducting environmental audits for over 30 years. Our staff has audited a full range of facility types: hazardous waste TSDFs, chemical facilities, power plants, landfills, warehouses, distribution centers, both light and heavy manufacturing, research and development (R&D), and engineering centers. We have provided environmental compliance services to public works facilities, governmental facilities, and Fortune 500 corporations. With TRC, the Port Authority would be retaining one of the most experienced environmental compliance auditing companies available, with over 400 audits being conducted across the US and in Canada and Mexico for numerous clients. TRC's staff includes Certified Professional Environmental Auditors (CPEAs) certified by the Board of Environmental Auditor Certifications (BEAC). TRC staff are also certified environmental compliance and ISO 14000 plus Environmental Management System (EMS) auditors. **TRC will only assign experienced auditors to Port Authority compliance audits.** TRC's proposed audit team leader has led more than 200 separate EH&S audits in his 20 year professional career and possesses a broad range of experience in auditing of marine terminals/ports and airport and other transportation facilities. We encourage the Authority to review the resume of Mr. Andrew Smyth, in Section D of this proposal.

UNDERGROUND STORAGE TANK ASSESSMENTS AND CLOSURES - TRC provides comprehensive services in all aspects of underground storage tank assessments and closures. **TRC's senior staff members have been teaching the NJDEP-required UST Regulatory Training Course at Rutgers University since 1991, as approved by the NJDEP's Underground Storage Tank Certification Program.** As a company, TRC is certified by the State of New Jersey to perform subsurface evaluations, and dozens of staff have been certified by the New Jersey Department of Environmental Protection (NJDEP) as subsurface evaluators. TRC has performed assessments and provided closure services in connection with hundreds of USTs in New York and New Jersey in the past three (3) years. For example, during this period TRC has investigated and prepared design drawings and specifications and provided construction phase engineering services for closure of tank systems at over 20 New York City school sites.

PHASE I ENVIRONMENTAL SITE ASSESSMENTS - In the past three (3) years TRC has prepared hundreds of Phase I Environmental Site Assessment and Preliminary Assessment Reports (PARs) for properties in New York and New Jersey in accordance with the ASTM Standard E1527 as well as the

NJDEP's *Technical Requirements for Site Remediation,* N.J.A.C. 7:26E et seq. **Each Phase I site assessment report prepared by TRC is a high quality, thorough and detailed assessment designed to limit future environmental liability, satisfy due diligence and innocent purchaser defense requirements, and, when applicable, complete the first step of New Jersey's site remediation process.**

For the NYCSCA alone since 2007 TRC has completed environmental site assessment of over one hundred existing and potential New York City public school sites. In addition, during this period TRC has also completed dozens of Phase I ESAs for the New York City Economic Development Corporation and NYCDEP. TRC was retained by the South Amboy Redevelopment Agency (SARA) to assist the City of South Amboy, NJ with remediating and revitalizing its contaminated waterfront area. TRC prepared preliminary assessment reports for the project area which encompassed several Brownfields, including two adjoining, vacant industrial properties situated on the Raritan Bay. TRC has also assisted SARA in the preparation of applications for funds from the Hazardous Discharge Site Remediation Fund Program and successfully obtained approval for two municipal grants. A Preliminary Assessment Report was also prepared by TRC for the "Overpeck Park Area 2" for the Bergen County Department of Parks.

RISK ASSESSMENTS - TRC's expertise in the assessment of human health risks is rooted in the strong credentials of our professional staff. TRC's Risk Assessment staff includes individuals with advanced degrees in toxicology and environmental health and strong expertise in areas such as health exposure assessment; human risk assessment; toxicological evaluations; statistical analysis; risk communication; and risk-based regulations. TRC has performed an extensive amount of multi-media, multi-pathway human health risk assessments in connection with sites in New York and New Jersey. Brief descriptions of example projects follow:

- **In connection with remediation of the former Con Edison 9.2-acre First Avenue Properties located in mid-town Manhattan and the $1.5 billion dollar development on the East River waterfront parcel known as the Queens West Development – Stage 2 Site in Long Island City (Queens)** TRC conducted human health risk assessments under future construction and future residential exposure scenarios to ensure there was no significant risk of harm to health, safety, and public welfare with respect to soil and ground water conditions. Future residential exposures considered vapor intrusion from contaminated ground water.
- TRC conducted a large scale literature review of the potential health and safety risks of synthetic turf crumb rubber infill which is manufactured from recycled tires for the **New York City Department of Health and Mental Hygiene (NYCDOHMH)**. They NYCDOHMH has published TRC's report entitled "A Review of the Potential Health and Safety Risks from Synthetic Turf Fields Containing Crumb Rubber Infill" on their website.
- TRC performed a human health risk assessment for the **Legal Aid Society evaluating the potential human health impacts associated with existing dust contamination on the 13th through 15th floors of the building located at 90 Church Street.** The dust contamination was present on these floors as a result of the catastrophic collapse of the World Trade Center on September 11, 2001.

- In connection with investigation, environmental planning, remedial design and permitting services provided by TRC at the **FAA Technical Center** near Atlantic City's reservoir TRC has performed human health and ecological risk assessments. The human health risk assessments performed in accordance with USEPA guidance focused on current uses of the site (on-site workers and trespassers on the site).

ENVIRONMENTAL ASSESSMENTS - TRC possesses specialized experience in preparing comprehensive environmental impact statements and assessments that satisfy federal, state, and local regulations — and get our clients' projects approved. Our long experience has established our firm as among the best in the nation in environmental planning, consulting, and technical analysis. Our Environmental Assessment services cover the following areas, all of which are also offered as stand-alone services: Community Outreach; Traffic and Transportation; Historic/Archaeological; Air Quality and Noise; Ecological Assessment; Water Quality/Resources; Solid and Hazardous Waste; and Energy, Utility and Construction Impacts. TRC has the resources in-house to perform full environmental assessments In accordance with the National Environmental Policy Act (NEPA), State Environmental Quality Review Act (SEQRA), and the City Environmental Quality Review Act (CEQRA), as well as impact analyses of Cultural Resources, Architectural Resources, Endangered Species, Parking, Floodplains, Coastal Zones and Waterways, Land Use and Zoning, and Freshwater and Tidal Wetlands.

RELATED EXPERIENCE – ON-CALL ENVIRONMENTAL ENGINEERING SERVICES CONTRACTS

Demonstrating our significant depth of experience in the performance of environmental engineering, the following projects provide a synopsis of our recent on-call expertise.

NYC School Construction Authority

All work performed on or under budget and on or ahead of schedule.

Since 2007 TRC has been providing a comprehensive range of environmental engineering services to the NYCSCA. In 2009 TRC was awarded by NYCSCA a second consecutive $4 million on-call environmental consulting contract. TRC has successfully completed over 200 assignments for the NYCSCA including over 50 Phase I ESAs and over 30 Phase II ESIs. TRC has also completed over 25 vapor intrusion and indoor air investigations at potential new and existing school sites and prepared design drawings and specifications for vapor intrusion mitigation systems (vapor barriers and active sub-slab depressurization systems) for over ten new school.

TRC has provided tank closure services at school sites throughout the five boroughs, including investigation, design and construction phase services. For example, TRC provided engineering services for removal of two large tanks systems at a school in the Bronx under an expedited schedule and challenging conditions. The tanks, which stored No. 6 fuel oil, were discovered in a sub-basement vault beneath a city street by the contractor during demolition of a pre-1950s era school building. During ongoing demolition, TRC developed an approach for and oversaw implementation of removal of the tanks from the sub-basement vault, which allowed the project to proceed without delays. TRC has also successfully closed out several NYSDEC spill cases for the NYCSCA.

The design services provided by TRC for the NYCSCA are closely coordinated with the project architects and structural engineers and TRC's work products are incorporated into publicly bid school

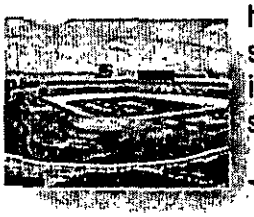
construction packages. TRC has provided construction phase services in connection with dozens of these publicly bid projects, including bid phase services, preparation of responses to requests for clarification, submittal review, and construction inspection services. Additionally TRC has served as environmental consultant to NYCSCA for: (i) implementation of the on-going PCB Caulk Pilot Project related to the Consent Agreement and Final Order (CAFO) executed in January 2010 between the City and the USEPA, and (ii) oversight of PCB remediation activities completed at several schools.
Client Contact: Anna Ciecierska, NYC School Construction Authority, (718) 752-5028

➲ NYC Economic Development Corporation

All work performed on or under budget and on or ahead of schedule.
Under multiple consecutive retainer contracts, TRC has provided a broad range of environmental assessment, investigation, design and construction phase services to the NYCEDC in connection with City-owned properties for which development is planned. As a prime environmental consultant to NYCEDC, TRC has investigated auto junkyards, former gas stations, operating and abandoned industrial facilities, vacant lots, and landfilled areas; performed human health risk assessments; and provided design and construction phase services associated with remedial actions.

Assignments to date have included over 200 site assessments and field investigations. Two recent example projects are described below.

Former CSX Railyard Investigation/Remediation & Ballpark at St. George Station Development
TRC conducted environmental site investigation and remedial activities under the NYSDEC VCP at the former CSX Railyard/Ballpark at the St. George Station site on Staten Island. The former CSX railyard and 52-acre waterfront property were developed as a minor league baseball stadium and accessory parking facility for the New York Yankees. As part of the City's due diligence in purchasing the property, TRC conducted a site background investigation and field investigation activities to assess the nature of contamination related to historical uses. The City purchased the property and proceeded with detailed environmental analysis under a full Environmental Impact Statement (EIS) in conformance with the City's CEQR process and the State's SEQR process. TRC prepared the hazardous materials section of the EIS. After the purchase of this property, additional environmental site investigations were conducted by TRC for NYCEDC under the VCP. The investigation activities included geophysical surveys, soil sampling, groundwater sampling, surface water sampling, and sediment sampling.



TRC also managed the removal of six inactive electrical transformers and an abandoned UST and associated petroleum-contaminated soils. TRC prepared the SSI Report for submittal to and approval by NYSDEC and NYSDOH under the VCP. TRC developed a Remedial Work Plan for review and approval by the NYSDEC and NYSDOH in accordance with the VCP. Under this plan, TRC worked with NYSDEC and NYSDOH to develop site-specific clean soil criteria for on-site soil/fill materials and for fill materials imported to the site during construction. TRC completed "hot spot" removal activities that included a soil removal and two shoreline sediment removals. As part of the stadium construction activities at the site, TRC prepared a Health, Safety and Emergency Response specification and Materials Management specification for the stadium design development package. The Materials Management specification provided guidelines for the identification and handling of site soils, fill materials, solid waste, dewatering liquids, decontamination liquids, suspected hazardous

materials, and potential petroleum impacted materials discovered during the construction activities. During construction, TRC provided continued support in the testing and characterization of on-site excavated materials and in identifying and testing potential clean soil fill sources for the project.

Bush Terminal Landfill Investigation, Remediation, and Construction Management Services

TRC provided a full range of environmental consulting services in connection with the 14-acre landfill at the Bush Terminal complex, under the NYSDEC Environmental Restoration and Brownfields Cleanup Programs. The investigation activities included soil gas surveys, soil borings, groundwater monitoring well installation and sampling, and sediment and surface water sampling. Ecological studies were performed to support the evaluation of remedial options in existing tidal pond areas. TRC prepared a Remedial Alternatives Report that presented an analysis of remedial alternatives to address the remedial action objectives for the landfill site. Remedial alternatives included options for landfill capping, landfill gas management, shoreline stabilization, and pond sediment capping, including the creation of a salt marsh in an existing ponded area. Following approval of this report, TRC prepared a Remedial Action Plan that presented the recommended remedial alternative for public review and comment. TRC also prepared the Record of Decision for this project. The proposed future use for the Bush Terminal Landfill site is as recreational space. Specifically, the site is being developed as a park with soccer/softball fields, a community building, and enhanced natural areas (an existing area of mature trees as a bird conservancy zone and enhanced wetland areas). TRC provided community relations assistance on this project by preparing fact sheets and making presentations at local community board and public meetings.

Also TRC provided engineering design services and is currently providing construction management services for the closure of the landfill. This work included predesign studies consisting of a pond water elevation study, pond shoreline wetlands delineation and evaluation, and a landfill gas migration study. TRC also developed a scope of services and obtained competitive bids for the performance of dynamic compaction across the site to stabilize fill materials for construction. TRC subcontracted and oversaw the dynamic compaction services along with related vibration monitoring, regrading, and land surveying work. TRC prepared design documents for public bidding for construction of the landfill soil cover, gas venting system, pond filling, wetlands enhancements, retaining wall, and riprap shoreline and pier stabilization. TRC completed the applications for environmental permits and approvals required from NYSDEC and the Army Corps of Engineers associated with the project.

Client Contact: Kay Zias, NYC Economic Development Corporation, (212) 312-3752

➲ MTA Long Island Rail Road

All work performed on or under budget and on or ahead of schedule.

Under consecutive environmental engineering on-call contracts TRC has provided investigation, design and construction phase services to LIRR. Below are descriptions of recent services provided by TRC to LIRR.

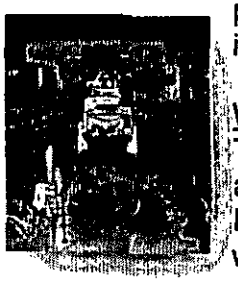
Remediation Systems for Petroleum Contamination at the Morris Park Yard

Prior remedial investigations had identified the presence of approximately 500,000 cubic yards of petroleum-impacted soils and recoverable LNAPL on the water table (at approximately 40 feet below grade) at the Morris Park Yard. TRC prepared design drawings and specifications for a bioventing system, bioamendment injection system and LNAPL recovery system, and provided construction

phase services.

The preliminary design submittal included proposed methods to remediate soil contamination, *estimated petroleum recovery rates, construction and operating cost estimates, and phasing plans to* allow continuous yard operations during construction. The design services included preparation of design plans and technical specifications for an in-situ, nutrient augmented, bioamendment injection system and bioventing system and an automated LNAPL recovery system to remediate soils to acceptable regulatory limits and remove recoverable free product. In addition, TRC developed details *for construction of underground piping and wells in the active rail yard and a treatment system building* to house process equipment.

The bid and construction phase services provided by TRC included: attendance at the pre-bid meeting, evaluation of bids, and review of contractor's submittals. As part of the submittal review process TRC evaluated the use of horizontal drilling for installation of bioamendment injection piping *in the rail yard, which was successfully implemented.*

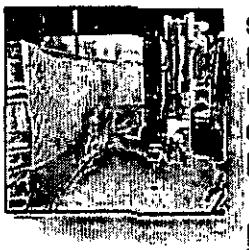


West Side Storage Yard Remedial Investigation

TRC was selected by the LIRR for an RI on the western portion of the West Side Storage Yard, an active rail yard located between West 33rd and West 30th Streets and 10th and 12th Avenues in Manhattan. *Evidence of petroleum-contaminated soil and groundwater was encountered near the* western boundary of the yard, and NYSDEC has assigned a spill case number to the site.

TRC prepared a Remedial Investigation Work Plan (RIWP) to delineate the extent of the petroleum-contaminated soil and groundwater. The RIWP was approved by the NYSDEC, and TRC implemented the RI and prepared the Remedial Investigation Report. The scope of the RI included: a groundwater gradient determination and tidal influence study (due to the proximity of the site to the Hudson River), soil sampling, groundwater monitoring well installation, groundwater sampling, and sample location surveying. Advancement of soil borings to 50 feet below ground surface and installation of groundwater monitoring wells was required in City sidewalks and on the active rail yard, including installation of one groundwater monitoring well during night-time hours using specialized drilling equipment between closely spaced tracks.

TRC determined that the extent of soil contamination was limited and generally at depth, and the extent of groundwater contamination was limited. Also, TRC determined that the results of previous sampling by others showed that the levels of contamination in samples collected off-Site were greater than detected on-Site. Recognizing that the Site is an active rail yard, groundwater at the Site is not used for consumption, and there was no evidence of significant impact to downgradient groundwater quality, TRC recommended periodic groundwater sampling (and no other further action) in the RI Report.

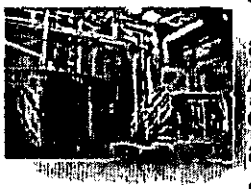


RI/FS for CFCs and Chlorinated Solvents, Morris Park Yard

Previous investigations had identified CFCs and chlorinated solvents at concentrations exceeding *NYSDEC Class GA groundwater standards in on-site and off-site monitoring wells. TRC prepared* and implemented the RI Work Plan to determine the nature and extent of CFCs and chlorinated solvents present in soil and groundwater to the satisfaction of NYSDEC. After implementation of the

RI, TRC prepared a final RI Report (RIR) presenting the significant findings and conclusions of the RI. Additionally, the services provided by TRC included performing detailed research to identify potential off-site sources contributing to chlorinated solvents detected in groundwater and soil vapor at the site. TRC also identified potential receptors and performed a human health exposure assessment. TRC advanced deep soil borings and installed new on-site and off-site monitoring wells extending over 160 feet below ground surface. The data collected during drilling was used to map the surface of the clay layer which underlies the site. Through research, mapping of groundwater flow direction, and upgradient groundwater sampling TRC was able to show that chlorinated solvents detected in groundwater in on-site wells were attributable to off-site sources.
Client Contact: Maria Hall, Long Island Rail Road, (718) 558-3826

➲ Federal Aviation Administration (FAA)



All work performed on or under budget and on or ahead of schedule.
TRC has held five consecutive five-year contracts with the FAA for remedial activities at the 5,000-acre National Priorities List (NPL) site known as the FAA William J. Hughes Technical Center at the Atlantic City International Airport in Egg Harbor Township, NJ. Since 1986, TRC has been awarded contracts valued at $40 million covering all aspects of CERCLA remedial planning and remedial actions. Over 180 delivery orders have been assigned to TRC, covering all phases of site characterizations, remedial investigations, human health and ecological risk assessments, feasibility studies, remedial design, construction management and support, site management and public participation. TRC has conducted investigations at 27 areas of concern, including fuel storage, fire training, salvage yard, landfill, reported waste disposal, ordnance disposal and transformer storage areas. Contaminant sources at these areas were jet fuel, waste oils, solvents (F001 wastes), PCBs, pesticides (chlordane), and/or heavy metals (mercury) which contaminated soils, sediment and/or groundwater.

TRC has provided remedial design services to the FAA for the Technical Center, including the preparation of remedial plans, specifications (signed and sealed by a licensed professional engineer) and cost estimates for remedial systems that have been constructed, totaling more than $40 million in capital cost. TRC has designed an in-situ bioremediation and treatment system, shallow and deep groundwater extraction and treatment systems, a dual-phase extraction system, PCB soil excavation projects, an air stripping tower and injection wells, a recharge basin and recharge bed to re-inject treated water, and underground storage tank and contaminated soil removal projects.
Client Contact: Thomas Hupf, FAA William J. Hughes Technical Center, (609) 485-5841

RELATED EXPERIENCE – PROJECT SPECIFIC EXAMPLES - PAST 3 YEARS

Demonstrating our significant depth of experience in the performance of environmental engineering, the following projects provide a synopsis of recent project specific experience. All projects were performed on or under budget and on or ahead of schedule.

➲ First Avenue Properties Remediation and Redevelopment – Manhattan, NY

- Former Consolidated Edison Power Plant adjacent to the East River between East 38th and East 41st Street
- Guaranteed, Fixed Price Remediation under TRC's Exit Strategy Program® and NYSDEC Voluntary Cleanup Program
- Extensive site investigation, remedial design and remedial construction services
- Extensive asbestos abatement, decontamination of PCB and chemical contaminated equipment and storage tanks, building demolition, groundwater bioremediation, removal of over 100,000 tons of contaminated soil and 200,000 gallons of contaminated groundwater, and UST decommissioning and removal

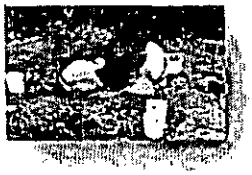
Client Contact: Candida Canizio, Esq., Consolidated Edison, (212) 460-3188

➲ Queens West Remediation and Redevelopment – Long Island City, NY

- Former oil refinery
- Project site is a 22-acre tract of a multi-stage, mixed use redevelopment along the East River
- Guaranteed, Fixed Price Remediation under TRC's Exit Strategy Program® and NYSDEC Voluntary Cleanup and Brownfield Cleanup Programs
- Site investigation, remedial design, remedial construction and extensive community outreach services
- Remediation involved removal of LNAPL, USTs and over 100,000 tons of contaminated soil under temporary enclosures (tents)
- Designed sub-slab depressurization systems for new high-rise buildings

Client Contact: Stephen Eisner, Rockrose GC QW Sitework, LLC, (212) 984-1705

➲ Former Berlex Pharmaceutical Remediation – Cedar Knolls, NJ



- Remedial Action Work Plan and remedial design
- Conducted in accordance with USEPA (TSCA) and NJDEP (ISRA) requirements
- Saved client $2.5 million and eliminated liability associated with off-site waste disposal
- Designed a 7-acre cap for in-place consolidation and remediation of PCB-contaminated soil and sediment (concentrations up to 1300 ppm) and wetland restoration
- Obtained approval letters for 21 Areas of Concern

Client Contact: Santo Guillermain, Bayer Healthcare Pharmaceuticals, (973) 305-5408

➲ Bush Terminal Remediation and Redevelopment – Brooklyn, NY

- Former 15-acre rail yard and 17-acre landfill in the Bush Terminal Complex on Upper New York Bay
- Conducted under the NYSDEC ERP and BCP for NYCEDC
- Site investigation, remedial design and remedial construction inspection services
- Removal of over 470 drums, 40 compressed gas cylinders and 300 tons of chemical waste, a soil cap, gas venting system, sediment capping, wetlands enhancement, and landfill shoreline and pier stabilization

Client Contact: Kay Zias, NYC Economic Development Corporation, (212) 312-3752

➲ Harrison Avenue Landfill Remediation and Redevelopment – Camden, NJ

- Abandoned 85-acre landfill on the Delaware River
- Conducted for the Camden Redevelopment Agency under the NJDEP Hazardous Discharge Site Remediation Fund Grant Program
- Remedial investigation and Remedial Action Work Plan (RAWP) that integrated landfill closure with construction of a community center and recreational complex for The Salvation Army
- RAWP included waste removal in the area of the community building, construction of building sub-slab depressurization system and capping of remainder of the landfill

Client Contact: *James Harveson, Camden Redevelopment Agency, (856) 757-7600*

➲ 130 Liberty Street Deconstruction – Manhattan, NY

- Deconstruction of the 40–story former Deutsche Bank Office Building
- Conducted building investigation for USEPA
- Deconstruction plan including:
  - Quantitative human health risk assessment
  - Environmental remediation bid plans and specifications
- Community outreach services
- Extensive ambient air monitoring during deconstruction

Client Contact: David Ridley, Lower Manhattan Development Corporation, (212) 587-9747

➲ Ferry Point Park Landfill Closure, Fill Import, and Redevelopment – Bronx, NY

- Provided engineering and environmental services in support of the design and construction of a new, Jack Nicklaus Signature golf course at Ferry Point Park.
- Served as the Professional Engineer of record for the NYSDEC Part 360 Solid Waste Management Permit, and two major modifications
- Designed and permitted the on-site chipping of large volumes of timber and composting operation which provides for future use of the timber in a manufactured topsoil for the golf course cover layer
- Responsible for arranging for and obtaining NYSDEC approval for hundreds of thousands of cubic yards of imported clean fill material, generating over $1,000,000 in revenue for the City Parks Department
- Prepared an application for a Tidal Wetlands Permit to facilitate the construction and operation of a temporary facility for the barged import of dredged materials to the site

Client Contact: Anthony Macari, NYC Department of Parks and Recreation, (212) 360-3420

Section G

PROJECT MANAGEMENT APPROACH

Presented below is a description of TRC's proposed approach to overall management of the contract and projects, management of communications with the Port Authority, management of TRC personnel and resources, management of subcontractors, and budget and schedule management. The proposed management structure is shown graphically on the organization chart on the following page.

TRC's primary goal as an environmental engineering consultant to the Port Authority will always be satisfying the Port Authority's objectives. TRC will always strive for effective communication with the Port Authority's Project Managers. TRC will always strive to satisfy Port Authority's project schedule requirements, no matter how aggressive. TRC will always strive to provide the greatest value possible and the highest quality services to the Port Authority. TRC will always comply with the Port Authority's *preferences for staffing in connection with each and every assignment.* TRC will always consider the constraints imposed by site operations and access restrictions at Port Authority facilities.

TRC understands that key to a successful management structure is to continuously strive for effective communication. **TRC considers *listening*...listening to the needs of the client . . . among its highest priorities.** Experience tells us that this is most effectively achieved at the project management level. The best way to effectively coordinate project activities is to work closely with and communicate effectively at that level. This eliminates the "false start" that can occur on a project. We listen to what our client needs and then we plan and act accordingly. This philosophy, in combination with TRC's established protocols, effectively controls work assignment budgets and schedules, and allows for efficient coordination of project activities and successful project completion.

Communication and control of work assignments will be accomplished through the following: (i) at least weekly review of project budget reports by TRC Project Managers; (ii) At least bi-weekly meetings between TRC's Contract Manager and Project Managers to review progress with regard to project schedules, expenditures with respect to the project budget, and work product status and quality control protocols; and (iii) preparation of detailed monthly progress reports for submittal to Port Authority Project Managers. In addition to the regularly scheduled control procedures described above, if important issues develop at any time, TRC Project Managers are trained to bring these issues immediately to the attention of the Program Manager, and if necessary to the attention of the Authority's Project Manager.

OVERALL PROJECT MANAGEMENT APPROACH

Overall management and ultimate responsibility for TRC's performance on the Port Authority contract and for furnishing to the Port Authority the required resources, including meeting schedule deadlines and providing immediate response, will be the responsibility of David Glass with the assistance of Todd Sarett and several key Project Managers shown on TRC's organization chart. Primarily Dave Glass, Todd Sarett, Charlie Guder *and Jennifer DiPilato will ensure that the appropriate personnel with the proper management and technical* skills, experience and training are made available for projects assigned to TRC by the Port Authority, and that the appropriate equipment and supplies are made available as well.

PROPOSED PROJECT ORGANIZATION CHART
EXPERT PROFESSIONAL ENVIRONMENTAL ENGINEERING SERVICES

TRC

THE PORT AUTHORITY OF NY & NJ

Client Relations
Todd Sarett
Client Relations Manager

Senior Technical Advisors
Kenneth Siet
Thomas Maher, PE

Program Management
David Glass, PE
Principal / Contract Manager

Health and Safety
Gary Ritter, CIH, CSP, CHMM,LEED AP
Health and Safety Officer

Quality Management
Elizabeth Denly
QA/QC Officer

Soil and Groundwater Investigations
Charles Guder
Project Manager
- Daniel Nachman, CPG
- James Peronto, PE
- Peter Grogan, PG
- Patrick Narea
- Steven Tappert, CPG

Remediation Design
Jennifer DiPilato, PE
Project Manager
- Dr. Nidal Rabah, PE, PMP
- Jean Oliva, PE
- Steven Meersma, PE
- Carl Stopper, PE
- Kevin Boger

UST Assessments and Closures
Robert Keene, PE
Project Manager
- James Peronto, PE
- Steve Taranto, PG
- Joseph Ziaya, CHMM
- Barry Kline, PE
- Jeffrey Powley, PG

Compliance Audits
Andrew Smyth, CPA, PG, BEAC
Project Manager
- David Shotts, PE
- Carla Adduci
- Steven Farrick

Risk Assessments
Dr. Karen Vetrano
Project Manager
- Ed Gerdts, CIH, CSP, LEED AP
- Katarina Rutkowski
- Dr. Diane Silverman

Phase I and Environmental Assessments
Dawn Pompeo
Project Manager
Marc Lawlor, PP, AICP
Project Manager
- Jennifer Miranda
- Sarah Trombetta
- Angela Oldenburg
- Menachem Sokolic
- Rebecca Hollender, CPG
- Dr. Bob Lippencott, CHMM
- Ralph Peragine, PE
- Bob Golden, Jr.
- Andrea Connell

Note: The individuals shown on this organization chart are supported by teams of project engineers, scientists, and geologists.

In connection with each assignment made by Port Authority to TRC, the Project Manager and Task Managers proposed for this contract will all report directly to the Contract Manager (David Glass). All key managers proposed for this assignment are based in TRC's Midtown Manhattan and Millburn, NJ offices, which will enable TRC to rapidly and effectively deploy resources to Port Authority assignments. The Contract Manager's and each Project Manager's supervision and review responsibilities will not only include work product completion, but will begin at the start and continue throughout each work assignment. This in combination with TRC's rigorous quality assurance program, requiring additional peer review of all work products, enhances the technical performance of our staff and the value of each of TRC's deliverables.

TRC will manage projects assigned by Port Authority with emphasis on the following:

- **Attaining Technical Objectives** - TRC will base every project decision primarily on how the selected course of action will affect the attainment of project objectives.
- **Effective Communication and Coordination** - TRC will continuously strive to keep the Port Authority well-informed of project status and any issues of concern and their resolution. TRC will work with regulatory agencies as a partner and, if requested, negotiate in close communication with the Port Authority and in the Port Authority's best interest. Additionally, TRC will coordinate all work, particularly on-site activities, with representatives of the Port Authority and its agents. TRC will establish clear lines of communication between the Project Team and the Port Authority.
- **Performing Cost Effectively** - TRC will manage each project in as cost-effective a manner as possible, consistent with Port Authority's objectives. TRC will always seek out and bring to the attention of the Port Authority opportunities which will reduce cost where appropriate and consistent with project objectives.
- **Producing Quality Results** - TRC will always produce high quality work products with the goal of achieving rapid approval from regulatory agencies and which will serve as the sound basis for decision making.
- **Safety** – Safety will always be a priority and field activities will be planned and executed with the support of TRC's in-house health and safety experts.
- **Schedule** - TRC understands the importance of project schedule and will always closely monitor compliance with the schedule and make adjustments rapidly when needed and whenever requested by the Authority.

COMMUNICATIONS WITH THE PORT AUTHORITY

TRC prides itself on immediate response to clients' needs as well as frequent and effective communication, which keeps projects running on track, efficiently and consistent with the client's objectives. **Communications with the Port Authority will ultimately follow the protocols and procedures which are requested by the Port Authority.** The anticipated primary lines of communication are shown on the earlier presented Organization Chart. At the start of planning for each work assignment, TRC will consult with the Port Authority Project Manager to identify preferences for communications. Additionally, at this time TRC will solicit from Port Authority input for any preference with respect to staffing and management of each assignment.

MANAGEMENT OF IN-HOUSE PERSONNEL AND RESOURCES

TRC takes a hands-on approach to managing staff and project resources. The performance of staff will be monitored closely by the Contract Manager. By directly monitoring performance on each Port Authority assignment, the Contract Manager is well positioned to assess when additional resources and/or changes will benefit a project. TRC will solicit and listen closely to comments and suggestions from the Port Authority regarding the use of in-house staff and resources. If at any time there are indications that additional staff or

resources are required (to meet a project deadline for example) or a change in staff or resources would benefit the project, TRC will implement the solution immediately.

As shown on the Organization Chart, the services provided to the Port Authority by TRC will be under the supervision of the Manager of TRC's New York City Remediation and Site Assessment Practice, **David S. Glass, P.E.** Mr. Glass, a New York State licensed Professional Engineer, will serve as Program Manager. Mr. Glass has served in a similar role under several on-call environmental engineering contracts for local authorities. As Practice Manager for the New York City office Mr. Glass has access to TRC's resources throughout the East Region, including over 175 environmental professional in TRC's East Region Remediation and Site Assessment Practice. Mr. Glass has over 24 years of environmental engineering experience and has managed environmental site assessments, remedial investigations, vapor intrusion studies, pre-design investigations, remedial design services, construction phase service and operations, maintenance and monitoring services in connection with hundreds of contaminated sites in the New York City metropolitan area. Mr. Glass will be closely supported by **Todd Sarett**, serving as client relations manager, and several key TRC Project Managers, including Mr. Charles Guder and Ms. Jennifer DiPilato.

Charles N. Guder will serve as Project Manager. Mr. Guder has over 19 years of environmental consulting experience. As an extremely hands-on manager Mr. Guder has closely supervised the services provided by TRC under several on-call environmental engineering services contracts. Mr. Guder has been responsible for management of hundreds of Phase I ESAs and Phase II ESIs in the New York City metropolitan area, as well as emergency response to petroleum product spills, assistance in interpretation of environmental regulations, preparation of cost estimates for remedial measures, review of contractors' submittals and plans, product safety reviews, underground storage tank and petroleum spill case closures, and PCB sampling and remediation. **Jennifer A. DiPilato, P.E.**, a New York State licensed Professional Engineer and Project Manager in the Remediation and Site Assessment Practice of TRC's New York City office, has also served in a similar role under on-call environmental engineering contracts. Ms. DiPilato has 11 years of environmental engineering experience and has managed remedial design services and construction phase service, in connection with numerous contaminated sites in the New York City metropolitan area.

BUDGET AND SCHEDULE MANAGEMENT

TRC believes that a realistic well-thought out schedule and budget prepared and supervised by experienced, qualified professionals is one of the most critical elements in achieving project successes. This important "ground work" begins during work plan preparation. Accordingly, at TRC, work plan preparation will only be performed by qualified senior level in-house staff and every element of each project work plan will be reviewed by the TRC Contract Manager. The project schedules and budgets presented in each work plan will be prepared in conjunction with the narrative descriptions for each task and subtask for the required scope of work. Detailed budget breakdowns by task and subtask will be provided in each project work plan. Staff will be listed with estimated hours and corresponding costs for each task and subtask. In addition, a breakdown of expenses and subcontractor costs will provided by task and subtask.

The Project Manager will maintain ultimate responsibility for budget and schedule for each work assignment. Using TRC's Internet-based automated accounting system, the Project Manager will closely review, at least weekly for each assignment, effort reports and work completion percentages. By following this approach, we have found that projects never fall behind on schedule or budget without coming to the Project Manager's

attention, and at this level any cost or budget issues can easily be controlled and if necessary corrected with the resources that are available at TRC.

MANAGEMENT OF SUBCONTRACTORS AND SUBCONSULTANTS

TRC's approach to management of subcontractors is organized into three phases: selection, contracting and oversight. The subcontractors selected by TRC will be subcontractors which TRC has existing relationships with and which TRC has used in a similar capacity on previous projects. The subcontracting process will be supervised by the TRC Project Manager. TRC will prepare a detailed scope of work and obtain a detailed cost estimate and schedule from each subcontractor for the scope of services. After authorization to proceed is received from the Port Authority, TRC will finalize the subcontract agreements which will each include TRC's and the Port Authority's Standard Terms and Conditions, a specific scope of work, an agreed to price for the work and a schedule for completing the work. Subcontractors will not be authorized to proceed until the subcontract agreements have been fully executed and acceptable proof of required insurance coverage has been provided by the subcontractor. During the work, subcontractors will be closely supervised by TRC. Typically TRC will provide full-time on-site oversight of subcontractors supporting on-site investigation activities, such as drillers, geophysical subcontractors, and remediation/emergency response subcontractors.

TRC is committed to meeting or exceeding the Minority Business Enterprise (MBE) and Women Business Enterprise (WBE) participation goals established by the Port Authority. TRC will identify appropriate and value-added assignments for MBEs and WBEs and, with the Authority's approval, will engage the services of firms that are certified by the Office of Business and Job Opportunity.

QUALITY ASSURANCE

With respect to TRC's overall Quality Control Program, we offer the following. As a matter of corporate policy we believe that equal to budget and schedule is the importance of quality of work products and, as a result, as a matter of TRC's corporate policy, the firm has developed and implemented a comprehensive, written quality assurance program. The cornerstone of this program is that each and every work product must be reviewed and approved by the TRC Practice Leader in Charge (Contract Manager). TRC's quality assurance program also includes second person review with two signatures on deliverables, to document review. A copy of TRC's written Quality Assurance Manual is available for inspection upon request.

TRC's Quality Assurance Manual is used to promote the achievement of quality and performance objectives by documenting the quality requirements for services provided. An internal audit program and annual management reviews verify the achievement of program goals and objectives. The core concepts and requirements of TRC's QA Program are incorporated into all endeavors of the firm. Nevertheless, TRC recognizes, while having the manuals and SOPs are critical to a successful quality assurance program, it ultimately will be the longstanding philosophy of TRC and our staff that carries the day.

Again, we believe that the bottom line with respect to quality is the proven "track record" and reputation of TRC, having provided continuous services to numerous clients over extended periods of time. That is the ultimate testimonial regarding TRC's commitment to quality control.

Section H

AFFILIATES

Based on the definition of "Affiliate" provided by the Port Authority, the Consultant has no affiliates because its parent, TRC Environmental Corporation, is not a majority shareholder of any other entity than the Consultant. However, the parent of TRC Environmental Corporation is the owner of other entities that are part of the TRC family of companies.

Section I

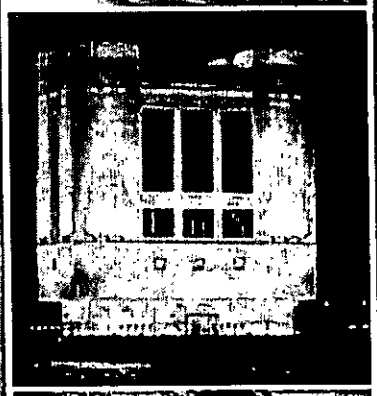
CONFLICT OF INTEREST STATEMENT

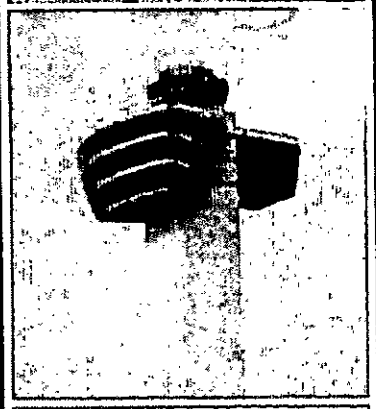
We are not aware of any conflict of interest that may exist with regard to our performance under this contract.

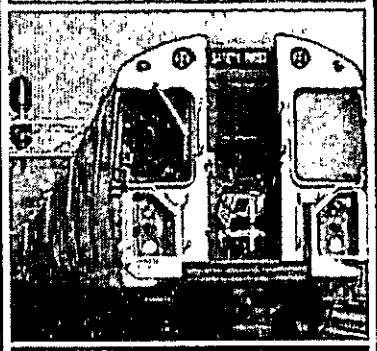
Section J

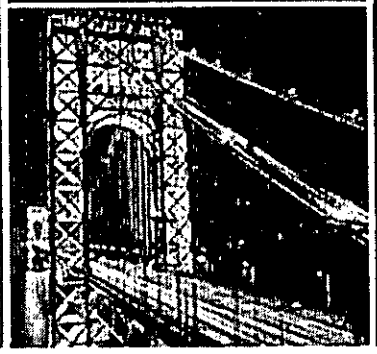
EXCEPTIONS TO THE STANDARD AGREEMENT

Pursuant to the requirements outlined on page 3 of the Request for Proposals, we have reviewed the Authority's Standard Agreement language and have no exceptions.









THE PORT AUTHORITY OF NY & NJ

Expert Professional Environmental Engineering Services

as requested on a "Call-In" Basis During 2011

SEPTEMBER 2010

RFP Number 21999

ORIGINAL

Hatch Mott MacDonald

Hatch Mott MacDonald

27 Bleeker Street
Millburn, NJ 07041-1008
T 973.379.3400 www.hatchmott.com

September 14, 2010

The Port Authority of NY & NJ
One Madison Avenue
7th Floor
New York, NY 10010
Attention: RFP Custodian

RE: RPF for the
Performance of Expert Professional
Environmental Engineering Service
As Requested On A "Call-In" Basis During 2011
RFP Number 21999

Dear Sir/Madam

Hatch Mott MacDonald is pleased to be considered by the Port Authority of New York and New Jersey (Port Authority) for Expert Professional Environmental Engineering Services as requested on A "Call-In" Basis during 2011. We appreciate the opportunity to have served as one of the Port Authority's call-in consultants in the past and welcome the opportunity to continue to provide environmental engineering services.

We have organized this proposal to be fully responsive to the Port Authority's needs, as expressed in the RFP and based on our prior experience. We have assembled a project team comprised of technical staff with expertise in each of the seven subject areas that were specified in the RFP's Scope of Work. The team's credentials are documented by the inclusion of resumes for all key team members and potential staff. The functional relationship among team members is illustrated in the organization chart. We have also enclosed project descriptions that reflect our team's specific relevant experience in each of the seven work scope elements. To illustrate the qualifications of our staff and the relevance of our experience, we have constructed two matrices, one that indicates the projects which contain the specified work scope and tasks. The other indicates which staff members are experienced in the specified elements and tasks. As can be seen from these matrices, our team has both experienced staff and prior experience in the areas of the Port Authority's current interest.

While this proposal can only respond to generic tasks, we have included a management approach that reflects our typical approach to the seven work elements. These generic approaches will be modified to suite the requirements of a specific project assignment.

Hatch Mott
MacDonald

For the current call-in contract, Hatch Mott MacDonald will provide a high level of services to the Port Authority for the following reasons:

- Hatch Mott MacDonald offers the technical resources of a large organization, with both specialized experts and a strong local presence (over 475 local metro area staff).

- Hatch Mott MacDonald has a demonstrated track record in providing services in each of the seven technical areas included in the work scope.

- Hatch Mott MacDonald has conducted numerous assignments for the Port Authority under "call in" contracts. In doing so, we have become familiar with the issues with which the Port Authority must deal, and the workings and expectations of the organization. We are prepared to continue to fully meet those expectations.

- Hatch Mott MacDonald has further demonstrated its ability to provide the Port Authority with a high level of service and responsiveness. The Port Authority is an important client to Hatch Mott MacDonald and to Hatch Mott MacDonald's management team. We are constantly working to refine and improve our delivery of service to the Port Authority.

- Hatch Mott MacDonald has a record of successfully providing similar "call in" services to other public clients, which require similarly structured project management approaches. These include New Jersey Transit (8 years and on-going), the New Jersey School Development Authority (7 years and on-going), New York Mass Transit Authority (1 year and on-going), New Jersey Turnpike Authority /New Jersey Highway Authority (18 years and on-going), and the New Jersey Department of Transportation (4 years).

We trust that you will find ample evidence of the Hatch Mott MacDonald team's expertise, experience, and suitability for this "Call-In" contract. Our references can testify to the quality of our work and our responsiveness. We sincerely desire to retain the Port Authority as a highly-valued client, and look forward to a continued mutually beneficial relationship. If we can provide any additional information in connection with this proposal, please feel free to contact me

Very truly yours,

Hatch Mott MacDonald

Kevin E. Koch

Kevin E. Koch, PE
Vice President
T 973.912.2490 F 973.912.2400
kevin.koch@hatchmott.com

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THE PORT AUTHORITY OF NY & NJ

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Attachment B

THE PORT AUTHORITY OF NY & NJ

ATTACHMENT B

PERFORMANCE OF EXPERT PROFESSIONAL ENVIRONMENTAL ENGINEERING SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011

AGREEMENT ON TERMS OF DISCUSSION

The Port Authority's receipt or discussion of any information (including information contained in any proposal, vendor qualification, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) shall not impose any obligations whatsoever on the Port Authority or entitle us to any compensation therefor (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with or after this Agreement on Terms of Discussion ("Agreement"), either orally or in writing, is not given in confidence. Such information may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this Agreement, whether made as part of or in connection with this Agreement, shall be void and of no effect. This Agreement is not intended, however, to grant to the Port Authority rights to any matter, which is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Port Authority's Freedom of Information Policy and Procedure adopted by the Port Authority's Board of Commissioners on November 20, 2008, which may be found on the Port Authority website at: *http://www.panynj.gov/corporate-information/pdf/Freedom-of-Information-Policy-and-Procedure.pdf*, not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause substantial injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

Hatch Mott MacDonald, LLC
(Company)

(Signature)

Executive Vice President
(Title)

7/12/10
(Date)

ORIGINAL AND PHOTOCOPIES OF THIS PAGE ONLY.
DO NOT RETYPE.

Attachment C

THE PORT AUTHORITY OF NY & NJ

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR THE EXPERT PERFORMANCE OF EXPERT PROFESSIONAL ENVIRONMENTAL ENGINEERING SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011 (RFP #21999)

1. Company Name (print or type):

   Hatch Mott MacDonald, LLC

2. Business Address (to receive mail for this RFP):

   27 Bleeker Street

   Millburn, NJ 07041

3. Business Telephone Number: 973-379-3400

4. Business Fax Number: 973-912-2405

5. Firm website: www.hatchmott.com

6. Federal Employer Identification Number (EIN): (Ex. 1)

7. Date (MM/DD/YYYY) Firm was Established: 11 / 13 / 1972

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

   See attached listing of Firm's Affiliates in Section H.

9. Officer or Principal of Firm and Title:

   Dennis J. Suler, Executive Vice President

10. Name, telephone number, and email address of contact for questions:

    Kevin E. Koch, PE, Vice President

    973-912-2490 kevin.koch@hatchmott.com

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☐ Yes ☒ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/business-opportunities/supplier-diversity.html, to receive information and apply for certification.

Multiplier

THE PORT AUTHORITY OF NY & NJ

Multiplier

Hatch Mott MacDonald's multiplier referred to in the second line of Subparagraph 9.A in the Standard Agreement is **2.946**. The multiplier referred to in the fifth line of Subparagraph 9.A in the Standard Agreement is **2.673**. The major components of which are broken down below, with a more detailed breakdown of the components being presented on the attached.

Description	Multiplier
A. Home office direct labor	1.000
B. Fringe benefits	0.469
C. General Overhead	1.209
Sub Total (A+B+C)	2.678
Profit (10%) of (A+B+C)	0.268
Total Multiplier	**2.946**
A. Field office direct labor	1.000
B. Fringe benefits	0.469
C. General Overhead	0.961
Sub Total (A+B+C)	2.430
Profit (10%) of (A+B+C)	0.243
Total Multiplier	**2.673**

HATCH MOTT MACDONALD GROUP, INC.

(UNITED STATES OPERATIONS)

CONSOLIDATED STATEMENT OF DIRECT LABOR AND INDIRECT COSTS

FOR THE YEAR ENDED DECEMBER 31, 2009

	Per Financial Statements	FAR Unallowable	FAR Section Reference for Unallowable Costs		FAR Allowable	Field Office	Home Office
DIRECT LABOR	$ 63,383,884	$ -			$ 63,383,884	$ 16,257,147	$ 47,126,737
INDIRECT COSTS:							
Fringe Benefits on Direct Labor -							
Vacation and holidays	$ 6,849,343	$ -			$ 6,849,343	$ 1,534,588	$ 5,314,755
Pension plan	4,468,071	-			4,468,071	1,001,066	3,467,005
Employer FICA and Medicare	4,926,165	-			4,926,165	1,263,497	3,662,668
Medical insurance	4,606,580	-			4,606,580	1,032,099	3,574,481
Performance bonuses	4,713,598	-			4,713,598	1,056,076	3,657,522
Workers' compensation	170,485	-			170,485	41,584	128,901
Education	1,374,224	(330)	31.205-44	(A)	1,373,894	307,819	1,066,075
Other benefits	114,383	-			114,383	25,627	88,756
Federal and state unemployment	182,329	-			182,329	46,765	135,564
Employees' group insurance	484,888	-			484,888	124,367	360,521
Total fringe benefits on direct labor	$ 27,890,066	$ (330)			$ 27,889,736	$ 6,433,488	$ 21,456,248
Overhead Expenses -							
Indirect labor	$ 29,205,692	$ -			$ 29,205,692	$ 7,490,882	$ 21,714,810
Fringe benefits on indirect labor	14,138,472	(79,317)	31.205-13, 14, & 51	(B)	14,059,155	3,605,991	10,453,164
Rent	8,509,347	-			8,509,347	835,018	7,674,329
General insurance	530,048	-			530,048	52,016	478,032
Professional insurance	2,072,230	-			2,072,230	505,450	1,566,780
Entertainment	612,179	(612,179)	31.205-14 & 51	(C)	-	-	-
Frozen medical insurance	46,697	(46,697)	31.205-6	(D)	-	-	-
Donations	189,068	(189,068)	31.205-8 & 22	(E)	-	-	-
Advertising	137,024	(137,024)	31.205-1	(F)	-	-	-
Penalties	21,760	(21,760)	31.205-15	(G)	-	-	-
Bad debts	2,327,030	(2,327,030)	31.205-3	(H)	-	-	-
Federal taxes	7,165,595	(7,165,595)	31.205-41	(I)	-	-	-
Deferred taxes	(2,138,905)	2,138,905	31.205-41	(J)	-	-	-
Miscellaneous costs	(157,982)	157,982	31.205-14	(K)	-	-	-
Interest expense and foreign exchange	408,261	(408,261)	31.205-20	(L)	-	-	-
Travel	2,683,831	(303,541)	31.205-46	(M)	2,380,290	610,512	1,769,778
Bid and proposal/business development	845,845	(729,715)	31.205-1, 13, & 14	(N)	116,130	29,786	86,344
Accounting and professional fees	458,823	-			458,823	117,682	341,141
Outside services	687,334	-			687,334	176,293	511,041
Employee hiring, recruiting and moving	567,215	(44,111)	31.205-35	(O)	523,104	134,169	388,935
Dues and professional registrations	718,783	(425)	31.205-15	(P)	718,358	184,250	534,108
Seminars and professional education	331,806	-			331,806	85,104	246,702
Payroll and bank charges	245,464	-			245,464	62,959	182,505
Legal fees	720,071	(601,925)	31.205-47	(Q)	118,146	30,303	87,843
Books and publications	82,461	-			82,461	21,150	61,311
Group expenses	597,079	-			597,079	153,143	443,936
State income tax	2,030,307	-			2,030,307	520,747	1,509,560
Telephone	2,066,630	-			2,066,630	202,809	1,863,821
Automobile	457,373	(248,499)	31.205-6	(R)	208,874	20,497	188,377
Postage and delivery	375,579	-			375,579	36,858	338,721
Equipment leases	497,209	-			497,209	48,793	448,416
Office and other supplies	757,920	-			757,920	74,379	683,541
Repairs & maintenance	239,589	-			239,589	23,513	216,076
Computer expenses	1,434,062	-			1,434,062	140,731	1,293,331
Miscellaneous taxes	82,866	-			82,866	8,132	74,734
Depreciation and amortization	5,833,135	(2,721,028)	31.205-11	(S)	3,112,107	305,407	2,806,700
Cost of capital	389,014	-			389,014	38,176	350,838
Sundry	2,284	(1,061)	31.205-1 & 13	(T)	1,223	120	1,103
Printing	717,178	-			717,178	70,426	646,752
Total overhead expenses	$ 85,888,374	$ (13,340,349)			$ 72,548,025	$ 15,585,296	$ 56,962,729
Total indirect costs	$ 113,778,440	$ (13,340,679)			$ 100,437,761	$ 22,018,784	$ 78,418,977

Technical Qualifications of Key Personnel

THE PORT AUTHORITY OF NY & NJ

Hatch Mott MacDonald

Dennis J. Suler

Education
MS, Environmental Science, Rutgers University, 1976

BS, Environmental Science, Rutgers University, 1970

Registrations
NJDEP UST License - Subsurface (INACTIVE) #G0001132, 1992

Years in Practice - 38

Memberships

Experience Summary

Mr. Suler has significant experience in environmental consulting. As a former co-Manager of HMM's Environmental Division, his responsibilities included:

- Management of large, complex projects
- Technical oversight and quality assurance for routine projects
- Technical direction of Division staff
- Project Development and Budgeting
- Program Development (most recently ISO 14000, "Turnkey" Brownfields redevelopment, outsourcing environmental compliance services for industry)

Mr. Suler's areas of technical expertise include:

- Site Investigation and Remediation
- Environmental Compliance
- Environmental Impact Analysis
- Solid Waste Management Planning (particularly composting)
- Contract Administration/Construction Management
- Implementing the ISO 14000 series of International Environmental Management Standards

Mr. Suler has completed dozens of project assignments illustrating his experience in each of his technical areas of expertise. He has served as Principal-in-Charge for the following *long-term, indefinite quantity contracts*:

- New Jersey Transit Corporation - "On-Call" Environmental Services Contract. Three year contract at multiple sites, providing a variety of services (underground storage tank closures, site remediation, industrial waste, asbestos abatement)
- Port Authority of NY/NJ - "Call-In" Environmental Services Contract. Four year contract at multiple sites, providing audit, environmental impact assessment, asbestos, lead-paint remediation, and environmental compliance services.
- NJ Department of Transportation - Environmental Services Contract. Three year contract at multiple sites, providing site investigation and remediation services.

Selected Project Experience

Project Management of Multi-Disciplinary Projects

- Suwon-Ulsan Solid Waste Management Study, Republic of South Korea

Environmental Impact and Assessment Statements:

- Upgrading Deer/Nut Island Wastewater facilities, Boston (USEPA)
- Expansion of Social Security Administration Headquarters (GSA)
- Expansion of the Newtown Creek Wastewater Facility (NYCDEP)
- Conversion of Powerplants at Danskammer and Albany (DOE)
- Connection of Newark Airport Monorail to mainline (Port Authority)
- NY Harbor Navigation Study - Baseline conditions (Port Authority)

Investigatory/Remediation Projects

- New Jersey Highway Authority - Developed work plans and specification formats for asbestos surveys and abatement designs.
- Queensboro Bridge Lead Abatement - Developed conceptual approach and logistical plans.
- South Carolina Aquarium, Charleston, SC - This $1.1 million site investigation and containment system design allowed the construction of this facility to proceed by "containing" contaminants from an adjacent former manufactured gas plant (CERCLA site), and preventing their release to the adjacent Cooper River.
- Lipari Landfill Superfund Site - Advised local municipality on technical matters for seven years under a Technical Assistance Grant from USEPA.
- Superfund Site Investigations and/or Feasibility Studies - Spence Farm site, Pijack Farm site, Goose Farm site, Pepe Field site, Pine Street site (Burlington, VT).
- ECRA/ISRA/RCRA Investigations/Remedial Plans - Ultramar Petroleum , former Johns-Manville site, and Cooper site.

Kevin E. Koch, PE

Education
MS, Civil Engineering, New Jersey Institute of Technology, 1984

BS, Civil Engineering, New Jersey Institute of Technology, 1981

Registrations
Professional Engineer #GE30346, NJ, 1984

NJDEP UST License - All Categories #0011224, NJ, 1992

Qualified Control Rep., State Board of Insurance, TX

OSHA Hazardous Waste Site Operations

OSHA Confined Space Entry

Years in Practice - 29

Memberships
American Society of Civil Engineers
Chi Epsilon

Experience Summary

Since joining Hatch Mott MacDonald (HMM), Mr. Koch's assignments have been in the areas of hydrogeologic and hazardous waste remedial investigations, environmental impact statements (EIS)/environmental assessments, design and construction, industrial site evaluations, environmental site audits, and wastewater and water supply facilities evaluation, design, and construction. He supervises personnel within the firm's Environmental Management Division, managing projects related to the Industrial Site Recovery Act (ISRA), Underground Storage Tanks, Spill Compensation and Control Act, the Water Pollution Control Act, the National Environmental Policy Act (NEPA), the Resource Conservation and Recovery Act (RCRA) regulations, Brownfields regulations, New Jersey Executive Order 215, New York State/City Environmental Quality Review Act (SEQRA/CEQRA), and Phase I Environmental Site Assessments. These projects include on-site inspections/investigations, assessment of environmental impacts, development and implementation of sampling plans (soil and/or groundwater), development and implementation of site remediation plans (soil and/or groundwater), analyzing implement ability and cost effectiveness of remedial alternatives, development of closure plans, interfacing with various regulatory (local, state, and federal) agencies and obtaining various permits (air, NJPDES, etc).

Mr. Koch's project responsibilities include the development of site-specific/project-specific scope(s) of work, and supervision and scheduling of all aspects of project activities, including subconsultant coordination and continual client contact. He has represented clients at public meetings and has provided testimony for municipal boards and regulatory agencies, as well as in private litigation matters.

Mr. Koch has also worked on a variety of projects involving wastewater collection and treatment facilities and water distribution facilities. These projects have included the design of wastewater interceptor and collector sewers and force mains, wastewater treatment plant and pump station design and upgrade, preparation of plans and specifications, resident observation, investigative analysis of excessive hydrogen sulfide in wastewater collection facilities and development of conceptual reports upon expansion of wastewater collection and treatment facilities.

Selected Project Experience

Hazardous Materials Evaluation/Draft Environmental Impact Statement (EIS), New York Container Terminal (NYCT), Port Ivory Facility, Staten Island, NY
Client Manager/Technical Reviewer for the preparation of the Hazardous Materials section of the EIS for NYCT's Berth 4 Project in accordance with the City Environmental Quality Review (CEQR) Manual dated October 2001. Currently, approximately 69 acres (55%) of the P&G Port Ivory facility has been redeveloped and is used for container storage, warehousing, and truck chassis storage. Further improvements will include increasing the size of the Howland Hook Marine Terminal from 187-acres to 300+-acres and increasing the berth length along the Arthur Kill from 3,000 feet to approximately 4,350 feet. At the onset of the project, potential data gaps were identified (i.e., outstanding Phase I Environmental Site Assessment for certain parcels) and the additional data gathering efforts were integrated into the scope of work, minimizing the overall cost and time for the completion of this project.

New Jersey School Development Authority (NJSDA, formerly NJSCC) Site Feasibility Investigation Services, NJ
Overall management of a three year on-call contract to provide Site Feasibility Investigation Services for the primary and secondary schools in the region. The three-year, $8 million, contract involves conducting pre-development site evaluations to assess the feasibility of proposed sites for use as primary and secondary school construction and/or rehabilitation. The site feasibility investigations generally consist: preliminary environmental screening; boundary and topography survey; utility survey; preliminary assessment, site investigation; geotechnical investigation; wetland investigation; asbestos/lead paint/mold and PCB investigation; environmental remedial costs; traffic and air quality analysis; Executive Order 215/EIS evaluation; historical and cultural resource evaluation; building evaluation; Architectural pre-design evaluation; local planning board presentation; and meetings. The NJSCC is a subsidiary of the New Jersey Economic Development Authority and was created to oversee the financing, design, and construction of all school facilities projects in designated schools.

NJ Transit Corporation, Environmental Services, Various Sites, NJ
Principal in Charge for OnCall task order contract involving various environmental services. His responsibilities include coordinated technical review of all reports and proposals, project team management and scheduling, project budget monitoring, performance of site inspections, quality control, interfacing with the client and the NJDEP, and overall project management. Projects include due diligence for proposed Park and Ride facilities, Remedial Investigations and/or Remedial Designs at bus facilities, rail yards, and substations.

Remedial Investigation Groundwater/Vapor Intrusion Investigation, Former Tube Manufacturing Facility, Bridgewater, NJ
Principal in Charge for the investigation of groundwater impacted by chlorinated VOCs in overburden, weathered bedrock, and fractured bedrock water bearing zones. Rather than attempting vertical and horizontal delineation by repeatedly stepping out from existing wells, a process that is usually inefficient and costly in a fractured bedrock aquifer, proposed a Remedial Investigation that used geophysical techniques to identify important fracture zones and the Water FLUTe™ liner/discrete zone sampler to characterize groundwater quality along the hydraulically-important fractures. The RIWP was approved by the NJDEP with minor revisions and has been implemented.

Port Authority of New York & New Jersey, General Environmental Engineering Contract, New York & New Jersey
Project/Client Manager for the General Environmental Engineering Contract (GEEC) with the Port Authority of New York & New Jersey. Primary point of contact and communication between HMM and the Port Authority with authority to assign project tasks and designate project leaders/task leaders. Responsibilities include management of the team of professionals who perform the environmental tasks and assignments, communicating with the Port Authority's work assignment Project Managers and Contract Manager, budget review, project and personnel scheduling, peer review of project related documents, review of internal management and cost control systems to ensure contract quality.

Hatch Mott MacDonald

M. Brendan Mullen, PE, BCEE

Education
MBA, Rutgers University, 2003

BS, Environmental Science, Sligo Institute of Technology, 1986

Diploma, Water Engineering, Sligo Institute of Technology, 1981

Registrations
Professional Engineer #GE38346, NJ, 1994

Board Certified Environmental Engineer, AAEE, 2007

NJDEP UST License - All Categories #0013412, NJ, 1994

OSHA Hazardous Waste Site Operations, 1994

OSHA Hazardous Waste Site Ops. Supervisor, 1994

OSHA Confined Space Entry, 1995

OSHA Hazard Communications Training, 1996

Years In Practice - 27

Memberships
National Solid Waste Management Association
Solid Waste Association of North America

Experience Summary

Since joining Hatch Mott MacDonald's (HMM) Environmental Management Division in 1988, Mr. Mullen has worked extensively on landfills, transfer stations, and other solid waste-related projects. These include site investigation and remediation, landfill closure plan development, solid waste characterization studies, and the preparation of Preliminary Environmental and Health Impact Statements (PEHISs) for proposed sanitary landfills. Mr. Mullen has served as Project Manager on several transfer station and material recovery facility design and permitting projects. These have included facilities ranging in throughput from 475 to 1,500 tons per day (tpd). In addition, he has managed the design and permitting of a 2,000 tpd research, development, and demonstration project which was designed to process construction and demolition waste.

Mr. Mullen's other projects have included the design of a revised closure plan for a 220-acre landfill to accommodate the development of a golf course. Other landfill projects have included the remedial design, incorporating construction oversight of a Superfund Site, the design of a landfill vertical expansion, and the design of several new landfill cells and landfill closures. Other recycling-related projects include the design and troubleshooting of compost facilities and the design and permitting of material recovery facilities, including source-separated facilities and mixed waste facilities.

Mr. Mullen has researched state and federal regulations concerning Superfund site mitigation and has managed Superfund field investigations. On several projects, he has been responsible for assessing the impact of landfills on groundwater resources. He has also been involved in the permitting of landfills, recycling facilities, and transfer stations, and is experienced in Underground Storage Tank (UST) abandonment projects. He has managed hazardous waste site investigations and remedial design projects.

Selected Project Experience

Transfer Station Environmental Compliance, Republic Services of New Jersey, Various Sites, NJ and PA
Project Manager for the operational assistance and regulatory compliance services (solid waste permit compliance, air pollution control permit compliance, and stormwater and discharge to groundwater/surface water compliance) at six solid waste transfer stations.

Transfer Station/Materials Recovery Facility (TS/MRF), Republic Waste Services/Raritan Valley Recycling, Flemington, NJ
Project Manager for the design and permitting of a TS/MRF to process 475 tpd of mixed construction and demolition and municipal waste. The facility will process 300 tpd of construction and demolition waste and 175 tpd of non-putrescible waste. The facility will recover approximately 70% of the construction and demolition waste and 8% of the municipal waste. The facility will employ state-of-the-art processing equipment, including star-screen, eddy current, and magnetic head separators, and air handling equipment incorporating particulate filtration and odor control. The facility has presently been incorporated into the Hunterdon County Solid Waste Management Plan and the solid waste facility permit has been issued by the NJDEP. Additional tasks included filing of all construction code submissions.

Rednor Rainear Tract Landfill, Mercer County, Hamilton Township, NJ
Project Engineer for the closure of an unauthorized landfill, adjacent to the John A. Roebling Park in the Trenton-Hamilton Marsh and surrounded by wetlands. Project work included cap design and selection for the 10-acre landfill, permitting of the activities with NJDEP, the local Soil Conservation District, Wetland/Waterfront Permitting, Air Permits for the methane gas vent system designed, field delineation of wetlands, and a post-closure Operaions and Maintenance (O&M) Plan.

Southern Ocean Landfill Closure, Ocean County, Ocean Township, NJ
Solid Waste Engineer for the closure of a 50-acre landfill. Project included the design and permitting of a cap for a municipal landfill, including permitting of the activities with NJDEP, the Pinelands Commission, and the local Soil Conservation District. The work included a geotechnical field investigation, collection of existing site information, cap selection (10-7 geosynthetic cap system), and the preparation of permitting and construction documents. Provided construction management services. Ongoing services include operation, maintenance, and post-closure environmental monitoring.

Industrial Road Construction, City of Perth Amboy, Middlesex County, NJ
Solid Waste Engineer for the construction of an industrial truck road across an asbestos landfill. Project included the design of the 4,000-foot road and related bridge structure, the design and permitting of a cap for the landfill crossing and associated 5-acres of sideslope, and permitting of the activities with NJDEP, Waterfront Development, and the local Soil Conservation District. The work included a geotechnical field investigation, collection of existing site information, cap selection, and the preparation of permitting and construction documents. Also provided construction management services.

Redevelopment of the Township Landfill, Woodbridge Township, Middlesex County, NJ
Solid Waste Engineer for the closure of a 12-acre landfill and redevelopment of the site as a community center with a pool, ice rinks, and fitness areas. The project included the design and permitting of a cap for a municipal landfill, and permitting of the activities with NJDEP and the local Soil Conservation District. The work included a geotechnical field investigation, collection of existing site information, cap selection, design of a methane collection system for the proposed municipal recreational facility, preparation of permitting and construction documents, and construction management services.

Research, Development, and Demonstration (RD&D) Project, American Fuel Harvester's East, LLC, Lyndhurst, NJ
Project Manager for the design and permitting of an RD&D project on a former landfill. The facility will process 2,000 tpd of mixed construction and demolition wastes using demonstration equipment, including a flotation tank to separate crushed wood from aggregate materials. Facility permitting included the preparation of a landfill disruption application, an RD&D application, and stream encroachment and waterfront development permit applications. The facility design incorporates primary crushing, triple deck screens, magnetic separation, flotation separation, and wood size reduction. The processed materials will be recycled off-site. Served as Project Manager for the construction of the facility. Currently providing regulatory compliance consulting services.

Hatch Mott MacDonald

Robert J. Lynes, PE

Education
BS, Civil Engineering, University of Maryland, 1977

Registrations
Professional Engineer #28226, NJ, 1982

NJDEP UST License - All Categories #0011226, NJ, 1992

OSHA Hazardous Waste Site Operations

Years in Practice - 32

Memberships
American Society of Civil Engineers
New Jersey Society of Professional Engineers

Experience Summary

As Subdivision Manager within Hatch Mott MacDonald's Environmental Management Division, Mr. Lynes is responsible for the overall project management, including budgeting, scheduling, and QA/QC for all civil engineering and environmental management projects undertaken by the subdivision's civil and environmental engineers and environmental scientists, geologists and hydrogeologists, wetland specialists, and landscape architects. He is experienced in several areas of civil and environmental engineering. His responsibilities have included preparation of feasibility studies, initial field studies, preparation of plans, specifications, and bid documents, construction supervision and engineering, obtaining permits from various federal, state, and local government agencies, and meeting with clients, the public, and various overseeing agencies.

Mr. Lynes's project responsibilities include the development of site-specific/project-specific scope(s) of work, and supervision and scheduling of all aspects of project activities, including subconsultant coordination and continual client contact. He is also experience in construction management of various projects from landfill construction and closures, Superfund Remediation, and general roadway and utility construction to municipal and county parks and streetscapes.

Mr. Lynes has been responsible for numerous underground storage tank (UST) and remedial systems design and construction projects. His duties have included the preparation of preliminary and final designs for site work and associated engineering for the removal, upgrade, and installation of USTs. He has also been involved with the design and permitting of soil and groundwater clean-ups from leaking USTs, including free product recovery, pump and treatment systems, and soil vapor extraction. Mr. Lynes has been involved in the preparation of preliminary and final design for landfills, solid waste transfer stations and recycling facilities, ECRA/ISRA site cleanup projects, hazardous waste clean-up projects, underground and above ground fueling systems, and general municipal engineering projects such as sewer and roadway reconstruction, pumping stations, and general construction projects.

Mr. Lynes has extensive experience in the development and redevelopment of parks and open spaces, and the design and construction of athletic fields. His experience ranges from single to multiple football, soccer, and baseball/softball field design to entire park layouts, including water distribution systems, stormwater management, vehicular and pedestrian traffic routing, and feasibility studies.

Selected Project Experience

Site Remediation Program, NJ Turnpike Authority (NJTA), Various Sites, NJ
Principle-in-Charge for services provided as an environmental consultant under an Order for Professional Services contract. Responsible for remedial action projects at Service Areas 1S, 1N, 7S, 8N, 10S, 12S, and 13S. Completed remedial investigations to identify source areas and extent of contamination, and designed remedial systems to provide cleanup. Oversaw operation and maintenance of remedial systems, stressing efficacy of the remedial actions, and developed life-cycle uses of systems to reduce cleanup costs. If operating remedial systems were taken over from other consultants, assessed the remedial actions and made modifications to increase efficacy and reduce costs.

Service Area Groundwater Remediation Services, NJ Highway Authority, Atlantic City, NJ
Project Manager for the design and installation of a groundwater recovery and treatment system and a soil vapor extraction system. The project involved the installation of a pneumatic pumping system to collect contaminated groundwater from four wells and the installation of a shallow tray air stripper. The groundwater is being reinjected upgradient of the contaminated plume. A soil vapor extraction (SVE) system was also designed for the removal of volatiles in the vadose zone. The treatment of the air is by a catalytic oxidizer. Work tasks included design, obtaining NJDCA Building Permits, NJDEP Air Permits and Discharge Permits, construction engineering services, and start-up and operations monitoring.

Groundwater Remediation Services, Six Flags Great Adventure, Jackson, NJ
Project Manager for the design and installation of a groundwater recovery and treatment system and a soil vapor extraction system. The project involved the installation of a pneumatic pumping system to collect 21 gpm of contaminated groundwater and treat the water with a shallow tray air stripper and carbon unit. The groundwater is being reinjected along the edge of the contamination plume to increase the hydraulic gradient towards the groundwater recovery wells. A soil vapor extraction (SVE) system was also installed at the former tank location. The SVE is utilizing carbon for the treatment of the air. Work tasks on the project include the coordination of the purchasing of equipment by the owner and the installation by a contractor, NJDEP permitting, local permitting, and start-up and operation monitoring.

Soil and Groundwater Remediation Services, NJ Turnpike Authority, Various Sites, NJ
Manager-in-Charge of engineering services for the groundwater and soil cleanup project at four service areas and the administration building. The projects include the design and construction phase engineering of groundwater recovery and treatment systems, free-product recovery systems, air sparging systems, catalytic thermal oxidizer and soil vapor extraction system, and mixed-phase product recovery and separation systems. Engineering responsibilities include the preparation of plans and specifications, providing bidding services, permitting, construction engineering services, and operation and maintenance assistance.

Jennifer N. Kohlsaat

Education
MS, City and Regional Planning, Rutgers University, 1995

BS, Biological Sciences, University of Richmond, 1987

Registrations
NJDEP UST License - Subsurface #0011809, NJ, 1992

Qualified Control Rep., State Board of Insurance #00153, TX, 1997

OSHA Hazardous Waste Site Operations

OSHA Hazard Communications Training

Years in Practice - 22

Memberships
National Association of Local Government Environmental Professionals
National Brownfields Association

Experience Summary

Ms. Kohlsaat has been involved in the areas of environmental site and risk assessments, pre-disaster mitigation planning, environmental baseline and impact analysis, contamination characterization, Brownfield redevelopment and funding, industrial site evaluations, environmental permitting, and hazardous waste investigations. She manages projects related to Brownfield redevelopment, National Environmental Policy Act (NEPA) and state NEPAs, the NJ Site Remediation Reform Act, ISRA, UST Regulations, RCRA, the NYS Voluntary Cleanup Program, and voluntary cleanup programs in a number of states. She has been responsible for performing due diligence environmental site assessments (Phase I and Phase II) and environmental risk assessment surveys throughout the New England and Mid-Atlantic regions of the United States.

Ms. Kohlsaat's responsibilities associated with Brownfield projects include overall project management, evaluating feasibility and cost effectiveness of remedial plans including use of innovative technologies, and interfacing with clients, contractors, and representatives of regulatory agencies to ensure project completion. She has performed Brownfield inventories, oversight for the integration of GIS tools for interactive inventory/ranking databases, developed/implemented client-specific ranking criteria, prepared community workshops/public meetings as part of Brownfield programs. She also has performed and provided oversight of preliminary assessment/site investigation/remedial programs conducted in furtherance of redevelopment programs and has extensive experience with the preparation of funding documentation associated with various Brownfield initiatives (NJDEP/NJEDA HDSRF, the Brownfield Redevelopment Area Program, HUD, and the NJ Green Acres Program). She has provided coordination and oversight for HMM's "funded" Brownfield projects with a specialized focus on Brownfield to Greenfield Projects.

Ms. Kohlsaat's responsibilities for environmental impact analysis include management, documentation, and permitting in accordance with NEPA, State/Agency NEPA regulations (e.g., NY SEQR/CEQR, NJ EO215, etc.) and local impact assessment regulations. In addition, she has performed focused HAZMAT assessments as part of alternative analysis/environmental impact analysis (EIA) for transportation and infrastructure projects. She has prepared and implemented public involvement and outreach plans and coordinated regulatory agency comments as part of EIA projects. She has managed and provided technical oversight/peer review for environmental documentation projects for the Port Authority of New York and New Jersey, New Jersey Transit, and the District of Columbia Water and Sewer Authority (DC WATER), as well as private sector clients.

Selected Project Experience

Open Space Program Property Evaluation, MCIA, Various Sites, NJ

Project Manager for the performance of a multi-faceted property evaluation program in support of the Authority's Open Space Program. Typical project programs include assessments/investigations (as needed) in accordance with the New Jersey Technical Requirements for site remediation, wetland assessments/field surveys, and lot yield analyses. Wetland reviews include a feasibility assessment for various land uses and the lot yield analyses consist of determining the number of buildable given the current zoning and other known site-specific land-use constraints, including contamination issues, wetlands, streams/surface water bodies, threatened and endangered species, and topography, as well as the availability of utility service and other required infrastructure.

Environmental Impact Assessment, Long Slip Canal Project, New Jersey Transit, NJ
Client Manager/Technical Review for the preparation of an updated EA to fulfill FTA requirements for completion of the remaining elements of the proposed multi-faceted project which included the construction of a walkway bridge. NJ Transit received federal and state approvals in 2000 based on an EA and permits. Assisting NJ Transit, in association with specialty contractors, with the preparation of an updated EA pursuant to NEPA and various federal and state natural resource permits required for Federally-funded projects.

EA of Reservoir Improvements, Fort Stanton Park, District of Columbia Water and Sewer Authority (DC WATER)/National Park Service (NPS), Washington, DC
Project Manager for an Environmental Assessment (EA) to evaluate potential environmental impacts associated with required improvements to repair, stabilize, and environmentally restore a failed slope embankment and concurrently execute a transfer of jurisdiction of NPS property to DC WATER within Fort Stanton Park (U.S. Reservation 412). The proposed alternatives were assessed in accordance with NEPA and the NPS Director's Order 12, Conservation Planning, Environmental Impact Analysis, and Decision-making (NPS 2001), which requires that impacts to park resources be analyzed in terms of their context, duration, and intensity. The environmental analysis and assessment of alternatives for the proposed slope restoration focused on the development of a sustainable solution to both restoration and future maintenance and concluded that no major impacts are anticipated as a result of the proposed project.

Environmental Impact Analysis/Hazardous Materials (HAZMAT) Screening, Interchange Improvements, NJ Turnpike Authority, Middlesex County, NJ
Technical/Peer Reviewer for a hazardous waste screening study and environmental impact analysis of project alternatives associated with proposed improvements to an existing interchange located. The Screening Study was specifically designed to identify recognized or potential environmental conditions of the subject property and immediate vicinity (within 250 feet), including known soil and groundwater contaminants with the potential to impact construction activities. The study included the concurrent review and evaluation of six project alternates, allowing for assessment of relative impacts between proposed alternates. All information was presented in a HAZMAT Screening Report and incorporated in a comprehensive Environmental Screening/Constraints Analysis. Additional tasks for the selected alternative include the performance of an expanded Preliminary Assessment/Site Investigation Report, assistance with soil re-use planning, and, as necessary, compliance with the Administrative Requirements for the Remediation of Contaminated Sites (ARRCS) Rules N.J.A.C. 7:26C for soil and groundwater, and further review of environmental contamination for inclusion in the EO215.

Hazardous Materials Evaluation/DEIS, NYCT, Port Ivory Facility, Staten Island, NY
Provided technical and peer review for the Hazardous Materials section of the EIS for NYCT's Berth 4 Project in accordance with the CEQR Manual. Approximately 55% of the P&G Port Ivory facility has been redeveloped and is used for container storage, warehousing, and truck chassis storage. Further improvements will increase the size of the HHMT to 300+-acres and the berth length along the Arthur Kill to 4,350 feet. At the onset of the project, potential data gaps were identified (i.e., outstanding Phase I ESAs for certain parcels) and the additional data gathering efforts were integrated into the scope of work, minimizing the overall cost and time for the completion of this project.

Hatch Mott MacDonald

Geoffrey K. Clark, PG, LSRP

Education
MS, Geology (Hydrogeology), Rutgers University, 2002

BS, Geology, Franklin & Marshall College, 1995

Registrations
Professional Geologist #PG004019, PA, 2003

Licensed Site Remediation Professional #509039, NJ, 2009

ISO 9001:Certified Auditor/Lead Auditor #LR-10-105221, 2008

OSHA Hazardous Waste Site Operations

Years in Practice - 13

Memberships
ASTM International
NJ Licensed Site Remediation Professionals Association

Experience Summary

Mr. Clark has extensive experience conducting subsurface and groundwater investigations in New Jersey, Pennsylvania, New York, and Connecticut. His additional responsibilities include preparing SPCC Plans to meet federal regulations and DPCC/DCR Plans to meet New Jersey regulations. Mr. Clark also serves as HMM's Northeast Unit's Quality System Manager. Mr. Clark's experience primarily involves managing or conducting Phase I and II Environmental Site Assessments in accordance with ASTM Methods and completing preliminary assessments, site and remedial investigations, and remedial actions in accordance with a wide variety of state and federal regulations. Specifically, he has completed projects under guidelines established by the Industrial Site Recovery Act (ISRA, formerly known as the Environmental Cleanup Responsibility Act), Pennsylvania Act 2, the Resource Conservation and Recovery Act (RCRA), the Voluntary Cleanup and Brownfields Programs in New York, and voluntary cleanup efforts performed in New Jersey in accordance with the Technical Requirements for Site Remediation (NJAC 7:26E). Mr. Clark's areas of expertise include characterizing environmental media (soil, bedrock, surface water, groundwater, soil vapor, indoor air, and sediment) for environmental applications, determining aquifer properties through a variety of methods (slug tests, percolation tests, piezometer tests, pumping tests, and step-drawdown tests), and developing and maintaining spatial databases using Geographic Information Systems (GIS Due to his experience determining aquifer properties, Mr. Clark has provided *engineering support for dewatering activities, septic field design, detention basin design,* wetlands mitigation projects, and drilling and permitting of water supply wells.

Mr. Clark has employed site conceptual models and innovative/available technologies to streamline environmental investigations and remedial actions, resulting in cost savings to his clients. He has developed site-specific drilling techniques for vertical delineation in DNAPL source zones, and has used oriented coring, packer testing, FLUTe liners, and GIS as integral parts of numerous environmental investigations. Mr. Clark has designed, evaluated, or overseen a variety of remedial actions, including dewatering and on-site groundwater treatment systems, removal of LNAPL from recovery trenches, removal of LNAPL via product recovery canisters and/or oil-absorbent socks, in-situ chemical oxidation, and soil excavation. At several sites, he instituted administrative controls and/or oversaw remediation via monitored natural attenuation.

Mr. Clark is an active member of the Licensed Site Remediation Professionals Association, serving on various subcommittees of the Risk Management and Loss Prevention Committee.

Selected Project Experience

Phase I Environmental Site Assessments, New Jersey American Water, Various Sites, NJ

Project Manager for the Phase I ESAs of 9 properties in accordance with ASTM 1527-05. Recommended Environmental Conditions (RECs) included historic fill, potential pesticide applications, potential impacts to soil from lead-based paint, and nearby groundwater contamination (PFOS and PFOA, Teflon manufacturing related compounds). Assessed PFO and PFOA issues by evaluating analytical data and regional hydrogeology. Based partially on results of the assessment, the properties were purchased.

Phase II ESAs, Port Authority of NY/NJ, Central New Jersey
Project Manager for two Phase II Environmental Site Investigations. Recommended Environmental Conditions (RECs) at both properties included historic fill, dumping, nearby groundwater contamination, and (at one site) former aboveground and underground storage tanks. Surface soil, subsurface soil, groundwater, and surface water samples were collected. Developed a Geographic Information System (GIS) to demonstrate no statistically-significant relationship between soil impacts and RECs. Both properties were purchased and subsequently used for wetlands mitigation.

Hazardous Materials Evaluation/Draft Environmental Impact Statement (EIS), New York Container Terminal (NYCT), Port Ivory Facility, Staten Island, NY
Project Manager for the preparation of the Hazardous Materials section of the EIS for NYCT's Berth 4 Project in accordance with the City Environmental Quality Review (CEQR) Manual dated October 2001. Currently, approximately 69 acres (55%) of the P&G Port Ivory facility has been redeveloped and is used for container storage, warehousing, and truck chassis storage. Further improvements will include increasing the size of the HHMT from 187-acres to 300+-acres and increasing the berth length along the Arthur Kill from 3,000 feet to approximately 4,350 feet. At the onset of the project, potential data gaps were identified (i.e., outstanding Phase I Environmental Site Assessment for certain parcels) and the additional data gathering efforts were integrated into the scope of work, minimizing the overall cost and time for the completion of this project.

Remedial Investigation/ Action, Port Authority of NY/NJ, Staten Island, NY
Project Manager for the largest Voluntary Cleanup Program site in New York. The project involved the investigation of soil, surface water, sediment, groundwater, soil vapor, and indoor air to complete a Remedial Investigation. Conducted an Interim Remedial Measure to remove mobile LNAPL. Successfully negotiated with the NYSDEC to remove only mobile LNAPL and leave immobile LNAPL in place with administrative controls. Prepared a Remedial Action Work Plan (RAWP) that underwent a public review/comment process and was approved by the NYSDEC. The remedial actions will be include the construction of engineering controls (asphalt or concrete pavement or one foot of clean cover), excavation of soil in discrete "hot spots," removal of mobile LNAPL, establishment of a Deed Restriction, and sub-slab venting systems to mitigate potential vapor intrusion issues. Currently preparing the Deed Restriction, Site Management Plan, and Final Engineering report in support of the certificate of Completion, which the NYSDEC will likely issue. Successfully petitioned the NYSDEC to drop the required annual groundwater and surface water sampling at a closed landfill at the site. Assisted in the design of a floating debris barrier and a stabilized shoreline along the Arthur Kill.

Remedial Investigation Groundwater/Vapor Intrusion Investigation, Former Tube Manufacturing Facility, Bridgewater, NJ
Project Manager for the investigation of groundwater impacted by chlorinated VOCs in overburden, weathered bedrock, and fractured bedrock water bearing zones. Rather than attempting vertical and horizontal delineation by repeatedly stepping out from existing wells, a process that is usually inefficient and costly in a fractured bedrock aquifer, proposed a Remedial Investigation that used geophysical techniques to identify important fracture zones and the Water FLUTe™ liner/discrete zone sampler to characterize groundwater quality along the hydraulically-important fractures. The RIWP was approved by the NJDEP with minor revisions and has been implemented.

Hatch Mott MacDonald

Anthony F. Pedro, PE, LEED® AP

Education
BS, Civil Engineering, New Jersey Institute of Technology, 1988

Registrations
Professional Engineer #24GE03790500, NJ, 1993

LEED® Accredited Professional, 2008

NJDEP UST License - All Categories #443358, 2008

OSHA Hazardous Waste Site Operations

Years in Practice - 22

Memberships

American Society of Civil Engineers

Experience Summary

Mr. Pedro's engineering experience encompasses all project phases, from the preliminary design and permitting stages through to the construction management stage. He has performed project management/coordination services including contractor coordination, budget management, schedule maintenance, and engineering consultant liaison. He has served as corporate representative and expert witness at local planning and zoning board meetings, and plant representative at other public and governmental functions. He has also been involved in the ISO 14001 certification process, serving as a lead auditor in that endeavor.

Mr. Pedro has completed several construction and demolition projects including a new welding shop/maintenance building, municipal park and recreation facility improvements, and above ground and underground storage tanks (ASTs/USTs) and fueling facilities. Mr. Pedro has completed designs for site improvement projects, landfill cover improvements, and vehicle fueling facilities. He has been involved in the design and construction of numerous solid waste transfer stations, sanitary landfills, and materials handling and recycling facilities and sanitary sewer systems. In addition to the preparation of detailed plans and specifications, Mr. Pedro provides construction management and contract administration services, including coordination of field inspectors and subcontractor activities for numerous municipal and private environmental and building construction projects. His other duties include permitting on the federal and state level for site soil and groundwater clean-up, industrial wastewater discharge, air emissions, treatment works, sanitary sewer extension, and underground storage tanks.

Selected Project Experience

Stormwater Management Compliance, Ramapo College, Mahwah, NJ
Project Manager responsible for providing comprehensive mapping of stormwater outfalls and drain inlets. Also conducted an illicit connection detection program, and inspected Stormwater Best Management Practices (BMPs) pursuant to the NJDEP Public Complex Stormwater General Permit. Dye testing and televised sewer inspections were used to locate a potential illicit connection. A Geographic Information System (GIS) database was developed to facilitate annual inspection and cleaning of drain inlets, as well as BMP, outfall, and roadside scour inspections.

Environmental Engineering Services, Georgian Court, Lakewood, NJ
Project Manager for various environmental assignments, including development of a Spill Prevention Control and Countermeasure (SPCC) Plan, and updates as required by new construction and changes to the campus. Provided engineering services for underground storage tank (UST) removal, including the preparation of bid documents, specifications, and all NJDEP permitting, and performance of site assessment sampling. Also performed air permitting tasks, including emissions calculations and permitting for 21 boilers in 11 buildings, and performed air quality monitoring for several projects including Asbestos Containing Materials (ACM) roofing removal, potential mold investigations, and general air quality investigations.

Underground Storage Tank (UST) Upgrades and Removals, NJ Turnpike Authority, *Various Garden State Parkway Sites*, NJ
Managed project to provide complete tank management services, in two phases, consisting of the evaluation and preparation of plans, specifications, and bid documents for the removal, upgrade, and replacement of 22 USTs at 14 sites along the Garden State Parkway. Provided construction management and environmental inspection services, including reporting services during the construction phase. (2007-2009)

Underground Storage Tank Replacements, Joyce Kilmer Service Area (8N), NJ Turnpike Authority, East Brunswick, NJ
Performed construction project management services for the replacement of five tanks and the upgrade/retrofitting of one tank at this Service Area. Responsibilities included management of construction inspectors and construction contractors, and coordination of efforts by multiple project managers from the fuel merchant, Owner, and design engineer. (2005-2006)

Underground Storage Tank Replacements, Thomas A. Edison Service Area (10S), NJ Turnpike Authority, Woodbridge, NJ
Performed construction project management services for the replacement of five tanks and the upgrade/retrofitting of one tank at this Service Area. Responsibilities included management of construction inspectors and construction contractors, and coordination of efforts by multiple project managers from the fuel merchant, Owner, and design engineer. (2006-2007)

UST Upgrades, Replacements, and Removals, Ocean County, NJ
Responsible for the design and construction services for 29 underground storage tanks (USTs). The project consisted of 22 tank removals, 10 tank replacements, and five tank upgrades. All of the new and upgraded tanks were installed with new tank management and monitoring systems that can be polled from a central location.

Underground Storage Tank Services, Middlesex County Mosquito Extermination Commission, Middlesex County, NJ
Performed survey, site plan preparation, final design, and construction observation for underground storage tank projects at three sites. Designs included upgrade/retrofitting existing unleaded gasoline tanks, removal and replacement of diesel fuel tanks, and design of an aviation fuel storage and fueling system. Assisted in preparation of specifications.

Underground Storage Tank (UST) System Improvements, Monmouth County Board of Chosen Freeholders, Freehold, NJ
Performed survey, site plan preparation, and coordination of construction observation for project encompassing 11 sites. Developed final design for UST systems, fueling facilities, and environmental protection systems. The project included the removal of 21 tanks, removal and installation of 13 tanks, and the upgrade/retrofitting of five tanks.

Hatch Mott MacDonald

Gary K. Walker, CHMM

Education
BS, Environmental Science, Rutgers University, 1980

Registrations
Certified Hazardous Materials Manager #0859, 1986

Industrial Waste Treatment Operator (N-1) #N-0012, NJ, 1986

OSHA Respirator Fit Tested

NJDEP Clean Up Star Certification, 2004

Years in Practice - 31

Memberships
Academy of Certified Hazardous Materials
Institute of Hazardous Materials Management
National Solid Waste Management Association

Experience Summary

Since joining Hatch Mott MacDonald (HMM) in 1980, Mr. Walker has gained experience in Solid/Hazardous Waste Management and Industrial Waste Treatment. He is currently responsible for the overall management of projects involving compliance with New Jersey's /ISRA, RCRA, NPDES, and/or UST regulations. Additional projects include environmental assessments of sites undergoing a change in ownership as part of due diligence efforts as required under CERCLA and SARA. Mr. Walker is HMM's Project Coordinator for the Site Feasibility & Environmental Site Closure Services Contract for the New Jersey Schools Development Authority. His responsibilities include technical review of all reports and proposals, project team management and scheduling, project budget monitoring, performance of site inspections, quality control, interfacing with the client and the NJDEP, and overall project management.

Mr. Walker is the Program Manager for HMM's current Task Order Contract with NJ Transit. His responsibilities include technical review of all reports and proposals, project team management and scheduling, project budget monitoring, performance of site inspections, quality control, interfacing with the client and the NJDEP, and overall project management. He also served as Project Coordinator for the NJ Transit Environmental Engineering Task Order Contract (GEEC) that HMM held from 2003-2006 and remains the primary contact for continuing projects with NJ Transit. His responsibilities include technical review of all reports and proposals, project team management and scheduling, project budget monitoring, performance of site inspections, quality control, interfacing with the client and the NJDEP, and overall project management. Projects include due diligence for proposed Park and Ride facilities, Remedial Investigations and/or Remedial Designs at bus facilities, rail yards, and substations.

Selected Project Experience

Bay Head Yard Remedial Investigation, NJ Transit , Ocean County, NJ
Environmental services include construction oversight of environmental issues, remedial investigation, operation oversight, and sampling of a groundwater remedial system. The project included shallow soil and groundwater diesel fuel contamination and historic fill soil contamination. As Project Coordinator, responsible for the review of cost estimates, technical review of documents, quality control review of select fieldwork, and interfacing with the client, the NJDEP, and contractors.

Market Street Bus Garage Remedial Investigation, NJ Transit, Paterson, NJ
Environmental services included a remedial investigation, implementation of interim remedial measures for product removal from groundwater, and semi-annual groundwater sampling. The project included soil and groundwater diesel fuel and heating oil contamination and historic fill soil contamination. As Project Coordinator, responsibilities include review of cost estimates, review of documents, and interfacing with the client, the NJDEP, and contractors.

Union City Bus Garage Remedial Action, NJ Transit, Hudson County, NJ
Environmental services include a remedial investigation, implementation of interim remedial measures for product removal from groundwater, and semi-annual groundwater monitoring. Prepared Remedial Action Workplan (RAW) and Remedial Action Progress Reports (RAPRs) including Classification Exception Area documents. As Project Coordinator, responsibilities included review of cost estimates, review of historical documents, technical review of all project documents, and interfacing with the client and the NJDEP.

Building Remediation Oversight, American Standard, Piscataway, NJ
The contamination at this site included a styrene resin sandwiched between two floors within a building formerly leased by the client. Although there were no health hazards with the encapsulated resin, the property owner required its removal. Project included preparation of NJDEP reports and a Remedial Work Plan, procurement of a remedial contractor, and oversight of the remediation, which was complicated by the presence of a tenant in the building. Significant effort was made to encapsulate the contaminated area during the removal effort to protect the tenant's workers from potential impacts. Continuous air monitoring was conducted to prevent exposure to the tenant's workers.

Wright's Roses, Environmental Services, Cranbury, NJ
Oversight of a site investigation to determine whether historic pesticide contamination was present at this former florist. Twenty-six soil borings/grab samples were installed, resulting in determining arsenic and lead contamination. Developed a Remedial Action Workplan and specifications, which included soil blending to remediate the historic pesticide contamination. The implementation of the remedial action has been successfully completed. Responsibilities included coordination of the field sampling and remedial action, preparation of the reports and proposals, and corresponding with the client and the NJDEP.

Seaview Manor and Grant Court Housing Development Remediation, Long Branch Housing Authority, Monmouth County, NJ
Project Manager for the environmental element of the remediation and reconstruction of the housing developments, which had been built on properties impacted by a former Manufactured Gas Plant. The responsible utility company conducted a comprehensive Remedial Investigation and developed a proposed Remedial Action Work Plan. Responsibilities included reviewing and commenting on all investigation and proposed remedial plans, attending public meetings on behalf of the housing authority, advising the authority on potential health risks of the various remedial options, periodic oversight of the remedial activities, and managing the design and implementation of a separate Remedial Action Work Plan for new site utilities. Primary project responsibility was to ensure that the responsible utility company remediated the two properties to a level that would allow the reconstruction of the residential properties. Site remediation was completed and Seaview Manor and The new Grant Court Complex reconstructed and occupied.

Hatch Mott MacDonald

Roy J. Redmond, PG, LSRP, LEP

Education
MS, Geology, Lehigh University, 1982

BA, Geology, Rutgers University, 1979

Registrations
Professional Geologist #PG-000470-G, PA, 1994

Professional Geologist #1429, NC, 1995

Licensed Site Remediation Professional #507610, NJ, 2009

Licensed Environmental Professional #480, CT, 2007

NJDEP UST License - Subsurface #0012166, NJ, 1992

OSHA Hazardous Waste Site Operations, 1984

OSHA Hazardous Waste Site Ops. Supervisor

OSHA Hazard Communications Training

Years in Practice - 28

Memberships
American Geophysical Union
Association of Groundwater Scientists and Engineer

Experience Summary

Mr. Redmond has worked as a Professional Geologist since 1982, gaining the majority of his experience as a member of HMM's Environmental Division. As a Principal Geologist, he has been responsible for all phases of project management, from scope-of-services proposals to final reports and presentations. His responsibilities include supervising a staff of geologists, creating project teams, establishing project needs, scheduling and coordinating contractors, maintaining contact with clients and governmental agencies, cost analysis and budget tracking, and ensuring the timely completion of all projects. The majority of projects completed under his direction involve remedial investigations and design of remedial systems for soil and groundwater contamination. The remedial investigations consist of extensive hydrogeological investigations from site characterization through computer modeling to determine impact on potential receptors. He has prepared remedial design concepts and coordinated with engineering staff for the final remedial design package. He oversees the permitting/implementation of the remedial systems and monitors remedial system performance and efficacy. Mr. Redmond has managed numerous hydrogeological investigations concerned with contaminated groundwater and has been involved with hydrogeological investigations associated with regional groundwater flow and groundwater supply. Many investigations include determining the source of the contamination, delineating the extent of the contamination based on the nature of the contaminants and the site geology, aerial photograph interpretation, and determining contaminant transport.

In November, 2009, the NJDEP implemented the Licensed Site Remediation Professional (LSRP) Program, which allows environmental professionals to manage projects without NJDEP oversight. Mr. Redmond has issued RAOs for unrestricted use for specific areas of concern for the New Jersey Turnpike Authority's Woodbridge Motor Pool, and the Avalon State Police, Pleasant Plains State Police, and Great Egg Tolls facilities. He has been heavily involved in meetings with the NJDEP and Turnpike Authority to discuss transitioning all Turnpike Authority site remediation projects into the LSRP program ahead of the required deadline. Once the transition is complete, Mr. Redmond will be the LSRP of record for numerous remediation projects in various stages of completion.

Selected Project Experience

Site Remediation Program, NJ Highway Authority (NJHA), Various Sites, NJ
Program Manager responsible for NJHA's overall site remediation program beginning in 1988 until its merger with the NJ Turnpike Authority in 2003. Priorities were established based on known or potential impact to receptors. Initiated annual meetings with the NJDEP, which later became known as their Cooperative Venture Program, and represented NJHA at all NJDEP meetings to discuss priorities and budgets to determine which cleanups would be funded with limited financial resources. Continuously negotiated for reduction in monitoring requirements for cost savings. Responsible for developing five-year budget projections on spending for environmental projects based on agreements with the NJDEP made during annual meetings. Oversaw operation and maintenance of remedial systems, stressing efficacy of the remedial actions, and developed life-cycle uses of systems and equipment to reduce cleanup costs. Advised and assisted NJHA in the award of environmental projects to other consultants, and provided oversight of the alternate consultants to ensure work was technically complete and recommendations were in line with NJHA's program.

Remedial Investigation, Brookdale North Service Area, NJ Turnpike Authority, Bloomfield, NJ
Project Manager for the remedial investigation and remedial actions following the 1986 discharge from the former underground storage tank (UST) system. The investigations included soil gas surveys, soil sampling, groundwater sampling, sediment sampling, surface water sampling, and aquifer characterization. An air sparge/soil vapor extraction (AS/SVE) remedial system was constructed and began operating in August 1998. The recovered vapors were treated via a catalytic thermal oxidizer (Catox) and vapor-phase granular activated carbon. A vapor control system was installed to vent the soils beneath the building slab to prevent the vapors from entering the building interior. A hydraulic barrier was installed around the pump island area. In conjunction with the barrier, multi-phase extraction events are conducted at regular intervals targeting on-site groundwater monitoring wells to remove contaminated groundwater and retrieve volatile vapors from wells in the pump island and in the existing tank field areas. Prepared an ecological evaluation of the adjacent river to demonstrate no significant impact to the ecology. Currently conducting compliance monitoring and reporting.

Site Remediation Program, NJ Turnpike Authority (NJTA), Various Sites, NJ
Program Manager for services provided as an environmental consultant for NJTA under their Order for Professional Services contract since 1991. Responsible for project management at many of their remedial action projects, including Service Areas 1S, 1N, 7S, 8N, 10S, 12S, and 13S. Completed remedial investigations to identify source areas and extent of contamination, and designed remedial systems to provide cleanup. Oversaw operation and maintenance of remedial systems, stressing efficacy of the remedial actions, and developed life-cycle uses of systems to reduce cleanup costs. If operating remedial systems were taken over from other consultants, assessed the remedial actions and made modifications to increase efficacy and reduce costs. Proposed that the NJTA establish annual meetings with the NJDEP, and helped prepare NJTA in prioritization and annual project costs for this meeting. Provided expert witness support for the NJTA's successful cost recovery action.

Environmental Impact Analysis/Hazardous Materials (HAZMAT) Screening, Interchange Improvements, NJ Turnpike Authority, Middlesex County, NJ
Project Manager for a hazardous waste screening study and environmental impact analysis of project alternatives associated with proposed improvements to an existing interchange located. The Hazardous Waste Screening Study was specifically designed to identify recognized or potential environmental conditions of the subject property and immediate vicinity (within 250 feet), including known soil and groundwater contaminants, which may or may not have an impact on the construction activities. The study included the concurrent review and evaluation of six project alternates for the purpose of assessing the relative impacts between the proposed alternates. All information was presented in a HAZMAT Screening Report as well as incorporated in a comprehensive Environmental Screening/Constraints Analysis. Additional project tasks for the selected alternative include the performance of an expanded Preliminary Assessment/Site Investigation Report, assistance with soil re-use planning, and, as necessary, compliance with the Administrative Requirements for the Remediation of Contaminated Sites (ARRCS) Rules N.J.A.C. 7:26C for soil and groundwater, and further review of environmental contamination for inclusion in the EO215.

Hatch Mott MacDonald

Michael E. Poland, PE

Education
ME, Geo-Environmental Engineering, Stevens Institute of Technology, 2006

BE, Environmental Engineering, Stevens Institute of Technology, 1999

Registrations
Professional Engineer #24GE04563700, NJ, 2005

Years in Practice - 10

Memberships
American Society of Civil Engineers
Interstate Technology Regulatory Council
National Ground Water Association
Stevens-Tech Alumni Environmental Professionals

Experience Summary

Mr. Poland joined Hatch Mott MacDonald (HMM) in 2008 with eight years of experience performing and managing environmental investigations and implementing in-situ and ex-situ groundwater and soil remediation projects. He has managed projects related to Brownfield redevelopment, voluntary cleanup programs, and underground storage tank (UST) regulations for a variety of facilities, including manufactured gas plants, research and development facilities, commercial and industrial facilities, and residential areas, throughout New Jersey, New York, Pennsylvania, and Florida.

Mr. Poland has participated in preparing work plans and reports for all phases of site remediation in addition to implementing the characterization and investigation phases of the projects.

Selected Project Experience

Preliminary Assessment and Site Investigation, Merrie Acres Farm Property, Joseph Bogansky, Plumsted Township, NJ
Project Manager for the preparation of a Preliminary Assessment (PA) and Site Investigation (SI) to evaluate a 19-acre horse farm and residential property prior to purchase in order to identify any potentially contaminated areas of concern (AOCs) through a diligent inquiry into the current and historical use of the site. Conducted the site reconnaissance, coordinated the PA, and reviewed the PA Report. An SI was required to address two AOCs identified in the PA: a former agricultural applied pesticide area and a septic system/leachfield. Conducted the SI soil sampling and reviewed the SI Report. The Licensed Site Remediation Professional issued a Response Action Outcome (RAO) to the prospective property purchaser for the site. (2010)

Phase I Environmental Site Assessment, Jumping Brook Property, Ocean County Planning Board, Plumsted Township, NJ
Project Manager for a Phase I Environmental Site Assessment (ESA) to evaluate a 98-acre undeveloped property for the presence or absence of environmental concerns. Coordinated the ESA and reviewed the Phase I ESA Report, which included site reconnaissance, interviews with the property owner, and review of environmental records. (2009-2010)

Phase I Environmental Site Assessment, Toms River Headwaters Extension Property, Ocean County Planning Board, Jackson Township, NJ
Project Manager for a Phase I Environmental Site Assessment (ESA) to evaluate a 35-acre undeveloped property for the presence or absence of environmental concerns. Coordinated the ESA and reviewed the Phase I ESA Report, which included site reconnaissance, interviews with the property owner, and review of environmental records.

Preliminary Assessment, Horner Property, Ocean County Planning Board, Ocean Township, NJ
Project Manager for the preparation of a Preliminary Assessment (PA) to evaluate a 877-acre undeveloped wooded property to identify any potentially contaminated areas of concern through a diligent inquiry into the current and historical use of the site. Coordinated the PA and reviewed the PA Report, which was submitted to the NJDEP Green Acres Program. (2009)

Phase I Environmental Site Assessment, Marlboro Partners Property, Monmouth County Department of Buildings and Grounds, Marlboro Township, NJ
Project Manager for a Phase I Environmental Site Assessment (ESA) to evaluate a 5-acre undeveloped property for the presence or absence of environmental concerns. Coordinated the ESA and reviewed the Phase I ESA Report, which included site reconnaissance, interviews with the property owner, and review of environmental records. (2009)

Phase I Environmental Site Assessment, Cold Spring Brook Property, Ocean County Planning Board, Ocean Township, NJ
Project Manager for a Phase I Environmental Site Assessment (ESA) to evaluate a 22-acre undeveloped wooded property for the presence or absence of environmental concerns. Coordinated the ESA and reviewed the Phase I ESA Report, which included site reconnaissance, interviews with the property owner, and review of environmental records. (2009)

Phase I Environmental Site Assessment, M&R Property, Ocean County Planning Board, Ocean Township, NJ
Project Manager for a Phase I Environmental Site Assessment (ESA) to evaluate a 37-acre undeveloped wooded property for the presence or absence of environmental concerns. Coordinated the ESA and reviewed the Phase I ESA Report, which included site reconnaissance, interviews with the property owner, and review of environmental records. (2009)

Phase I Environmental Site Assessment, Commodore Point Property, Ocean County Planning Board, Jackson, NJ
Project Manager for a Phase I Environmental Site Assessment to evaluate a 37-acre property for the presence or absence of environmental concerns. Performed site reconnaissance of the property consisting of primarily undeveloped land, interviewed the property owner, and conducted a review of environmental records. (2008)

Preliminary Assessment, Department of Public Works Yard, Sea Girt Borough, Monmouth County, NJ
Project Manager for the preparation of a Preliminary Assessment of a Department of Public Works yard where the chlorinated compound tetrachloroethene (PCE) was detected in groundwater. An ongoing groundwater investigation associated with a former underground storage tank (UST) indicated that contamination (PCE) not associated with products stored in the UST was detected in groundwater samples. The Preliminary Assessment focused on the identification of any areas of potential environmental concern that had the potential to be a source of PCE.

Vapor Intrusion Evaluation and Mitigation, Various Sites, NY and NJ
Assistant Project Manager for evaluating the vapor intrusion impact to several redevelopment projects in which soil and groundwater were impacted by volatile organic compounds (VOCs). Designed sub-slab ventilation systems and vapor barriers to mitigate the vapor intrusion impact on the building. Upon construction, performed pilot testing of two active ventilation systems to confirm proper system operation.

Hatch Mott MacDonald

Kevin J. Herrighty

Education
BA, Biology, Montclair State College, 1977

Registrations
Qualified Control Rep., State Board of Insurance #0010548, TX, 1992

Asbestos Safety Control Monitor #00052, NJ, 2008

Asbestos Safety Technician #00896, NJ, 1991

Accredited AHERA Inspector/Mgt Planner/Supervisor #RWJ1265AA, 1991

Accredited AHERA Project Designer #NAETI11098, 1995

Former NJ Asbestos Supervisor Permit #25941, NJ, 1991

Former NJ Lead Paint Planner/Project Designer #001604, NJ, 1995

Registered Asbestos Supervisor, NAERS #166

Registered Asbestos Project Monitor, NAERS #22

Asbestos Inspector/Mgt Planner/Project Designer #AH96-21681, NY, 1997

NY City Asbestos Investigator #104958, NY, 2002

OSHA Hazardous Waste Site Ops. Supervisor

OSHA Confined Space Entry

OSHA Occupational Exp to Bloodborne Pathogens

OSHA Hazard Communications Training

OSHA Respirator Fit Tested

NJDEP UST License - Subsurface #0010548, 1991

Years in Practice - 31

Experience Summary

Mr. Herrighty has been involved in the areas of hazardous waste investigations, industrial site evaluations, environmental audits, environmental site and risk assessments, remedial action planning and design, implementation of remedial actions, asbestos and lead paint surveys, and asbestos abatement projects. He has been involved with all aspects of environmental sampling. His sampling experience ranges from wastewater sampling for NJPDES permits to the sampling of soils, sediments, leachates, and surface water and groundwater on industrial properties and Superfund sites. Mr. Herrighty has been responsible for coordinating field operations and training personnel in regard to hazardous waste/safety awareness procedures. These projects have included investigations and sampling of soils, waters, and waste streams for various environmental site and risk assessment projects, including remedial investigations/feasibility studies on Superfund sites, ISRA, UST, SPCC, WPCA, and RCRA regulations. His responsibilities include preparing reports for regulatory agencies, obtaining various permits (air, NJPDES, etc.), analyses of the environmental impacts at commercial/industrial properties, formulating and implementing detailed assessment plans, and preparing and implementing remedial plans. He has been responsible for preliminary site inspection and investigation, development and implementation of sampling plans, positioning and observing the installation of soil borings and monitoring wells, and sample collection. Mr. Herrighty has performed due diligence environmental site and risk assessment audits (including asbestos surveys) of commercial/industrial properties for insurance, financial, and development companies.

As HMM's Health and Safety Officer, Mr. Herrighty has developed and implemented corporate Health and Safety policies and training programs. He prepares and reviews site-specific Health and Safety plans. He has also been responsible for purchasing and maintaining HMM personal protection and Health and Safety equipment.

As an AHERA Inspector and Project Manager, Mr. Herrighty has been responsible for performing asbestos identification and assessment investigations. These have been followed by designing asbestos abatement specifications according to USEPA and New Jersey Asbestos Hazard Abatement Subcode (Subchapter 8) regulations. As a former New Jersey Lead Planner/Project Designer, Mr. Herrighty has also been responsible for performing limited lead-based paint screening surveys and the review of contractor's documents prior to and during lead paint abatement projects. These documents have included the Environmental Compliance Plan, Health and Safety Plan, personnel qualifications, and environmental monitoring analytical results.

Selected Project Experience

General Environmental Engineering Contract, Port Authority of NY/NJ, Various Sites, NJ

Provided assistance in the review and recommendations for Health and Safety concerns for the investigations and/or remediation for several projects involving the client's personnel, contractors, and HMM personnel.

Veterans Court House Asbestos Management Services, Essex County, NJ
Conducted an asbestos survey and sampling of suspect material and prepared asbestos abatement specifications based on survey results for renovations as part of an on-call contract. Performed oversight as an Asbestos Safety Technician (AST) in accordance with NJ Subchapter 8 Regulations for occupied buildings. AST responsibilities included collection of clearance and progress air samples, coordination and communication with regulatory agencies, and overall oversight of asbestos abatement crew.

Grand Central Terminal Asbestos Management Services, Metro-North Railroad/Metropolitan Transit Authority (MTA), New York, NY
Conducted an asbestos survey on the MTA's Grand Central Terminal and trainsheds prior to proposed ventilation system renovations. Assisted in the preparation of reports and as-built drawings identifying the presence of ACM requiring removal prior to the installation of a new ventilation system.

Investigation and Remediation Support at Lead Contaminated Bridge Sites, NJ Turnpike Authority, Atlantic and Cape May Counties, NJ
Project Manager responsible for technical oversight of the remediation of lead contaminated soil and blasting material at seven bridge sites. The general scope of work included immediate response, recommendation of emergency procedures and oversight during the remedial actions.

Site Feasibility Investigation Services, NJSCC, Union City, NJ
Project Manager/Team Leader for the Site Feasibility Investigation Services for the proposed Union City High School #2. The site consisted of one city block including apartment buildings and commercial and industrial properties. Duties included conducting site inspections to identify AOCs and preparation of Preliminary Assessments of each land parcel, preparation and implementation of a Site Investigation to cover the entire project area, soils and a groundwater investigation with the installation of temporary well points, and sampling of existing well points. Prepared a Remedial Investigation Plan and cost estimate for leaking UST decommissioning and soils contaminated with metals, base neutral compounds, and PCBs. Associated with the environmental investigations, *prepared reports for identification of flood hazard areas, wetlands, and water bodies*, the presence of historic or archeological resources, permit issues, geotechnical design, and the preparation of a conceptual design. Conducted field survey/inspection for asbestos, lead-based paint (LBP), and PCB-containing equipment. Also assisted with Ground Penetrating Radar Survey for USTs and a radiological survey. Prepared environmental reports and assisted in the preparation of the Environmental Impact Report. Prepared Preliminary Assessment Reports, a Site Investigation Report, a Remedial Action Work Plan, and a Radiological Remediation Plan, and specifications for site remediation and asbestos abatement. Also prepared Property Acquisition Cost Estimate Reports for the client.

Hatch Mott MacDonald

Ellen K. Moore

Education
BS, Environmental Science, William Paterson University, 1999

Registrations
NJDEP UST License - Subsurface #283324, 2007

Accredited AHERA Asbestos Supervisor

Accredited AHERA Project Designer #18713, 2005

Accredited AHERA Management Planner #18621, 2005

Asbestos Safety Technician #01077, NJ, 2006

Asbestos Building Inspector

Air Sampling Technician, NY

Registered Asbestos Project Monitor, NAERS #AH01-15517, NY

Sampling Technician #AH01-15517, NY

Building Inspector #AH01-15517, NY

NY City Asbestos Investigator #99366

OSHA Hazardous Waste Site Ops. Supervisor

OSHA Confined Space Entry

Years in Practice - 11

Memberships
New Jersey Academy of Science

Experience Summary

As a member of Hatch Mott MacDonald's (HMM) Environmental Management Division, Ms. Moore's project duties include hazardous waste investigations, industrial site evaluations, environmental audits, environmental site and risk assessments, remedial action planning and design, and implementation of remedial actions. She also has extensive experience in the planning, design, and management of asbestos and lead paint surveys and asbestos abatement projects. She has been involved with all aspects of environmental sampling, ranging from wastewater sampling for NJPDES permits to the sampling of soils, sediments, leachates, surface water, and groundwater on industrial properties.

Ms. Moore has also been responsible for coordinating field operations. These projects have included investigations and sampling of soils, waters, and waste streams for various environmental site and risk assessment projects, including remedial investigations/feasibility studies on Brownfield sites, and in accordance with ISRA, UST, and RCRA regulations. Her responsibilities include preparing reports for regulatory agencies, obtaining various permits (air, NJPDES, etc.), analyses of the environmental impacts at the commercial/industrial properties, formulating and implementing detailed assessment plans, and preparing and implementing remedial plans. Ms. Moore has performed due diligence environmental site and risk assessment audits (including asbestos surveys) of commercial/industrial properties for insurance, financial, and development companies. These projects involve the review of past and present operations, site history, and the environmental compliance issues associated with these uses. Ms. Moore has also assisted in Preliminary Assessments (PA), Phase I Environmental Site Assessments (ESA), Site Investigations (SI), Remedial Investigations (RI), Background Ecological Evaluations (BEE), and implementation of remedial actions.

As an AHERA Inspector, Ms. Moore has performed asbestos identification and assessment investigations. This includes obtaining bulk samples of suspect ACMs for laboratory analysis and preparing inspection reports. As an Air Sampling Technician, Ms. Moore has also conducted asbestos air monitoring of abatement projects as required by the USEPA NESHAP during demolition. The air monitoring includes progress sampling around the abatement site as well as clearance sampling upon project completion. As a New York City Investigator, she has performed similar asbestos inspections and assessments in accordance with New York City and federal regulations.

Selected Project Experience

Grand Central Terminal Asbestos Survey, Metro-North/Metropolitan Transit Authority (MTA), New York, NY

Conducted an asbestos survey on the MTA's trainsheds prior to renovations. Assisted in the preparation of reports and as-built drawings identifying the presence of Asbestos Containing Materials (ACMs) requiring removal prior to the installation of a new cooling system.

Community Right-to-Know Survey, Port Authority of NY/NJ, NY and NJ
Project Manager for the organization and implementation of the annual SARA Title III/Community Right-to-Know Survey for all facilities to comply with state requirements. Activities include performing hazardous substance inventories, database coordination, and the review/input of manufacturer MSDSs.

On-Call Brownfield Services, Various Sites, City of Plainfield, NJ
Project Manager for the 2008-2010 USEPA and NJDEP Brownfield on-call contracts, which includes the performance of Preliminary Assessment/Phase I Environmental Site Assessment (PA/ESA) projects, the development of Work Plans for the evaluation of areas of potential environmental concern identified through initial due diligence, and the performance of site investigative activities for soil and groundwater and limited remedial actions. In addition, performed indoor air sampling, underground storage tank removals, groundwater sampling and evaluation, review and evaluation of analytical data, installation and sampling of soil borings/test pits, oversight of GPR survey, as well as prepared technical reports. Several sites have required the performance of Expanded Preliminary Assessment, which includes tasks under USEPA Phase I guidelines as well as NJDEP protocols. Program sites have included day care centers, former gasoline filling stations, and other industrial-use sites. Other program tasks have included preparation of QA/QC plans and Health and Safety plans.

Brownfield Redevelopment, Confidential Client, Paterson, NJ
Performed a review of environmental conditions at two Brownfield sites located in the industrial section of the town. Due to the limited time associated with financial aspects of pending transactions, the projects were performed on a fast-track schedule by integrating proposed end uses into the decision making from assessment through remedial action selection. Performed a preliminary assessment for one property and site investigation at both properties. In both cases, developed and implemented an investigation based on the proposed end use of the site. Performed soil sampling within buildings at both properties, including the use of an innovative technology (i.e., Encore Sampling Technique) to perform the soil sampling at one site. Prepared technical reports for both sites which set forth remedial strategies consisting of the use of an environmental cap (engineering control) and the assignment of a Deed Notice (institutional control).

Brownfield Redevelopment, Nat Turner Park, Trust for Public Land, NJ
Deputy Project Manger for the performance of assessment, investigation, delineation and remediation of an 8.74 acre parcel to be redeveloped as a public park. The site was formerly comprised of three city blocks that were demolished in preparation of construction of a park in the 1970s. Prepared forms for obtaining funding through NJDEP Hazardous Discharge Site Remediation Fund (HDSRF) program for the performance of the PA as well as site investigation (SI), remedial investigation, and remedial action tasks. Investigation and remediation resulted in the removal of 16 USTs, historic fill characterization, removal of PCB-impacted soils in accordance with USEPA TSCA requirements and assignment of engineering and institutional controls.

Hatch Mott MacDonald

Robert M. Trepp, Jr.

Education
MS, Environmental Science, New Jersey Institute of Technology, 2007

BS, Environmental Studies, St. John's University, 1998

Registrations
NJDEP UST License - Subsurface #216689, 2007

OSHA Hazardous Waste Site Operations

Years in Practice - 11

Experience Summary

Mr. Trepp joined Hatch Mott MacDonald's (HMM) Environmental Management Division in 2006. His project duties include preparing environmental site assessments (ESAs) and preliminary assessments (Pas) and implementing site investigations (SI) and remedial investigations (RI). These activities include conducting site inspections, researching site history, interpreting historical maps and aerial photographs, interpreting analytical data, and reporting. His field responsibilities include overseeing the drilling of soil borings and the excavation of test pits, conducting soil sampling, overseeing monitoring well installation, and conducting groundwater sampling using both conventional purging and low flow purging methods. Mr. Trepp has submitted remedial action selection reports/remedial action work plans (RAWs) for sites that require remediation. He supervises and assists entry level staff with field activities and reporting.

Mr. Trepp's experience involves conducting Phase I ESAs in accordance with the most current ASTM E1527 methods and completing preliminary assessments, site and remedial investigations, and remedial actions in accordance with a wide variety of state and federal regulations, including the Technical Requirements for Site Remediation in New Jersey (NJAC 7:26E) and the Maryland Department of the Environment's Oil Control Program. Specifically, he has completed projects under guidelines established by the Industrial Site Recovery Act (ISRA, formerly known as the Environmental Cleanup Responsibility Act), and the Voluntary Cleanup and Brownfields Programs in New York.

Prior to joining HMM, Mr. Trepp was responsible for performing hundreds of Phase I Environmental Site Assessments, Phase II Environmental Site Assessments, asbestos and lead based paint surveys, subsurface evaluations, and soil gas sampling at various properties throughout the Mid-Atlantic region. These properties included gasoline stations, restaurants, residential developments, farm properties, vacant land, and industrial properties. Additionally, Mr. Trepp conducted operation and maintenance of product recovery systems used to removed free phase light non-aqueous phase liquid (LNAPL) from groundwater.

Selected Project Experience

Hazardous Materials Evaluation/Draft Environmental Impact Statement (EIS), New York Container Terminal (NYCT), Port Ivory Facility, Staten Island, NY
Deputy Project Manager for the preparation of the Hazardous Materials section of the EIS for NYCT's Berth 4 Project in accordance with the City Environmental Quality Review (CEQR) Manual dated October 2001. Currently, approximately 69 acres (55%) of the P&G Port Ivory facility has been redeveloped and is used for container storage, warehousing, *and truck chassis storage. Further improvements will include increasing the size of the* Howland Hook Marine Terminal from 187-acres to 300+-acres and increasing the berth length along the Arthur Kill from 3,000 feet to approximately 4,350 feet. At the onset of the project, potential data gaps were identified (i.e., outstanding Phase I Environmental Site *Assessment for certain parcels) and the additional data gathering efforts were integrated* into the scope of work, minimizing the overall cost and time for the completion of this project.

Voluntary Cleanup Program Site Investigation, Port Authority of NY/NJ, Staten Island, NY
Site supervisor for the largest Voluntary Cleanup Program site in the state. The project involves the investigation of soil, surface water, groundwater, and indoor air to complete a Remedial Investigation (RI). Interim Remedial Measures (IRM) were conducted to remove mobile LNAPL at portions of the site. Remedial Action Work Plans (RAWs) that were accepted by the NYSDEC are currently undergoing a public review/comment process.

Preliminary Assessment and Site Investigation, Pottersville Sewage Treatment Plant, Tewksbury, NJ
The project involved completing a preliminary assessment (PA) and a Site Investigation (SI). The client desired a No Further Action letter be obtained from the NJDEP prior to a proposed property transaction. Working with the New Jersey Department of Environmental Protection (NJDEP), obtained a No Further Action letter within a month of completing the PA, thereby meeting the client's needs.

Site Investigation (SI), Hanover Township, Whippany, NJ
Responsibilities included project management and field activities to identify potential environmental liabilities associated with the acquisition of a vacant parcel of land. SI activities were initiated to evaluate a portion of the property that had been previously filled and contained 55-gallon drums. The result of the SI indicated soil impacts attributable to fill materials and soil impacts near a 55-gallon drum. The results of the SI were used to determine whether acquisition of the property was feasible. (2008)

Site Investigation (SI) and Remedial Investigation (RI), Gibbsboro Block Plant, Voorhees, NJ
Responsible for field activities and reporting for a site investigation (SI) and remedial investigation (RI) activities conducted pursuant to ISRA. A large component of these investigations was the delineation and characterization of a landfill present on a portion of the property planned as a stormwater management basin for an adjacent residential development (under construction). The SI/RI included soil borings and groundwater monitoring well installations, and the collection of soil and groundwater samples for analysis. (2004)

Phase I and Phase II Environmental Site Assessments, Former Boat Building Facility, City Island, NY
Responsibilities included field activities and reporting for Phase I and Phase II Environmental Site Assessments (ESAs) completed based on former land uses at this site. The Phase II ESA included a geophysical survey, the excavation of test pits, the drilling of soil borings, and the installation of monitoring wells. Air rotary drilling methods were necessary for monitoring wells due to the large quantity of fill materials below grade. The results of the Phase II ESA identified three underground storage tanks (USTs), fill materials, and contaminants in soil and groundwater above regulatory standards. The results of the Phase I and Phase II evaluation alerted a potential buyer to costs associated with remediation prior to development. (2002)

Hatch Mott MacDonald

Christine M. Chapman

Education
BS, Environmental Studies, Elon College, 2000

Registrations
NJDEP UST License - Subsurface #480941, 2009

OSHA Hazardous Waste Site Ops. Supervisor, 2004

Years in Practice - 10

Experience Summary

Since joining Hatch Mott MacDonald's (HMM) Environmental Division, Ms. Chapman's assignments have been in the major areas of environmental site assessment and Brownfield redevelopment projects. Prior to joining HMM, Ms. Chapman gained three years of experience as an environmental paralegal with an environmental and commercial law firm in New Jersey, specializing in public records reviews and brownfields research. At HMM, her responsibilities and prior experiences have directed her towards areas of expertise in Open Public Records Act (OPRA) requests, corresponding with state and local government officials, Hazardous Discharge Site Remediation Fund (HDSRF) grant requisitions, public information research, document review and evaluation, historical site evaluations and assessment, and data analysis. Additionally, she has provided field support for groundwater sampling, soil sampling, and site assessments.

Ms. Chapman's experience primarily includes assisting in pre-disaster mitigation planning, preliminary assessments, site investigations, and remedial investigations under the guidelines established by the New Jersey Industrial Site Recovery Act (ISRA) and New Jersey State Technical Requirements for Site Remediation (NJAC 7:26E). Her responsibilities have included conducting site inspections, researching site history documentation, interpreting historical aerial photographs, reviewing title searches, researching past and present land uses, completing deed notices, and submitting applications for financial grant assistance. These site investigations have involved a former sewage plant, manufacturing facilities, former gasoline stations, and various other industrial and commercial facilities Ms. Chapman has considerable experience conducting Phase I Environmental Site Assessments per the Federal regulations required under ASTM International standards E 1527-05, including recent changes in these standards that require additional environmental experience and knowledge when conducting site assessments.

Selected Project Experience

Environmental Assessment (EA) of Reservoir Improvements, Fort Stanton Park, DC WATER)/National Park Service (NPS), Washington, DC

Task Manager for the preparation of an Environmental Assessment (EA) to evaluate potential environmental impacts associated with required improvements to repair, stabilize, and environmentally restore a failed slope embankment and concurrently execute a transfer of jurisdiction of NPS property to DC WATER within Fort Stanton Park (U.S. Reservation 412). The failed slope embankment area consists of approximately 0.43-acres located on the southeast slope of DC Water's Reservoir No. 2. The transfer of jurisdiction consists of the area of the proposed improvements and adjacent areas required for maintenance purposes. The proposed alternatives were assessed in accordance with the National Environmental Policy Act (NEPA) and the NPS Director's Order 12, Conservation Planning, Environmental Impact Analysis, and Decision-making (NPS 2001), which requires that impacts to park resources be analyzed in terms of their context, duration, and intensity. The environmental analysis and assessment of alternatives for the proposed slope restoration focused on the development of a sustainable solution to both restoration and future maintenance. The EA concluded that no major impacts are anticipated as a result of the proposed project.

Environmental Impact Analysis/Hazardous Materials (HAZMAT) Screening, Interchange Improvements, NJ Turnpike Authority, Middlesex County, NJ
Task Manager for a hazardous waste screening study and environmental impact analysis of project alternatives associated with proposed improvements to an existing interchange located. The Hazardous Waste Screening Study was specifically designed to identify recognized or potential environmental conditions of the subject property and immediate vicinity (within 250 feet), including known soil and groundwater contaminants, which may or may not have an impact on the construction activities. The study included the concurrent review and evaluation of six project alternates for the purpose of assessing the relative impacts between the proposed alternates. All information was presented in a HAZMAT Screening Report as well as incorporated into a comprehensive Environmental Screening/Constraints Analysis. Additional project tasks include the performance of an expanded PA/SI Report, assistance with soil re-use planning, and, as necessary, compliance with the ARRCS Rules N.J.A.C. 7:26C for soil and groundwater, and further review of environmental contamination for inclusion in the EO215.

Environmental Assessment, Canoe Brook Plant, NJAW, Essex County, NJ
Deputy Project Manager for the preparation of a Level 2 Environmental Assessment (EA) to fulfill the requirements of Subchapter 10, Environmental Assessment Requirements for State Assisted Environmental Infrastructure Facilities, which sets forth the specific requirements of environmental reviews for projects receiving financial assistance pursuant to N.J.A.C. 7:22-3,4 and 6 as well as N.J.A.C 7:22A-6 and 7. An environmental impact assessment (Level 2 EA) was performed in conformance with the regulatory requirements set forth in N.J.A.C. 7:22-10.5 as pertinent to the proposed water supply improvement project. The EA included a review of the existing and proposed conditions for the project site and a larger defined project area, as well as a larger planning area. The alternatives analysis, including "build" and "no-build" conditions, was performed in consideration of the three defined areas. Developed a scoping and presentation strategy, which utilized Geographic Information System (GIS) mapping and accompanying summary tables to present the majority of information, thereby minimizing time and cost.

Categorical Exclusion (CE)/Environmental Evaluation (EE) and Categorical Exclusion Update, New Jersey Transit, Wesmont Station, Bergen County, NJ
Task Manager for the original (2007) and Updated CE document associated with the construction of a new station, and associated parking, on the Bergen County Line, located within in a planned mixed-use Transit-Oriented Development (TOD). The CE/EE was prepared for the Federal Transportation Agency (FTA) in accordance with the National Environmental Policy Act (NEPA), FTA's Environmental Impact and Related Procedures, and Urban Mass Transportation Administration (predecessor to FTA) "Guidelines for Preparing Environmental Assessments." The FTA issued its concurrence based on the assessment and findings presented in the July 2007 CE/EE. During the final phases of the project development with the private site developer, NJ Transit determined that the proposed station required relocation. Subsequently provided additional support services with respect to fulfilling FTA requirements for an updated EE/CE that adequately assessed impacts of the modified project elements. Provided overall support and review including a focused effort on evaluating potential issues associated with air quality, vibration, and noise.

Hatch Mott MacDonald

Ryan G. Miller

Education
BA, Environmental Studies, Siena College, 2004

Registrations
Accredited AHERA Asbestos Supervisor, NJ, 2006

Accredited AHERA Inspector, NJ, 2006

OSHA Hazardous Waste Site Operations, NJ, 2005

NJDEP UST License - Subsurface #283364, NJ, 2006

Asbestos Safety Technician #01269, NJ, 2007

Years in Practice - 6

Experience Summary

Since joining the Environmental Management Division of Hatch Mott MacDonald (HMM), Mr. Miller has been responsible for performing environmental investigations. He routinely logs soil borings, designs monitoring wells, and logs soil stratigraphy at test pits. Mr. Miller is experienced in aquifer testing, including slug tests, and step-drawdown tests. His additional responsibilities include the preparation of computer-generated site maps and groundwater contour maps, as well as project reports.

Mr. Miller is the Assistant Laboratory Manager for HMM's NJDEP Laboratory Certification Program. His responsibilities include oversight of compliance with laboratory procedures, training of laboratory personnel in laboratory procedures, and maintenance of all records. Laboratory Certification in analyze-immediately parameters (dissolved oxygen, turbidity, conductivity, pH, and temperature) is required for all firms conducting low-flow purging and groundwater sampling in New Jersey. As an AHERA Inspector, Mr. Miller has performed asbestos identification and assessment investigations. This includes obtaining bulk samples of suspect Asbestos Containing Materials (ACMs) for laboratory analysis. The information is tabulated, and an inspection report, detailing the identified ACM and the quantity and condition of the ACM, is prepared. As an Asbestos Safety Technician (AST), Mr. Miller has also conducted asbestos air monitoring of abatement projects as required by the USEPA National Emission Standards for Hazardous Air Pollutants (NESHAP) during demolition and during Subchapter 8 projects in New Jersey. Air monitoring includes progress sampling around the abatement site as well as clearance sampling upon project completion.

Selected Project Experience

Remedial Investigation, HHMT-Port Ivory Facility, Port Authority of NY & NJ, Staten Island, NY
Conducted fieldwork during the Remedial Investigation and Supplemental Remedial Investigation at the largest site in New York State's Voluntary Cleanup Program. Responsibilities included the oversight of soil borings and temporary well point installations.

Preliminary Assessment, Brookdale North Service Area and Brookdale South Service Area, NJ Turnpike Authority, Essex County, NJ
Performed a Preliminary Assessment for two service areas located along the Garden State Parkway. Responsible for initiating and summarizing the agency file review. Interpreted historical maps and aerial photographs to confirm past land uses and Areas of Potential Environmental Concern (APECs).

Remedial Investigation, Bldg 75, Port Authority of NY & NJ, Newark, NJ
Responsible for completing fieldwork associated with a remedial investigation of groundwater at a former gasoline service station. The fieldwork consisted of aquifer testing (i.e., slug testing and step-drawdown testing) to determine the aquifer's characteristics. Additional responsibilities included data analysis and report preparation.

Remedial Action, Seaport Coastal Station, Port Authority of NY & NJ, NJ
Responsible for completing fieldwork associated with a remedial action of groundwater at a former gasoline service station. The fieldwork consisted of groundwater sampling, LNAPL removal via pumping and oil-absorbment socks, and injection of ORC Advanced using oxygen-releasing socks in six injection wells. Additional responsibilities included monthly monitoring of groundwater quality parameters, data analysis, and report preparation.

Remedial Investigation, Building 171, Port Authority of NY & NJ, NJ
Responsible for fieldwork and report preparation for a Remedial Investigation (RI) and Remedial Action Selection Report/Work Plan (RASR/RAWP). The field work included logging soil stratigraphy at nine soil boring and monitoring well locations, designing and overseeing the installation of monitoring wells, and collecting soil and groundwater samples.

Groundwater Monitoring, Confidential Client, Carlstadt, NJ
Coordinated and performed an investigation of soil and groundwater at this former warehousing facility. Responsibilities included collection of groundwater samples using conventional purging techniques from 18 monitoring wells, oversight of soil boring installations, and soil sampling. Also responsible for the preparation of Groundwater Monitoring Reports, a Remedial Investigation Workplan, and a Remedial Investigation Report (RIR).

Groundwater Monitoring at Maintenance Garages, Ocean County, NJ
Conducted groundwater sampling at two vehicle maintenance garages. Work included the collection of groundwater samples at 30 monitoring wells using conventional purging techniques. Samples were analyzed for volatile organic compounds (VOCs), MTBE, TBA, and lead.

Port Ivory Closed C&D Landfill Groundwater Monitoring, Port Authority of NY & NJ, Staten Island, NY
Assisted in annual post-closure groundwater monitoring at a closed C&D landfill. Responsibilities included the collection of groundwater samples using conventional purging techniques. Also assisted in the preparation of the Groundwater Monitoring Report.

Site Investigation, Trust for Public Land, Newark, NJ
Responsible for completing fieldwork associated with a site investigation at an undeveloped park. Work at this site included oversight of the ground penetrating radar (GPR) survey, the installation of 87 test pits, the logging of soil stratigraphy at each test pit, and the collection 19 soil samples for investigative purposes. Assisted in preparation of the Site Investigation Report.

Hatch Mott MacDonald

Brian E. Henning, PE

Education
MBA, Business Administration, Webster University, 2003

BS, Civil Engineering, Citadel Military College, 1993

Registrations
Professional Engineer #19822, SC, 1999

Professional Engineer #026151, GA, 2000

Professional Engineer #00109519, TN, 2004

Professional Engineer #55724, FL, 1999

OSHA Hazardous Waste Site Operations

Troxler Nuclear Density Gauge

OSHA Occupational Exp to Bloodborne Pathogens

DOT Shipping Hazardous Waste License

Years in Practice - 17

Memberships
American Society of Civil Engineers
National Society of Professional Engineers
Solid Waste Association of North America

Experience Summary

Mr. Henning joined Hatch Mott MacDonald's Environmental Management Division with extensive experience in the planning, design, and construction of environmental cleanups and waste management facilities. He has extensive experience in the investigation and remediation of contaminated soil and groundwater, and the preparation and implementation of corrective actions in accordance with RCRA and CERCLA requirements. He has also provided design and construction management services for hazardous waste projects, including asbestos abatement, as well as solid waste facilities. As Project Manager, his responsibilities include budget and schedule management, including cost estimating and project staffing, contractor and subcontractor selection and coordination, interfacing with State and Federal regulatory agencies, design alternatives evaluations, and managing permitting processes.

Mr. Henning's experience includes serving as Project Manager responsible for all construction, demolition, contaminated groundwater and soil remediation, and landfill closure projects located at multiple federal government and private industrial facilities. He has served as Construction Manager responsible for oversight during multiple landfill construction, industrial demolition, and asbestos abatement projects. His landfill construction management duties involved monitoring all destructive and non-destructive quality control testing for geosynthetics and clay liner material, scheduling subcontractors, providing leadership to skilled and semi-skilled laborers, and budget control. For industrial demolition and asbestos abatement projects, Mr. Henning's management duties involved ensuring safe mechanical demolition practices, adherence to State asbestos regulations, and adherence to applicable OSHA Health and Safety Regulations for demolition sites.

Mr. Henning has been responsible for the design of municipal solid waste disposal facilities. As Staff Engineer, his tasks have included base grade contour design, final grade contour design, stormwater management structure design, landfill detail design, generation of construction specifications, and generation of permit and construction plans using Microstation CADD and various stormwater management structure design software.

Selected Project Experience

Solid Waste Facility Permit Renewal Application, Republic Services of NJ, South Plainfield, NJ

Project Manager for the NJDEP Solid Waste Facility Permit Renewal Application process. The renewal process was conducted in accordance with the applicable portions of the NJAC 7:26, and involved providing leadership and direction associated with the preparation and/or updating of the Engineering Report, Environmental and Health Impact Statement, and the site-specific Operations and Maintenance (O&M) Manual.

Solid Waste Facility Permit Application, New Jersey Rail Logistics, LLC, North Bergen, NJ

Project Manager during the NJDEP Solid Waste Facility Permit Application process. The process was conducted in accordance with the applicable portions of the NJAC 7:26, and involved providing leadership and direction associated with preparation of the Engineering Report, Environmental and Health Impact Statement, and the site-specific Operations and Maintenance (O&M) Manual.

Transfer Station Regulatory Compliance Activities, Republic Services of NJ, Multiple Facilities, NJ and PA
Project Manager for ensuring compliance with local, state, and federal regulations at five transfer stations/materials recovery facilities. Project responsibilities include interaction with regulatory agency personnel, preparation of new solid waste facility permit applications and renewal applications, air permit application preparation, and completion of Stormwater Pollution Prevention Plans (SPPPs) and stormwater permit applications. In addition, responsibilities include all aspects of existing permit compliance, including dust monitoring, facility inspections, and responding to agency issues.

Groundwater Remediation System Operations and Maintenance, NJ Turnpike Authority (NJTA) Service Area 13, Ridgefield, NJ
Currently serving as Project Manager for operations and maintenance (O&M) of a groundwater extraction and treatment system and former biosparge system designed to address multiple petroleum-impacted groundwater plumes. Responsible for ensuring sampling and reporting in accordance with the NJDEP-approved sampling protocol and the Bergen County Utilities Authority Significant Industrial User discharge permit. Responsible for completion of a monthly effluent Discharge Monitoring Report (DMR) that identifies the monthly volume discharged and presents the concentrations of benzene, MTBE, and TBA associated with the effluent. Additional responsibilities include ensuring performance of routine equipment maintenance, free product monitoring, soil gas level monitoring, and semi-annual groundwater monitoring. A Remedial Action Progress Report (RAPR) is prepared bi-annually. (ongoing)

Hatch Mott MacDonald

Susan W. Allen

Education
BS, Biology/Geology, University of Rochester, 1992

Registrations
NJDEP UST License - Subsurface #0024350, NJ, 2003

OSHA Hazardous Waste Site Ops. Supervisor, 1998

OSHA Hazardous Waste Site Operations, 1993

OSHA Hazard Communications Training, 1996

OSHA Respirator Fit Tested, 2003

OSHA Confined Space Entry, 1995

Years in Practice - 18

Experience Summary

Since joining Hatch Mott MacDonald's Environmental Management Division, Ms. Allen has been involved in the areas of environmental site assessments, industrial site evaluations, system operation and maintenance management, environmental permitting, and hazardous waste investigations. She is responsible for a variety of environmental services, including Environmental Site Assessments, Due Diligence Site Investigations, the implementation of groundwater monitoring and free product recovery under an approved Remedial Action Work Plan, completion of Remedial Investigations for sites under NJDEP oversight, oversight of environmental aspects of construction activities, and oversight of free product recovery systems. Her general duties include the preparation of reports and proposals, performance of site inspections, liaison with clients and regulatory agencies, and overall project management. Ms. Allen is involved in Phase I Environmental Assessments/Preliminary Assessments (PAs), site investigations, remedial investigations, system operations and maintenance, proposing and implementing Remedial Actions, and site feasibility studies. She works on projects related to NJDEP SRRA, ISRA, UST regulations, voluntary cleanup programs, and due diligence investigations in a number of states.

As a Project Geologist, she has been responsible for project management, from proposal to reports and presentations. Her responsibilities include supervising staff, establishing project needs, project coordination, scheduling and coordinating contractors, interfacing with clients and governmental agencies, budget tracking, and report preparation. Ms. Allen's experience includes field investigations, and the evaluation, design, management, and implementation of remedial processes and systems for contaminated groundwater and soil. Her remedial system experience includes groundwater pump and treat, air sparge, soil vapor extraction (SVE), and biosparge systems.

Selected Project Experience

Remediation and Environmental Services, Bay Head Rail Yard, NJ Transit
Environmental services include construction oversight of environmental issues, remedial investigation, and operation oversight and sampling of a groundwater remedial system. The project included shallow soil and groundwater diesel fuel contamination and historic fill soil contamination. As Project Manager, responsible for the preparation of cost estimates, preparation and/or review of documents, scheduling of work, conducting select fieldwork, and interfacing with the client, the NJDEP, and contractors.

Remediation, Molly Pitcher Service Area, NJ Turnpike Auth., Cranbury, NJ
Project Geologist responsible for conducting remedial investigations and implementing remedial actions. Initially an air sparge/soil vapor extraction (SVE) system was present at the site. This was transitioned to a biosparge system as contaminants decreased. Currently assessing the efficiency of the remedial actions and determining future remedial action for the downgradient plume. Responsible for field investigations, project coordination, and the evaluation, management, and implementation of remedial processes and systems for contaminated groundwater. Responsible for evaluating and tracking SVE/biosparge data. Evaluated limits of the groundwater plume downgradient. Prepared Remedial Investigation Report (RIR), Remedial Action Progress Reports (RAPR), and Classification Exception Area Biennial Certification reports for submittal to NJDEP.

Toll Plaza, Remedial Investigation, NJ Turnpike Auth., Saddle Brook, NJ
Project Geologist responsible for conducting remedial investigations and determining remedial actions. Investigated source area contamination and assessed remedial options from former underground storage tank (UST) related contamination. Responsible for field investigations, project coordination, and the evaluation of potential remedial options for contaminated groundwater. Prepared Remedial Investigation Report (RIR).

Remediation, Joyce Kilmer Service Area, NJ Turnpike Auth., East Brunswick, NJ
Project Geologist responsible for conducting remedial investigations and implementing remedial actions. Initially a biosparge system and a groundwater pump and treat system were present at the site. Currently assessing the efficiency of the remedial actions and determining future remedial action for the downgradient plume and continued source area remediation. Responsible for field investigations, project coordination, and the evaluation, management, and implementation of remedial processes and systems for contaminated groundwater. Responsible for evaluating and tracking biosparge and groundwater pump and treat data. Prepared Remedial Action Progress Reports (RAPR) and Classification Exception Area Biennial Certification reports for submittal to NJDEP.

Site Remediation and Environmental Services, Market Street Bus Maintenance Garage, NJ Transit, Paterson, NJ
Environmental services include conducting a remedial investigation, implementation of interim remedial measures for product removal from groundwater, and semi-annual groundwater sampling. The project includes soil and groundwater diesel fuel and heating oil contamination and historic fill soil contamination. As Project Manager, responsible for the preparation of cost estimates, preparation and/or review of documents, scheduling of work, and interfacing with the client, the NJDEP, and contractors.

Site Remediation and Environmental Services, Hilton Bus Maintenance Garage, NJ Transit, Maplewood, NJ
Environmental services include conducting groundwater sampling and developing a Remedial Investigation Work Plan for soil and groundwater. The project includes soil and groundwater diesel fuel and gasoline contamination. As Project Manager, responsible for the preparation of cost estimates, preparation and/or review of documents, scheduling of work, and interfacing with the client, the NJDEP, and contractors.

Site Remediation and Environmental Services, South Amboy Substation, NJ Transit, Middlesex County, NJ
Environmental services include conducting a remedial investigation for soils and developing a Remedial Action Work Plan given the unique circumstances present at the site. The project includes soil total petroleum hydrocarbon, and PCB and historic metals contamination. As Project Manager, responsible for the preparation of cost estimates, preparation and/or review of documents, scheduling of work, and interfacing with the client, the NJDEP, and contractors. (2003-2005)

Hatch Mott MacDonald

Robert W. Starcher, PhD, PG

Education
PhD, Geological Sciences, Rutgers University, 1987

MS, Geology, Michigan State University, 1982

BS, Geology, Michigan State University, 1977

Registrations
Professional Geologist #PG004620, PA, 2005

Professional Geologist #PG-2977, WY, 1999

Professional Geologist #30400, MN, 1998

NJDEP UST License - Subsurface #0012580, NJ, 1992

OSHA Hazardous Waste Site Ops. Supervisor

OSHA Confined Space Entry

OSHA Hazard Communications Training

Years in Practice - 26

Memberships
Association of Groundwater Scientists and Engineer
National Ground Water Association

Experience Summary

Since joining Hatch Mott MacDonald (HMM), Dr. Starcher has been in responsible charge of geologic and hydrogeologic investigations and other projects that make use of his expertise in geology, biology, physical sciences, applied mathematics and statistics, conceptual and numerical modeling, pattern recognition, and computer programming.Dr. Starcher provides technical guidance in matters of aquifer remediation and diversion permitting, environmental impact assessment and sustainability, wastewater and stormwater disposal, watershed evaluation, environmental hazards, and construction dewatering. He also reviews computations and technical reports and provides training to staff at all levels, especially with regard to developing geostatistical, geotechnical, and hydrogeologic skills. Dr. Starcher also provides hydrogeologic support to HMM's branch and regional offices across the United States and Canada.

Project related tasks have included:

- Groundwater resource evaluation in sand, fractured rock, and karst aquifers;
- Predicting the impacts of proposed construction, groundwater diversions, land-application processes, and other land-use changes to regional hydrology and to water quality and availability;
- Design and analysis of aquifer tests;
- Geologic and hydrogeologic spatial and temporal trend analysis;
- Modeling the impact of increased recharge from stormwater detention basins and small-scale wastewater disposal systems on water table elevation and local groundwater flow;
- Modeling and simulation of aquifers and groundwater control systems for the purpose of design and analysis of recovery systems for the remediation of contaminated aquifers;
- Peer review of water resource, contaminant transport, and aquifer remediation studies; and
- Technical assistance to legal counsel and expert testimony.

Selected Project Experience

Groundwater Contaminant Containment Modeling, Brookdale North Rest Area, Garden State Parkway, NJ Turnpike Authority, Essex County, NJ

Created a computer model to simulate groundwater flow and contaminant transport across the site in order to demonstrate that the concentrations of benzene in seep samples between the Third River and a containment structure around the source area installed several months earlier were not due to a containment failure. Used aquifer hydraulic parameter values obtained from aquifer testing performed for the containment system design, and calibrated the water level and concentration models against site data. The model used MODFLOW to calculate hydraulic head changes induced by the introduction of the containment system, MODPATH to calculate the flow lines, and the particle-tracking tools of MT3D to simulate changes in contaminant distribution. The model demonstrated that the benzene in the seep samples was residual and not due to a leak. It also predicted that, prior to source depletion, some contamination would escape on the upgradient side of the containment structure. Subsequent sampling has demonstrated that the changes in contaminant distribution were accurately predicted.

City Water Tunnel No. 3 Shaft 25B Optimization of Weep Hole Spacing, New York City Department of Environmental Protection, New York, NY
Reviewed boring logs and hydraulic testing data in the Manhattan vicinity of a proposed City Water Tunnel No. 3 maintenance shaft, with a non-circular cross section, that will penetrate nearly 500 feet below the water table. Created a numerical simulation of the pressure distribution that would develop on the concrete liner in order to optimize the spacing of weep holes. The efforts resulted in a weep hole pattern with variable spacing. A significant observation was that the contrast between the permeability of disturbed rock adjacent to the shaft and that of the undisturbed rock was a more important determinant of optimal weep hole spacing than the overall magnitude of permeability.

Peer Review of Water Resources Investigation for Hopatcong Adult, LLC, Hopatcong Borough, Sussex County, NJ
Provided critical review, on behalf of the Planning Board, of aquifer investigations for water supply and on-site wastewater disposal for a proposed residential development. The work involved reviewing data compiled on soils and bedrock, evaluating the assumptions behind calculations for subsurface disposal, reviewing aquifer test results and hydraulic parameter computations, providing peer review to the applicant's consultants, and preparing reports with conclusions and recommendations for the Planning Board.

Springfield Wellfield Water Resources Investigation, New Jersey American Water, Essex and Union Counties, NJ
Designed and directed the implementation of a water resources investigation for the reactivation of a very large, old wellfield in an area characterized by fractured siltstone bedrock, till and glacial lacustrine sand, and fluvial deposits. The investigation involved seven aquifer pumping tests ranging in duration from 24-hours to 72-hours. A regional aquifer simulation was then framed for the purpose of optimizing the yield from as few wells as possible, while minimizing interference between wells.

Allegar Street Garage, Washington Borough, Warren County, NJ
Provided a hydrogeologic investigation of the sources of contamination of a community supply well, which involved evaluating the hydraulics of a cavernous dolomite aquifer in hydraulic connection with a local stream. The investigation demonstrated that the municipal garage was indeed responsible for a portion of the contamination, but that the well's zone of contribution extended far beyond and included areas with other sources of contamination distinct from that which characterizes the garage site.

Resource Recovery Facility, Middlesex County, Sayreville, NJ
Design and implementation of a hydrogeologic investigation which included the judicious application of stratigraphy to reduce the number of borings needed to demonstrate that the local subsurface presence of the Palisade Sill had precluded the deposition of Farrington Sand in the area. The demonstrated absence of the sand satisfied the concerns of local citizens that the construction of a resource recovery facility, including construction dewatering for a 60-foot deep refuse pit, would not impact water availability or quality in the Farrington Aquifer.

Hatch Mott MacDonald

Daniel R. Toder, CPG, LSP, LSRP

Education
MS, Geology, Montclair State College, 1981

BS, Earth Sciences, Ohio State University, 1974

Registrations
Certified Professional Geologist, AIPG #6668, 1984

Licensed Site Remediation Professional #506261, NJ, 2009

Certified Professional Geologist #0633, IN, 1985

Professional Geologist #514, FL, 1989

Professional Geologist #PG-000327-G, PA, 1993

Professional Geologist #304, TX, 2003

NJDEP UST License - Subsurface #0012179, NJ, 1992

PADEP Certified UST Inspector IUM Category #1147, PA, 2007

Licensed Site Professional #9993, MA, 1998

OSHA Hazardous Waste Site Operations, 1984

Years in Practice - 32

Memberships
American Institute of Professional Geologists
Florida Association of Professional Geologists
Licensed Site Professional Association (MA)
Licensed Site Remediation Professional Association (NJ)
National Ground Water Association

Experience Summary

Mr. Toder manages Hatch Mott MacDonald's (HMM) Storage Tank Management/Hydrogeology Group within the Environmental Management Division. As such, he supervises a staff of geologists working on a variety of UST management projects. These include the preparation of tank management plans, Remedial Investigation Reports (RIRs), Remedial Action Workplans (RAWs) and Site Investigation Reports (SIRs), groundwater and soil investigations, groundwater resource and exploration, and groundwater modeling projects. He reviews all tank management plans, SIRs, RIRs, RAWs, and project reports prepared by the group. Under his supervision, the Group has completed approximately 350 UST projects involving approximately 450 tanks and the installation of approximately 300 monitoring wells. His responsibilities include staff hiring, project scheduling and budget management, technical guidance, QA/QC, and subcontractor coordination.

Mr. Toder is presently managing numerous projects regarding releases from storage tanks, spills of hazardous substances, groundwater contamination due to the discharge of landfill leachate, and remediation of soils and groundwater. These projects include the performance of groundwater investigations to detect, identify, and delineate soil and aquifer contamination, the development and evaluation of monitoring and testing programs, and the selection and evaluation of alternatives for corrective actions.

Prior to employment by HMM, Mr. Toder gained eight years of experience with the NJDEP. As Section Chief within the Division of Water Resources, he was responsible for writing the technical rules and regulations and technical guidance documents for implementing New Jersey's Underground Storage Tank program. He also developed corrective action criteria, as well as monitoring and testing procedures, for USTs. While with the NJDEP, Mr. Toder gave expert testimony related to hydrogeological issues for Hazardous Waste (Superfund) sites. He has provided supervisory services on Federal Superfund sites in New Jersey regarding soils and groundwater investigations and remedial action plans. He has provided technical expertise in defining boundaries of aquifer contamination, pinpointing sources of contamination, determining methods of transport, and assessing damage to water supplies. He has performed geophysical surveys, supervised the installation of monitoring wells, and recommended remedial actions with respect to leaks from sources such as underground storage tanks, pipelines, and lagoons as well as spills.

Mr. Toder has provided depositions and expert testimony in litigation related to impacts to potable groundwater supplies due to releases of hazardous substances into the environment. His expert testimony has served to specifically describe the nature and extent of contaminant plumes, damage to water supplies, and the geologic and hydrogeologic conditions of various sites subject to litigation.

Selected Project Experience

General Environmental Engineering Services, NJ Transit Corp., Various Sites, NJ
Serving on the Technical Review Board for this contract, which involves asbestos abatement, underground storage tank management services, industrial waste treatment systems and operations, hazardous materials management and disposal, site assessment and remediation, and environmental audits.

Remedial Investigations, NJ Highway Authority, Various Sites, NJ
Project Manager for the performance of underground storage tank (UST) closures and groundwater investigations at seven service areas along the Garden State Parkway. Upon removal of some of the tanks, gasoline and diesel fuel were found to have contaminated soils and groundwater. Along with investigations to delineate soil and groundwater, the Authority is proceeding with soil and groundwater remediation. Pilot studies were conducted to design and install product and groundwater recovery systems. Groundwater recovery systems, soil venting, and air sparging systems have been installed. Supervising the operation and maintenance of these systems to monitor progress of the remediation.

Groundwater Remediation Services, NJ Turnpike Authority, Various Sites, NJ
Project Manager for the remedial investigation of discharges from underground storage tank (UST) systems which resulted in soil and groundwater contamination. Sites include Service Areas 8N, 12S, 13S, 1S, and 1N, and the Administration Building. Remedial systems have been designed and installed and are currently operated and monitored to track the progress of the remediation.

Second Street Park Redevelopment, Perth Amboy, Middlesex County, NJ
Provided environmental consulting services to the City to protect the City against environmental and health liabilities by ensuring that the Remedial Action Workplan (RAW) prepared by another consultant addressed all contamination at the site and that appropriate institutional and engineering controls were designed properly and installed. Reviewed the Remedial Investigation Report (RIR) and RAW for the remediation of the property, which was used as a metals recycling facility from 1904 to 1994. Contaminants found in both soil and groundwater included PCBs, metals, volatile organic compounds (VOCs), and other contaminants. The City acquired the property and will convert it to a park facility once a "No Further Action" letter has been issued by NJDEP.

Police Headquarters, Livingston Township, Essex County, NJ
Project Manager for the removal of underground fuel tanks from the Police Headquarters site. Releases of fuel from these tanks were discovered and a remedial investigation was conducted to delineate the horizontal and vertical extent of the impacts due to the releases of fuel. "hot spot" soil excavation along with groundwater monitoring has been implemented to remediate the site.

Manalapan Avenue Service Center, Monmouth County, Freehold, NJ
The site contained hazardous and non-hazardous wastes and 12 underground storage tanks containing various fuels. The property was to be developed as an assisted living care facility. A preliminary assessment identified areas of concern, and a site investigation was conducted to investigate these areas. As a result of subsequent remedial investigations, impacted soils were delineated and a plume of groundwater was identified. Underground storage tanks and all wastes were removed. Soil was remediated and groundwater is being remediated by natural attentuation. The property has been sold to a developer subsequent to successful remediation of the site. Construction of the assisted living care facility was completed in 2004. (1999 - present)

Hatch Mott MacDonald

Daniel A. Flatin, PG

Education
BS, Geology, Michigan State University, 1988

Registrations
Professional Geologist #PG004873, PA, 2009

NJDEP UST License - Subsurface #0015630, NJ, 1992

Industrial Waste Treatment Operator (N-2) #0024882, NJ, 1991

OSHA Confined Space Entry

OSHA Occupational Exp to Bloodborne Pathogens

OSHA Hazardous Waste Site Ops. Supervisor

OSHA Hazardous Waste Site Operations

Years in Practice - 24

Experience Summary

Since joining Hatch Mott MacDonald (HMM), Mr. Flatin's experience has centered on the performance of environmental site investigations, with a special emphasis on hydrogeologic assessments of properties under study. He has been involved in projects related to New Jersey Industrial Site Recovery Act/Environmental Cleanup and Responsibility Act (ISRA/ECRA) and Underground Storage Tank (UST) regulations. He has also performed numerous environmental audits of developed and undeveloped land. He has extensive experience in the sampling and evaluation of subsurface hydrogeologic data relative to aquifer contamination/remediation projects. He has been responsible for the field supervision of soil and groundwater sampling for ISRA, UST, and site audit projects.

Mr. Flatin has participated in environmental investigations involving the installation of soil borings, groundwater point sample collection, and groundwater monitoring well installations. His responsibilities have included field investigations, project coordination, and the evaluation, design, management, and implementation of remedial processes and systems for contaminated groundwater and soil. As Project Geologist, he has been responsible for the evaluation and tracking of groundwater (pump and treat remediation) data and soil vapor extraction projects. Mr. Flatin has evaluated limits of product from former USTs utilizing Cone Penetrometer Surveys.

Mr. Flatin has prepared various technical reports including Site Investigation Reports (SIRs), Remedial Investigation Reports (RIRs), Remedial Action Progress Reports (RAPRs), and Remedial Action Workplans (RAWs), including the completion of state agency required documentation.

Selected Project Experience

Underground Storage Tank (UST) Removals, NJ Transit Corp., Various Sites, NJ
Environmental services consisted of the removal of several underground storage tanks (USTs). As Project Manager, responsibilities included preparation of cost estimates, review of historical documents, scheduling of work, coordination with contractor, UST removal observation, implementation of field assessments (e.g., post-excavation sampling), and preparation of final Closure and Site Assessment Reports. Implemented interim remedial measures for product removal from groundwater wells.

Lakewood Garage Remedial Investigation, Ocean County, Lakewood, NJ
Environmental services included remedial investigations and evaluation and design a of remedial system for the soil and groundwater system. Responsible for field investigations, project coordination, and the evaluation, design, management, and implementation of remedial processes and systems for contaminated groundwater and soil. As Site Geologist, responsible for evaluation and tracking of groundwater (pump and treat remediation) data and soil vapor extraction data. Evaluated limits of product from former underground storage tanks utilizing Cone Penetrometer Survey. Prepared Remedial Investigation Reports (RIRs), Remedial Action Workplan (RAW), system Operation and Maintenance (O&M) reports, and subsequent Remedial Action Progress Reports (RAPR) for submittal to NJDEP. Prepared Categorical Exclusion (CEA) documents.

Groundwater Remediation Services, NJ Turnpike Authority, Various Sites, NJ
Project Manager for the operation of remediation systems, permitting, and monitoring for Service Area 11N. Responsible for remedial investigations/monitoring at Service Area 10N, the former Administration Building, and Maintenance District 3. Prepared Remedial Investigation and Progress Reports for submission to NJDEP.

Jackson Garage Remedial Investigation, Ocean County, Jackson, NJ
Environmental services included remedial investigations and evaluation and design a of remedial system for the soil and groundwater system. Responsible for field investigations, project coordination, and the evaluation, design, management, and implementation of remedial processes and systems for contaminated groundwater and soil. As Site Geologist, responsible for evaluation and tracking of groundwater monitoring and air sparge/soil vapor extraction data. Prepared Remedial Investigation Reports (RIRs), Remedial Action Workplan (RAW), system Operation and Maintenance (O&M) reports, and subsequent Remedial Action Progress Reports (RAPR) for submittal to NJDEP. Prepared Categorical Exclusion (CEA) documents.

Remedial Investigation, Six Flags Great Adventure, Jackson, NJ
Environmental services included remedial investigations and evaluation and design a of remedial system for soil and groundwater. Responsible for field investigations, project coordination, and the evaluation, design, management, and implementation of remedial processes and systems for contaminated groundwater and soil. As Site Geologist, responsible for evaluation and tracking of groundwater pump and treat system and soil vapor extraction data. Prepared Remedial Investigation Reports (RIRs), system Operation and Maintenance (O&M) reports, and subsequent Remedial Action Progress Reports (RAPR) for submittal to NJDEP.

Environmental Site Assessments, Trust for Public Land, Various Sites, NJ
Performed Phase I Environmental Site Assessments of two undeveloped tracts of land. The project included review of environmental impact statements, historical environmental reports, and site drawings, and preparation of the final report.

Robert T. Cunniff, PG

Education
MS, Geology, Michigan State University, 1989

BA, Geology (with Honors), Colgate University, 1985

Registrations
Certified Professional Geologist, AIPG #9037, 1994

Certified Professional Geologist #AA348, AK, 1993

Professional Geologist #PG001091G, PA, 1994

NJDEP UST License - Closure #0009964, NJ, 1992

NJDEP UST License - Subsurface #0009964, NJ, 1992

OSHA Hazardous Waste Site Operations

OSHA Hazardous Waste Site Ops. Supervisor

OSHA Confined Space Entry

OSHA Competent Person in an Excavation

Years in Practice - 22

Memberships
American Institute of Professional Geologists
Boy Scouts of America
Bronze Palm
Eagle Scout
Geological Society of America
National Ground Water Association

Experience Summary

Mr. Cunniff brings to Hatch Mott MacDonald (HMM) diversified experience in geological investigations related to SRRA, ISRA investigations, site remediation and hazardous waste and site assessments. He has conducted and managed a variety of investigation and remediation projects, including subsurface investigations to assess the impacts related to the leakage of gasoline and other petroleum products from underground storage tanks (USTs).

Mr. Cunniff is also involved with aquifer pumping tests, pre-acquisition/preliminary site assessments, geotechnical soil sample and rock core collection, soil gas surveys, bulk asbestos sampling and various permitting activities. He has utilized metal detection and quantitative magnetic equipment to locate buried debris and abandoned USTs on a variety of sites. He has developed and implemented tank management plans for the removal and replacement of numerous USTs. His Project Management responsibilities include permitting, implementation of tank closure plans, subsurface evaluation, construction phase services and operation of free product and contaminated groundwater recovery systems, as well as operating various treatment systems for both groundwater and soil.

Mr. Cunniff has been involved with the design, implementation and maintenance of several site remediation technologies including soil vapor extraction, carbon filtration and thermal oxidation of vapor phase contaminants, installation and operation of dual phase recovery pumps, carbon filtration and air-stripping of aqueous phase contaminants, in-situ sparging system operation and, ex-situ bio remediation of organic contaminants.

Selected Project Experience

Port Authority of NY/NJ, UST Compliance Inspections, NYC Airports

Team leader for Port Authority of New York and New Jersey UST regulatory compliance inspections at various facilities within John F. Kennedy International, and LaGuardia, Airports in support of the goal to reduce or eliminate penalties and fines associated with violations of regulations enforced by the NYS DEC, US EPA, NYC Fire Law, National Fire Protection Association, International Fire and Mechanical Codes, as well as identifying non-regulation driven items requiring attention. Deliverables consisted of inspection reports, as-built drawings, and design drawings addressing identified deficiencies. Scopes of work for repairs required to address any discovered deficiencies included in the inspection reports, along with construction cost for each repair item. Drawings were used as part of bid documentation for tank and tank-system contractors to upgrade or modify USTs to ensure future compliance.

Groundwater Remediation, Lombardi Service Area, NJ Turnpike Auth.

Responsible for project management of remediation, permitting, and monitoring services. The site features an actively operating groundwater remedial system exerting hydraulic control of a dissolved gasoline-constituent plume. The recovery system includes two interceptor trenches with three collection sumps, and directly discharges untreated groundwater to the Bergen County Utilities Authority via permit. Low-flow bio-sparging is being used to aid in biodegradation of the remaining plume concentrations.

Geotechnical Services for 3rd Water Tunnel, NYC DEP, New York, NY
Served as Deputy Project Manager in a joint venture to provide geotechnical services to support the City's Tunnel #3 project. The tunnel, one of the largest civil engineering works ever constructed, conveys drinking water from New York State's Catskill region to New York City. Performed geologic mapping of the 5-mile long segment of tunnel beneath Queens, processed and archived a backlog of exploratory rock cores collected over the last 50 years to aid tunnel design and construction and oversaw the compiling of all data sets into a comprehensive Geographic Information System (GIS) database.

Remedial Investigation/Action, Former Garage, West Orange, NJ
Project Manager for this remediation project as part of a publically-funded redevelopment within a State Business Development Area. This former gas station features soil and groundwater contamination from two generations of gasoline underground storage tanks (USTs), complicated by dissolved chlorinated groundwater contamination from offsite sources. Over 250 tons of soil had been excavated and recycled from this site, and it is planned to address gasoline contaminated groundwater, both LNAPL and dissolved phase, using Multi-Phase Extraction techniques.

Groundwater Natural Attenuation Remediation, Garfield, NJ
Project Manager for a site located adjacent to Saddle River. Groundwater on-site is contaminated with chlorinated solvents from leaking underground storage tanks, which have long since been removed. Successfully argued that biodegradation and dilution due to groundwater flow would naturally attenuate the contaminant plume before impacting the adjacent trout-water stream. Currently, the site is in a long-term Natural Attenuation Compliance Program.

Hazardous Waste Screening Bridge Replacement, Somerset County, NJ
Project Manager for the Hazardous Waste Screening performed within the right-of-way of the Peapack Bridge to determine the potential for contamination within a study corridor consisting of the proposed ROW and/or easements and reaching 250± feet on all sides. Methodology included visual inspection along the corridor to identify specific environmental conditions. The investigation also included review of standard historical sources, study of aerial photographs and historical topographic maps, search and review of Sanborn Fire Insurance Maps, review of standard Environmental Record Sources reports, and a records review.

Hazardous Waste Investigation for Bridge Replacement, Raritan, NJ
Project manager for the Hazardous Waste/Materials Investigation for the replacement of the Old Croton Road Bridge over the Wickecheoke Creek. The investigation evaluated whether pipes and underground storage tanks (USTs) associated with the former gasoline filling station (located on the northeastern side of the Old Croton Road and County Route 579 intersection) had been removed, and whether any contamination from gasoline USTs remained on site within the proposed right-of-way. Methodologies included records review, a field survey with a magnetometer, test pit excavation, and soil sampling.

Hatch Mott MacDonald

Vincent P. Manners, EIT

Education
MS Candidate, Civil/Construction Management, New Jersey Institute of Technology, 2010

BS, Civil Engineering, New Jersey Institute of Technology, 2007

Registrations
Engineer-in-Training #13943, NJ, 2008

Years in Practice - 3

Memberships
American Society of Civil Engineers

Experience Summary

Mr. Manners' current responsibilities include assisting with the design and permitting for various park and recreation facilities, underground and aboveground storage tank (UST/AST) facilities, recycling centers, and other municipal sites. These tasks include site grading, layout, and design of various athletic fields, UST/AST facilities, and municipal facilities. His duties also include construction management, field inspections, and preparing contract drawings and specifications.

Selected Project Experience

Stormwater Quality Inspections, Ramapo College of New Jersey, Mahwah, NJ
Inspected outfalls, Best Management Practices (BMPs), and culverts to identify problems such as bank and stream scour, scour holes, overgrown vegetation, illicit connections, and erosion. Field work also included a roadside erosion inspection. Assisted with the collection of field data using Global Positioning Survey (GPS) tracking, organizing photos, and preparing the final report. (June 2008 – October 2008; August 2009-October 2009)

Garden State Parkway Underground Storage Tank (UST) Upgrades and Removals, NJ Turnpike Authority, Various Sites, NJ
Assisted with the preparation of contract drawings and specifications through various design phases. The project included the installation of 14 USTs, removal of 13 USTs, ugrade of three USTs, and the installation of one aboveground storage tank (AST). Assisted with preparing the Engineer's estimate. Currently involved with construction management tasks including the review of shop drawings, preparation of construction permits, construction inspection, and coordinating tasks with the contractor. (December 2007 – Present)

Passaic Valley Sewerage Commission (PVSC) Trash Skimmer Facility, City of Newark, Essex County, NJ
Inspector for the installation of a bulkhead structure and floating dock. Responsibilities included coordinating tasks with the contractor according to the contract plans and specifications, reviewing payment applications, and overseeing the site construction. (July 2009 – Present)

Northern Recycling Center Commingled Building, Ocean County Board of Chosen Freeholders, Lakewood, NJ
Assisted with construction management tasks and prepared the final "as-built" drawings for the site. (January 2008)

Southern Recycling Facility Relocation, Ocean County Board of Chosen Freeholders, Stafford, NJ
Assisted with construction management tasks during the construction of the new municipal facility. (June 2007-December 2007)

Wastewater Treatment and Disposal System, Forest Manor Health Care Center, Hope, NJ
Observed and inspected the construction of a new wastewater seepage pit. Assured that construction of the new pit was conducted according to plans and specifications. (August 2008)

Essex County Golf Courses, Essex County Department of Public Works Division of Engineering, Essex County, NJ
Assisted with the design and layout of improvements for three golf courses. Tasks included preparing contract drawings and specifications. (May 2008 – June 2008)

Waste Disposal and Recycling Shared Services Study, Woodbine Borough, Middle Township, Avalon Borough, and Ocean City, Cape May County, NJ
Assisted with the preparation, organization, and execution of multiple tasks including data collection, route mapping, and report preparation. (July 2008 – August 2008)

Waste Disposal and Recycling Shared Services Study, Laurel Springs, Sommerdale, and Stratford, Camden County, NJ
Assisted with the preparation, organization, and execution of multiple tasks including data collection, route mapping, and report preparation. (March 2008 – May 2008)

Middlesex County Landfill Weather Station Installation, Middlesex County Utilities Authority, East Brunswick, NJ
Assisted with the design and layout of a state-of-the-art weather station. Other tasks included preparation of an Engineer's estimate and bid package. (February 2008 – August 2008)

Construction and Demolition Waste Landfill Modeling, City Environmental Waste Services, Panama City Beach, FL
Collaborated on the development a model for leachate runoff using the Hydrologic Evaluation of Landfill Performance (HELP) Model. (May 2008 – June 2008)

Robert S.W. Lin, PWS

Education
33 Credits in the Environmental Science Graduate Program, Rutgers University

BS, Natural Resources Management, Rutgers University, 1983

Registrations
Certified Professional Wetland Scientist #335, 1995

OSHA Hazardous Waste Site Operations, 1989

OSHA Hazardous Waste Site Ops. Supervisor

OSHA Confined Space Entry

OSHA Hazard Communications Training

Years in Practice - 20

Memberships
Ducks Unlimited
Florida Audubon Society
National Audubon Society
New Jersey Audubon Society
Society of Wetland Scientists

Experience Summary

Mr. Lin has extensive experience in the field of wetland and watershed protection, gaining nine years of experience during his prior tenure with Hatch Mott MacDonald's (HMM) Environmental Management Division, and three years serving with the US Fish and Wildlife Service assigned to the United States Environmental Protection Agency (USEPA) performing Clean Water Act Section 404 and 401 regulatory project reviews. He rejoined HMM in 2007.

Mr. Lin has extensive experience performing environmental impact statements and natural resource inventories, wetlands delineation and permitting, wetland mitigation, endangered and threatened species identification/mitigation, and watershed resource protection planning. He performed permit review and commenting and application reviews for US Army Corps of Engineers' public notices, USEPA mitigation monitoring/review team, and water quality assessments while with the USEPA.

Mr. Lin served as Project Manager of multi-disciplined Environmental Assessment teams consisting of internal personnel, subconsultants, and contractors. He has been responsible for the coordination and completion of projects relating to wetlands evaluation, Superfund site assessments, Waterfront development, Pinelands, and federal and state Environmental Impact Statement (EIS) requirements. Mr. Lin is experienced in preparing Baseline Ecological Evaluations (BEE)/Assessments, Federal Spill Prevention, Control, and Countermeasure (SPCC) Plans, and New Jersey Discharge Prevention, Containment, and Countermeasure (DPCC) Plans and Discharge Cleanup and Removal (DCR) Plans. He is qualified by the NJDEP to certify Environmentally Sensitive Area (ESA) Protection Plans as an ornithologist, freshwater biologist, and ecologist pursuant to NJAC 7:1E-4.4(a)6.

Mr. Lin has experience with multiple regulatory compliance issues involving the USEPA, the US Army Corps of Engineers, the US Fish and Wildlife Service, and other state and federal agencies. While with the USEPA, he performed Section 404/401 application reviews, mitigation functional assessments, and Essential Fish Habitat evaluations. He was also assigned to the interagency mitigation bank review team.

Mr. Lin is experienced with the State of New Jersey's regulation and permit procedures, including Freshwater Wetlands Protection, NJPDES/Stormwater, CAFRA, Pinelands, Flood Hazard Control, and New Jersey Spill Compensation and Control Act, as well as permit procedures for the Pennsylvania Department of Environmental Protection and the New York State Department of Environmental Conservation. He provided assistance in New York and New Jersey permit processes for the Port Authority for two years during an in-house consulting project. He has provided expert testimony at Planning Board meetings and in county and municipal court for wetland projects.

Selected Project Experience

General Environmental Engineering Consulting, Port Authority of NY/NJ, New York
General on-call consultant for Port Authority for activities in regulated areas of New Jersey and New York. Also provided direct in-house support to Port Authority's Permit Group, including stormwater pollution prevention plan preparation, spill prevention plans, and consultant for Port Authority wetlands and mitigation projects.

Baseline Ecological Evaluation (BEE) and Assessment, NJ Turnpike Authority (NJTA), Gloucester, Camden, Burlington, Monmouth, Mercer, Middlesex, Union, Essex, Hudson, and Bergen Counties, NJ
Project Manager for numerous BEEs for properties along the NJ Turnpike from Exit 2 through Exit 16.

Environmental Assessment (EA) of Reservoir Improvements, Fort Stanton Park, District of Columbia Water and Sewer Authority (DC WATER)/National Park Service (NPS), Washington, DC
Task Manager for the preparation of an Environmental Assessment (EA) to evaluate potential environmental impacts associated with required improvements to repair, stabilize, and environmentally restore a failed slope embankment and concurrently *execute a transfer of jurisdiction of NPS property to DC WATER within Fort Stanton Park* (U.S. Reservation 412). The failed slope embankment area consists of approximately 0.43-acres located on the southeast slope of DC Water's Reservoir No. 2. The transfer of jurisdiction consists of the area of the proposed improvements and adjacent areas required for maintenance purposes. The proposed alternatives were assessed in accordance with the National Environmental Policy Act (NEPA) and the NPS Director's Order 12, Conservation Planning, Environmental Impact Analysis, and Decision-making (NPS 2001), which requires that impacts to park resources be analyzed in terms of their context, duration, and intensity. The environmental analysis and assessment of *alternatives for the proposed slope restoration focused on the development of a* sustainable solution to both restoration and future maintenance. The EA concluded that no major impacts are anticipated as a result of the proposed project.

Environmental Assessment, Canoe Brook Water Treatment Plant, NJAW, NJ
Task Manager for the Natural Resources and Permitting portions of a Level 2 Environmental Assessment (EA) to fulfill the requirements of Subchapter 10, Environmental Assessment Requirements for State Assisted Environmental Infrastructure Facilities, which sets forth the specific requirements of environmental reviews for projects receiving financial assistance pursuant to N.J.A.C. 7:22-3,4 and 6 as well as N.J.A.C 7:22A-6 and 7. An environmental impact assessment (Level 2 EA) was performed in conformance with the regulatory requirements set forth in N.J.A.C. 7:22-10.5 as pertinent to the proposed water supply improvement project. The EA included a review of the existing and proposed conditions for the project site and a larger defined project area, as well as a larger planning area. The alternatives analysis, including "build" and "no-build" conditions, was performed in consideration of the three defined areas. Assisted in the development of a scoping and presentation strategy, which utilized Geographic Information System (GIS) mapping and accompanying summary tables to present the majority of information, required for the three levels of environmental aspect review, thereby minimizing time and cost.

Categorical Exclusion Document (CED) Environmental Assessment for FHWA/NJDOT SAFETEA-LU High Priority Project Funding, Pompton Lakes, NJ
Project Manager for providing an environmental assessment to obtained a Categorical Exclusion Document (CED) for funding Pompton Lake's proposed streetscape/public safety project. The CED received final NJDOT approval in September 2008.

Personnel Rates

THE PORT AUTHORITY OF NY & NJ

Hatch Mott MacDonald

Port Authority of New York and New Jersey
Hatch Mott MacDonald
Employee Rate Schedule – September 2010

(Ex. 1)

Name	Title	2010 Rate*	2010 Rate Extension
	Project Geologist	$38.84	$114.42
	Principal Project Manager	$64.75	$190.75
	Senior Associate	$68.16	$200.80
	Environmental Scientist	$27.89	$82.16
	Technician	$16.53	$48.70
	Project/GIS Specialist	$41.63	$122.64
	Vice President	$85.15	$250.85
	Engineer	$29.71	$87.53
	Project Geologist	$44.09	$129.89
	Project Architect - Landscape	$53.24	$156.85
	Associate	$47.40	$139.64
	Associate Architect - Landscape	$21.37	$62.96
	Associate	$58.99	$173.78
	Engineer	$29.46	$86.79
	Specialist III	$20.01	$58.95
	Environmental Scientist	$26.89	$79.22
	Cad Technician	$25.94	$76.42
	Project Geologist	$37.69	$111.03
	Environmental Scientist	$21.98	$64.75
	Cad Technician, Senior	$27.65	$81.46
	Architect I- Landscape	$25.54	$75.24
	Designer, Senior	$38.15	$112.39
	Vice President	$69.14	$203.69
	Project Manager	$44.29	$130.48
	Designer III	$20.38	$60.04
	Environmental Scientist	$21.11	$62.19
	Cad Technician	$24.96	$73.53
	Designer III	$27.27	$80.34
	Inspector	$37.10	$109.30
	Associate	$59.90	$176.47
	Vice President	$70.61	$208.02
	Vice President	$62.05	$182.80
	Environmental Scientist	$25.51	$75.15
	Senior Project Scientist	$45.11	$132.89
		$28.31	$83.40
	Vice President	$82.67	$243.55
	Engineer	$29.47	$86.82
	Environmental Scientist	$27.84	$82.02
	Environmental Scientist	$28.78	$84.79
	Environmental Scientist	$31.01	$91.36
	Technician	$23.46	$69.11
	Designer	$25.34	$74.65
	Vice President	$66.20	$195.03
	Engineer	$30.79	$90.71
	Project Manager	$59.81	$176.20
	Technician	$14.92	$43.95
	Project Manager	$58.42	$172.11
	Senior Associate	$63.65	$187.51
	Geologist	$23.45	$69.08
	Environmental Scientist	$20.79	$61.25
	Engineer	$28.91	$85.17
	Engineer	$38.00	$111.95
	Associate	$57.15	$168.36
	Designer, Senior	$29.58	$87.14
	Designer	$23.00	$67.76
	Vice President	$73.46	$216.41
	Environmental Scientist	$31.83	$93.77
	Specialist III	$31.13	$91.71
	Environmental Scientist	$36.54	$107.65
	Engineer	$30.90	$91.03
	Associate	$49.74	$146.53
	Technician	$31.01	$91.36

*Rate is reflective of current salary, an anticipated rate increse of approximatley 4% is anticipated for 2011.
There is no rate differentials for HMM staff.

THE PORT AUTHORITY OF NY & NJ

9/10/2010

Specific Relevant Experience

THE PORT AUTHORITY OF NY & NJ

Hatch Mott MacDonald Overview

Hatch Mott MacDonald, LLC (HMM) is a leading North American consulting engineering firm. We have been providing quality engineering and environmental services to governmental and private clients since 1937. HMM is well regarded in the engineering industry and is ranked No. 45 in the ENR Top 500 Design Firms for 2010. HMM possesses the practical knowledge and experience needed to meet the technical challenges of any project. Our approach is strictly client-focused, with corporate commitment to engineering excellence. HMM is a locally based consulting firm with its Headquarters in Millburn, New Jersey. Additional Metro offices include Jersey City, NJ and New York City, NY. We maintain a staff of over 475 in these three local offices and offer additional staff of over 1,450 located throughout North America in 59 additional offices. HMM offers a broad variety engineering services; our key areas technical areas include:

- Airports and Aviation
- Buildings
- Environmental
- Highways and Bridges
- Life-Safety & Security
- Pipelines
- Ports and Harbors
- Rail and Transit
- Site Development
- Tunnels
- Wastewater
- Water

HMM's Environmental Management Division, located in Millburn will provide the lead role and personnel necessary to complete the tasks assigned under this contract. Key services offered by HMM's Environmental Management Division include:

- Environmental Assessment, Evaluation & Investigation
- Brownfields Redevelopment
- Remediation
- Environmental Impact Assessments
- Site Assessment
- Solid Waste
- Storage Tank Management
- Environmental Permitting/Plans
- Wetlands & Ecological Services

HMM's Environmental Management Division includes over 50 professional personnel with the necessary mix of disciplines (e.g., engineers, environmental scientists, hydrogeologists, geologists, planners, architects, etc.) required to perform and complete the assigned tasks to the full satisfaction of the Port Authority of New York & New Jersey (Port Authority). As necessary, and depending upon the assignment, we will draw from the resources of other HMM offices and personnel.

HMM has substantial skill and knowledge in assessment, investigation, remediation and overall environmental services. We have many years of experience working with the NJDEP, NYSDEC, NYC DEP and US EPA (EPA) and know many of the Case Managers and senior officials in those agencies. In November 2009, the NJDEP promulgated the Administrative Regulations for Remediation of Contaminated Sites (ARRCS), N.J.A.C. 7:14 C et seq., to implement the Site Remediation Reform Act (SRRA). The statute and implementing regulations authorize the NJDEP to license environmental professionals in the private environmental consulting sector as agents of the NJDEP to make decisions regarding contaminated sites. Qualified environmental professionals demonstrating the required education and experience can qualify for what is known as a Licensed Site Remediation Professional (LSRP) license. The New Jersey Legislature and the NJDEP have established this licensing program to enable LSRPs to assist in processing contaminated sites in accordance with the laws and regulations governing the process of site remediation. A LSRP can conduct studies and issue Response Action Outcomes (RAO) that now replace No Further Action (NFA) letters previously issued by the NJDEP to close out a site. Our experience in contamination assessment and evaluation is evidenced by the fact that more than a dozen of our environmental professionals are NJDEP certified subsurface evaluators and five have recently become NJ Licensed Site Remediation Professionals (LSRP). In fact, HMM has undertaken twelve LSRP projects and has already issued or is in the processing of issuing/"writing" a half-dozen Response Action Outcomes. HMM also maintains staff, meeting the definition of Environmental Professional pursuant to ASTM 1527 who are not LSRPs for due diligence projects to avoid any regulatory disclosure issues which

might complicate communication with sellers or other interested stakeholders involved in potential financial transactions or tenant related transactions.

Technical Approach

The RFP identifies seven types of environmental projects that may be assigned under this on-call contract. Additionally, a number of potential tasks are outlined which may be part of the assignments. The following summarizes HMM's capabilities and technical approach to the seven listed potential environmental projects and the outlined tasks. Examples of recent projects that clearly demonstrate our experience in these areas are also provided below, alsong with contact information for project references. The projects included as examples in this proposal detail our firm's experience and staff capabilities, as well as, illustrate HMM's commitment to coompleting projects on time and within budget. These project expamples represent successes from a technical, cost and time perspective. We recognize that additional assignments beyond those listed may occur. As illustrated herein, HMM's capabilities extend far beyond the listed tasks and we assure the Port Authority that we stand ready to assist in any needed professional environmental engineering capacity.

Soil & Groundwater Investigations

HMM is well qualified to provide the full range of services required to address site contamination from Phase I Environmental Site Assessments or Preliminary Assessments (as described later) through all phases of Site and Remedial Investigations and Feasibility Studies. HMM is also capable of providing services associated with remedial design, remediation plans, permitting, plans and specification, construction assistance, monitoring and interagency coordination.

Soil and groundwater investigations are conducted to meet a variety of business and regulatory requirements. Regardless of the specific reason for conducting these investigations, all such efforts seek to investigate identified concerns, to confirm or dismiss the potential concerns and to provide data on their extent and significance. As an example, for transportation facilities, potential site contamination could result from operations at fueling and maintenance facilities (fuels, cleaning agents, oils) or at power substations (oils, PCBs, standby power fuel) or in disposing of contaminated ballast. Contamination sources can come from sudden and immediate discharges or from an accumulation of repeated, small and seemingly insignificant spills. Often, the contamination is easily detected using limited and simple soil testing methods and addressed with a straightforward investigative approach. With respect to Port Authority projects, HMM is aware that facilities are often active, therefore, any sampling efforts (and ultimately, Remedial Actions) may require provisions for work-around areas. HMM is experienced in balancing these priorities.

Site Investigations, Remedial Investigations and Feasibility Studies are often continuations from Phase I ESAs (Preliminary Assessments) in which the information gathered, and/or limited sampling and analysis conducted, has identified the presence of a known area(s) of environmental concern (AOC) or "recognized environmental condition (REC)". As the objective of initial due diligence, whether via a Phase I ESA or a Preliminary Assessment, is only to note the presence of such conditions and not to fully evaluate or estimate the extent of potential contamination associated with these areas, additional investigation efforts are often necessary. The full evaluation of identified areas of environmental concern often involves detailed sampling and analysis of various environmental media, typically soil and/or groundwater. This additional sampling and analysis is conducted to provide data on the extent and significance of the identified area of concern. The investigative efforts may include the installation of soil borings and groundwater monitoring wells, the use of soil vapor monitoring, GeoProbe or Hydropunch equipment; and the collection of soil, groundwater and other samples. Samples can be field screened for certain parameters and/or submitted for laboratory analysis for parameters of concern.

The purpose of the sampling and analysis is to obtain sufficient data to fully delineate and characterize the contamination associated with identified areas of environmental concern. Often, more than one round of sampling and analysis is necessary to fully characterize the area of environmental concern. Based on these data, conceptual remedial alternatives and Feasibility Studies

can be developed and costs estimated for same. Remedial measures (if necessary) are specific to the types and magnitude of the contamination identified and the specifics of the site. Prior to, or in conjunction with, development of Remedial Alternatives, it may be appropriate to conduct a Feasibility Study (to determine if a certain technology is appropriate to the site circumstances). Remedial alternatives are developed and evaluated in light of the types, extent and concentrations of identified contamination, proximity of sensitive receptors, State and/or Federal cleanup criteria, cost, site circumstances and many other factors. Remedial actions can range from interim or emergency response measures to long-term remediation.

Once the contaminants of concern are delineated in the subsurface, HMM, in conjunction with an appropriately licensed driller (either subcontracted by HMM, or directly by the Port Authority), will be able to conduct aquifer pumping tests to assess the nature of aquifers below the site regarding water storage, yield, transmissivity and hydraulic conductivity for purposes of performing hydrogeologic and contaminant transport modeling. The modeling coupled with the contaminant delineation studies will assist HMM in designing cost effective soil and groundwater remediation systems, where necessary. Additional information pertaining to our approach and experience to remediation is provided in the following section, Remedial Design.

The following are a few examples of HMM's soil and groundwater investigation capabilities.

Roselle Park, NJ – Youth Baseball Fields Remediation – Doreen Cali, Borough Clerk 908-245-6222

HMM was retained by the Borough to implement a remedial action at the Youth Baseball Field Complex. The Borough was dissatisfied with the existing environmental consultant as the project had not been progressing at an acceptable rate. The site consists of two Little League fields that had been closed by the USEPA and the NJDEP due to lead and polycyclic aromatic hydrocarbon contamination in surface soils. Upon being retained, HMM reviewed the existing remedial design (excavation of 4,000 tons of contaminated soil and capping the site with a synthetic liner and two feet of clean sand and soil) to indentify cost saving measures and to implement the remediation. HMM assisted the Borough in retaining a remedial contractor and implementing the project on a fast-track. HMM is continually working with the contractor on cost saving measures. The remedial contractor commenced work in August 2010 on the $1,000,000 project and expects to complete the project by early October 2010. HMM is providing additional RI Services, construction management and remedial oversight services for the Borough. HMM's engineering cost saving measures has allowed the Borough to provide significant upgrades to the reconstruction of the ballfields within the original Contract Price

Former Tube Manufacturing - John Jones, 908.236.6015

As part of a corporate transaction, Tube Manufacturing Company, a stainless steel tubing fabricator, triggered New Jersey's Industrial Site Recovery Act (ISRA). Groundwater at the site was known to be impacted by chlorinated solvents, based Preliminary Assessment and Site Investigation findings. HMM was retained to complete the Remedial Investigation (RI) of groundwater. HMM completed the initial phase of the groundwater RI using low flow purging and sampling techniques. The results indicated that the groundwater impacts were present not only in the overburden (fill, soil, and weathered bedrock) but also in the fractured shale bedrock that underlies the site. Delineation was incomplete horizontally and vertically in the bedrock aquifer, where groundwater impacts were known to extend to depths of at least 60 feet below grade (bg). HMM realized that a conventional, iterative approach (a well is installed, a groundwater sample is collected, and additional delineation wells are installed and sampled until delineation is complete) to groundwater delineation would not meet the client's schedule or budget constraints. Therefore, HMM developed a more innovative approach to delineation of impacts in the bedrock including the following elements:

- Drilling of six deep bedrock boreholes to depths of approximately 200 feet bg.
- After the water level stabilized in the boreholes, HMM

retained a geophysical contractor to perform downhole geochemical, heat pulse flowmeter, caliper, and acoustic televiewer (ATV) tests under static and pumping conditions. The goal of the tests was to determine the depths of, relative hydraulic heads in, and orientations of hydraulically conductive fractures.

- To prevent vertical contaminant migration, HMM sealed the wells using impermeable liners under excess hydraulic pressure.
- While the liners were installed, HMM timed the liners' descent in the well and calculated transmissivity in the fractures.
- HMM analyzed the data to propose five sampling depths per borehole, and ordered a custom-made liner for each borehole. The liner allowed hydraulic head measurements and groundwater sample collection at the selected depths, while sealing the well between these depths.
- During installation of this liner, HMM measured hydraulic head in other boreholes using miniTrolls to determine whether the boreholes were hydraulically connected via the fracture network.
- After installing the liners, HMM conducted synoptic groundwater monitoring, measuring the hydraulic head at multiple depths and locations and collecting over 60 groundwater samples, primarily via low flow purging and sampling methods.

The innovative effort was successful. The NJDEP approved the listed RI Work Plan elements, groundwater delineation was completed, and considerable cost savings were realized compared to conventional investigation methods.

City of Plainfield/OnCall Brownfield Consulting – Jacques A. Howard, Asst. Dir., Economic Development, City of Plainfield, 908.226.2519

HMM has been selected as an on-call consultant for Brownfield services by the City of Plainfield from 2008-current. As part of this contract, we have provided due diligence and related environmental services, including a variety of soil (grab samples, encore sampling, test pits, geoprobe), and groundwater sampling (traditional sampling, low flow sampling, passive diffusion bags), at several Brownfield sites in the City. For example, HMM installed and sampled soil borings in a playground and performed vapor intrusion sampling within the interior of a daycare facility over a weekend to address potential soil contamination issues from former site uses. Recently, we assisted the City in completing a comprehensive characterization and hot-spot delineation program at an inactive industrial site; the prior consultant's approach had spanned several years without yielding a supportable remedial approach. Our program included the collection of soil samples utilizing both test pits and soil borings to ensure a full review of soil conditions and historic fill material and to collect sufficient information to move the project toward remedial action selection. Further, HMM's groundwater investigation included the use of passive diffusion bags to collect groundwater samples based on the type of contamination known to be present in regional and site groundwater. For each site in this program, HMM has worked within previously established federal and state Brownfield grants to ensure that the proposed site characterization suits the probable end use, ensuring that projects stay on the path to redevelopment/re-use. Our work for this client exemplifies our technical capability and our understanding that projects must move through the assessment, investigation and remedial process in a timely manner to keep redevelopment efforts on track. HMM has taken several of the projects included in the City's Brownfield program from initial due diligence, through investigation/characterization, and, as necessary through remediation to obtain NJDEP concurrence with proposal for "no further action" within the last three years.

Remediation Design

After development and evaluation of Remedial Alternatives and negotiation with the appropriate Regulatory Agency, a Remediation Plan for the selected alternative is prepared. The Remediation Plan identifies the area(s) of the site, which will undergo remediation, establishes cleanup levels, and defines basic remedial design parameters necessary for completing detailed plans and specifications. The Plan will also identify all permits which will be required as part of the chosen remedial alternative.

HMM has the capability and experience to prescribe and design a wide-range of methods of soil and groundwater remediation when necessary. Remedial technologies for contaminated soil may consist of natural attenuation, limited soil excavation and disposal, soil vapor extraction technology and in-situ or ex-situ bioremediation. We have designed and implemented groundwater remedial systems using technologies such as air sparging and vapor extraction, bioremediation, pump-and-treat technologies, and air stripping with carbon adsorption and catalytic oxidation. We have also been very successful in obtaining approvals for Natural Remediation Compliance Programs and Classification Exception Areas (CEAs) for many NJ clients. We have also obtained groundwater reclassification and natural attenuation approvals for many sites and/or areas of concern in NY, NJ and other states. Once the permits required for the chosen remedial alternative are identified, the permit application packages are prepared and submitted to the appropriate regulatory agencies. Our project team is intimately familiar with the types of permits required for various remedial technologies. We are keenly aware that early identification of permits is vital to the timeliness of the projects since insufficient lead time could result in a delay in the implementation of remedial activities or site development/redevelopment.

Upon completion of the Remediation Plan and Remedial Action Work Plan and the identification of applicable permits and permit conditions, detailed plans and specifications are prepared for the implementation of all remedial measures. These plans and specifications will refine the elements of the remedial strategy into a detailed design and sequence of construction by which the chosen remedial alternative will be implemented.

The plans and specifications will be in conformance with Port Authority standards and/or codes and regulations appropriate to a private corporation, whichever is the more stringent. Upon completion of the plans and specifications, assistance can be provided to the Port Authority in the following areas: obtaining competitive bids for the implementation of the remediation, construction management, and coordination with all concerned regulatory agencies.

Our highly qualified staff of engineers, scientists and geologists stands ready to provide the Port Authority with a wide range of remedial services including design and implementation of subsurface soil and groundwater remedial systems should they become necessary at Port Authority facilities. HMM's remedial services include the design of soil and groundwater remediation systems, construction observation during system installation, operation and maintenance of the installed systems, permitting and monitoring of air emissions and discharged effluent from treatment systems. In addition, HMM is experienced in preparing and implementing soil and/or groundwater sampling programs designed to assess, confirm and monitor the effectiveness of the remediation systems.

HMM has been providing comprehensive remedial system development and design consulting services for many years and we are well versed in the operation of these systems and the associated regulatory requirements. Currently, HMM is involved with active groundwater and soil remediation systems at service areas along the New Jersey Garden State Parkway and Turnpike. In addition, we have completed the design of remedial systems on various projects for the New Jersey Turnpike Authority, New Jersey Transit and for many industrial clients.

As evidenced in this response package, HMM has the capability to provide the Port Authority with comprehensive design and implementation of all applicable remedial approaches, including innovative or alternative strategies, which may be required at Port Authority facilities. A few examples of our remedial experience are provided below.

New Jersey Turnpike Authority - Interchange 14 - Christopher Rossi, Manager, Environmental Quality and Resources, New Jersey Turnpike Authority, 732.750.5300 X8257

The Authority retained HMM to provide free product recovery and to design an active remediation system. HMM completed a biovent pilot test in May 2010 to asses if the injection of air into the vadose zone would stimulate biodegradation. We installed two sets of vapor monitoring points in the vadose zone and utilized existing monitoring wells as additional pilot test monitoring points. We injected air into an existing

monitoring well containing free product and measured air permeability, zone of influence and oxygen uptake following injection cessation. The pilot test demonstrated that bioventing is a viable remedial alternative. As a result, HMM is currently presenting the conceptual design to the NJDEP and will prepare the design (plans and specifications for public bidding) of the remediation system for the Authority.

Nat Turner Park/Brownfield Redevelopment: Colleen Graves, Program Manager, Parks for People, The Trust for Public Land, 973.718.7338

The Trust for Public Land is assisting the City of Newark in transforming a 9-acre lot, which has been underutilized since the City acquired it in the 1970s, into a safe, vibrant, well-used park that will serve the city, including nearly 7,000 neighborhood children. The redevelopment of this Brownfield site is a vital part of the revitalization of the City of Newark's Central Ward. The Trust for Public Land retained HMM to provide a variety of environmental, design and engineering services in support of this Brownfield redevelopment project. Environmental services include site assessment and investigation, remedial design, oversight of remedial actions, reporting, regulatory agency coordination as well as grant services. Environmental issues and challenges associated with the project ranged from underground storage tanks to historic fill material to contaminated soil and groundwater from prior residential, commercial, industrial and rail/roadway site uses. HMM has also provided a full array of design and construction management services for the project to bring it to successful completion. HMM has obtained over $2.6 million dollars in investigation and remediation funding through the New Jersey Brownfields Program in addition to providing traditional environmental and engineering services. The combined efforts of HMM's team of environmental and site design professionals resulted in the development and implementation of a remedial strategy which addressed environmental issues in a cost and time efficient manner while ensuring the protection of human health and the environment. The integration of remediation and site development strategies and goals throughout the project has saved the Trust for Public Land and the City of Newark millions of dollars.

Passaic Valley Sewerage Commissioners - Sheldon Lipke, Superintendent of Plant Operations, PVSC, 973.817.5782

A storage and unloading facility was constructed for a trash skimmer vessel as a component of the Passaic River/Newark Bay Restoration Program. The vessel collects floatables from the Lower Passaic River to improve water quality and remove hazards to navigation. The 0.7 acre site is a narrow strip of land along the river bank which was formerly used as a boat repair facility. Construction of the new facility required demolition, dredging to allow boat access, wetland mitigation, installation of a bulkhead to provide space for offloading debris, site improvements and investigations for regulatory compliance. The project incorporated wetland investigation and mitigation, investigation of former site use leading to soil and groundwater contaminant investigations, and investigation of sediment type and contaminants into the design and permitting process. The facility requirements included a bulkhead along the waterline, a solid surface for movement of debris containers and vehicles, and a boat launch. Sediment dredging was necessary to provide boat access for offloading debris. Being located on the Passaic River, the sediments adjacent to the site were contaminated as this portion of the River is part of the Diamond Alkali Superfund Site. Being a former boat repair facility, the site was determined to be contaminated allowing for placement of the dredge materials on the site under a concrete or asphalt cover. The dredge area was reduced during the permitting process due to the presence of high levels of contaminants in subsurface sediments resulting in a dredge volume of 500 cy (originally proposed 1,100 cy). The challenge for the site was to coordinate the various state and federal permits and reviews to the satisfaction of all parties and incorporate the environmental challenges into the design.

Seaview Manor and Grant Court Housing Development Remediation, Long Branch Housing Authority, Monmouth County, NJ – Tyron Garrett, Executive Director 732.222.3747

HMM was retained to provide environmental consulting services of the demolition remediation and reconstruction of the housing complexes, which had been built on properties impacted by a former Manufactured Gas Plant. The responsible utility company conducted a comprehensive

Remedial Investigation and developed a proposed Remedial Action Work Plan. HMM reviewed and commented on all investigation and proposed remedial plans, attended public meetings on behalf of the housing authority, advised the authority on potential health risks of the various remedial options, provided periodic oversight of the remedial activities, and managed the design and implementation of a separate Remedial Action Work Plan for new site utilities. HMM's primary project responsibility was to ensure that the responsible utility company remediated the two properties to a level that would allow the reconstruction of the residential properties. Site remediation was completed and Seaview Manor (40 rental units) and the new Grant Court Complex (70 rental units) were reconstructed and are occupied in December 2006 and December 2007, respectively. HMM is currently providing consulting services to the Authority the remediation by the utility company of adjacent properties and on the reconstruction of the Garfield Court residential complex and other properties in Long Branch.

Union City Bus Garage Remedial Action, Gerald Obert – Manager of Site Remediation, New Jersey Transit, 973.491.7249

HMM provided environmental services including conducting a comprehensive remedial investigation of LNAPL impacts in the subsurface, implementation of interim remedial measures for LNAPL removal from groundwater, and semi-annual groundwater monitoring and prepared Remedial Action Progress Reports (RAPRs) including Classification Exception Area documents. In late 2008, NJ Transit requested that HMM prepare plans and specifications for the construction of a Multi-Phase Extraction System for the site that was designed by a prior consultant several years before. HMM conducted an assessment of current site conditions and recommended to NJ Transit that the system not be constructed as groundwater conditions no longer warranted such a system. HMM recommended excavation of the LNAPL source materials and groundwater monitoring to monitor the effectiveness of the remediation. An Interim RAW was prepared and approved by the NJDEP. The excavation and offsite disposal of the source area was completed in the summer of 2009.

Howland Hook Marine Terminal (HHMT) – Port Ivory Interim Remedial Measure, Robert A. Pruno, PE, Chief-Environmental Engineer, Port Authority of New York & New Jersey, 973.565.7620

In the early 1900s, Proctor and Gamble (P&G) developed portions of the HHMT-Port Ivory Facility for use as a consumer goods manufacturing facility. P&G operated the Facility for at least 70 years (until closure in about 1990) prior to the onset of the environmental regulations of the 1970s and 1980s, and permitted the construction of over 10.8 miles of underground petroleum pipelines through the Facility in five utility easements. Over the years, the majority of the pipelines were abandoned and fell into disrepair. The Port Authority retained HMM to complete the remedial investigation and necessary remedial actions at the HHMT-Port Ivory Facility in support of a Certificate of Completion from the New York State Department of Environmental Conservation (NYSDEC). In 2005-2006, HMM generated data to demonstrate that the petroleum that had previously discharged from the underground pipelines was weathered to the point that it was no longer a source for groundwater contamination. HMM used this information to negotiate with the NYSDEC; specifically, HMM successfully requested that all residual (i.e., immobile) petroleum product could remain and only mobile petroleum would be removed. Upon NYSDEC approval, HMM prepared a work plan for an interim removal measure to excavate soil impacted by mobile petroleum, remove any petroleum on the water surface within the excavation, and transport the soil and petroleum offsite for disposal. Groundwater encountered within the excavation would be treated on site using an oil-water separator, bag filters, and activated carbon.

A total of 3,500 tons of soil were excavated, 24,976 gallons of petroleum were removed, and 415,721 gallons of water were treated. Given the success of this approach, the pilot program became the standard for remediating all other petroleum releases at the HHMT-Port Ivory Facility. Also, compared to excavating or treating all petroleum-impacted soil at the HHMT-Port Ivory Facility, the proposed remedial action is estimated to have saved the Port Authority up to $1 million.

Compliance Audits

Prior to undertaking a Compliance Audit, it is critical to define the scope of coverage for the audit. The initial project scoping effort would define audit locations and determine whether the scope involves assessment of the facility's conformance to particular Port Authority policies (in addition to normal regulatory requirements). Reporting structure (i.e., to Port Authority management, internal or external legal counsel) and other items would also be determined as part of project scoping. After the scope is defined, our typical approach to a compliance audit would follow the steps listed below:

Task 1 - Initial Data Compilation and Review

As an initial task we would request (from the Port Authority), pertinent and applicable information concerning the facility or location to be audited and its operations. After an initial meeting or pre-inspection visit, we would compile a list of such items to be reviewed. Examples include copies of environmental permits, facility records, SPCC/DPCC plans, emergency response plans, stormwater management plans, annual generator reports, Right-to-Know reports, pollution prevention plans, discharge monitoring reports, air emission statement inventories, site maps, and other items. A copy of the last audit performed at the facility, if available, is extremely useful. If conformance to Port Authority policies is also to be evaluated, we would review applicable policies.

Upon receipt of the available materials, we would perform a review to become more familiar with facility operations and layout and comment on the adequacy of the plans, permit, and other documents. We would also begin to prepare a site-specific "questionnaire" for use during the site inspections and interviews. Prior to the inspection task, we would develop a roster of Port Authority and HMM representatives to be involved in the audit and to confirm an inspection schedule.

Task 2 - Inspection and Interviews

The facility and grounds would be inspected, with knowledgeable Port Authority personnel accompanying the HMM audit team. Port Authority representatives and/ or facility personnel would be interviewed and/or questioned during the inspection to obtain additional information concerning operations or processes, raw materials handling, plans (e.g. SPCC/ DPCC, emergency response, stormwater management), waste storage and management issues, process and effluent streams, permit issues, current and relevant historical practices. In addition to gathering relevant data, the purpose of the inspection is to physically identify undocumented areas of concern, sidestreams, waste streams, emission sources, and other practices for which applicable regulations require compliance.

Task 3 - Report Preparation

The project would include a technical analysis of the subject facility or operation as described above and the preparation of a report presenting and documenting our findings and conclusions. Recommendations would not be provided in the report unless requested by the client. A draft report would be prepared for review by the Port Authority. Following the Port Authority's review and comment, HMM would prepare a final report. Given the sensitive nature of audit findings, no information regarding a compliance audit would be made available (by HMM) to any person other than the Port Authority, except as required by law.

In addition to general findings, the report would identify specific items of apparent or potential non-compliance. Based on the review of the facility's operations in light of the regulatory requirements, HMM will work with the Port Authority to develop a list of compliance points. Examples of compliance points are permitted discharge points such as stacks or outfalls or common problem areas (frequent spills near a drum handling area). A master list of such points can be developed for a given facility or type of facility. The list (along with applicable procedures to document and maintain compliance) can be organized into a computerized database, which could be made readily accessible to your Environmental Managers and facility personnel. Such a database would describe compliance parameters or issues that need to be evaluated at each point of compliance, a schedule for evaluation of compliance, deadlines, etc. For

each point a record of actions, noncompliance events, repairs, etc. can be maintained to document actions. For example, a SPCC/DPCC compliance point may be a drain for a containment dike surrounding an oil storage tank. The database would identify that the drain must be kept locked and prior to discharge, the water must be examined for a sheen, with records kept for all discharge events. As another example, a NPDES compliance point would be an effluent discharge to a stream. The list or database would indicate that the discharge must be sampled for certain parameters, the sampling frequency, the permit limitations, and the expiration date of the permit.

On a periodic basis, either the Port Authority environmental staff or HMM staff can be tasked to review the generated compliance data. Importantly, the database/list functions as a resource and can be utilized to perform periodic or random inspections of all facilities, selected facilities, or representative facilities. The inspections must examine any changes in the facility's operations or physical modifications to the facility to determine if compliance points have been modified, removed or added. Periodically (e.g. once a year), the system could be reviewed to determine the effect of new legislation or policies on Port Authority operations and facilities. Additions, deletions or modifications to the list of compliance points would be recorded and be reflected in an updated list/database.

The following projects illustrate our experience with compliance audits and inspections:

Ramapo College: Gina Mayer-Costa, CSP, CHMM, Director of Environmental Health and Safety, Ramapo College of New Jersey, 201.684.7531

HMM has assisted Ramapo College in achieving and maintaining compliance with the conditions of their Public Complex Stormwater Permit. We initially provided Ramapo with Outfall Mapping services in 2007, and steadily increased the level of compliance services since then including creation of a GIS database of all stormwater outfalls, inlets, Best management Practices (BMP's) and campus roads. When tasked with providing a database for the storm drainage network and conditions at Ramapo College of New Jersey, we provided a geographic information system (GIS) database indicating all storm drain inlets, outfalls, BMP's and roadside scour locations within the Ramapo College property. The inlets were located using a handheld global positioning system (GPS) and provided in North American Datum 1983 (NAD83), New Jersey State Plane coordinates. These coordinates were then attributed with a unique alphanumeric name and registered to the digital version of the site plan provided by the College. Over the past 4 years, HMM has provided Ramapo with complete stormwater management services including inspections, storm drain inlet cleaning, illicit connection investigations, database update and annual reporting. As we have built a considerable database of site conditions, each year our efficiency has improved and we continue to provide Ramapo with the most cost effective solutions to stormwater compliance. Services provided by HMM include:

- Initial Outfall Mapping, and
- Inlet Mapping including labeling status and compliance with opening requirements.

We also perform annual inspections of:

- Storm drain inlets,
- outfalls,
- roadside erosion,
- Best Management Practices, and
- Dry weather flow and illicit connection investigation.

Republic Services of NJ, LLC Multiple Locations Throughout New Jersey, Tom Horvath, Facility Manager, 908.782.4004 x308

HMM serves as the on-call environmental compliance and solid waste and engineering consultant for Republic Services of NJ, LLC (Republic Services). HMM provides all solid waste and recycling strategy recommendations with regard to production, processing, permitting, permit modifications, market data acquisition, and compliance. HMM is responsible for preparation and renewal of all applicable solid waste facility permits, air permits, stormwater permits, and preparation and updating of all site-specific Operation

and Maintenance Manuals and Spill Prevention, Control, and Countermeasures Plans. HMM routinely performs compliance inspections at multiple sites. HMM recently has assisted Republic with solid waste facility permit application renewals and, on behalf of Republic Services, prepared the NJDEP-required components such as the Engineering Reports, Environmental and Health Impact Statements, and Operation and Maintenance Manuals. HMM also performs the annual air monitoring and reporting and conducts the annual stormwater pollution prevention plan inspections and reporting to ensure and to maintain compliance with site-specific permits.

HMM is currently assisting Raritan Valley Recycling (RVR) with permitting, compliance stormwater sampling, and construction associated with the newly instituted NJDEP R7 Wood Recyclers General Stormwater Permit. This relatively new permit was mandated by NJDEP for all entities that perform on-site mulching operations. HMM is currently preparing a new stormwater pollution prevention plan, quarterly stormwater sampling plan, soil erosion and sedimentation plan, emergency action plan, and an operations and maintenance manual. All documents associated with the R7 permit are designed to allow the facility to discharge its stormwater directly to groundwater and to subsequently ensure compliance with the terms and conditions of the NJPDES General Permit (R7).

Port Authority of New York & New Jersey, Right to Know Survey – Robert A. Pruno, PE, Chief- Environmental Engineer, Port Authority of New York & New Jersey, 973.565.7620

HMM has conducted the annual Community Right-to-Know (CRTK) survey of their facilities and prepared the survey reports as required by the applicable regulations in New York and New Jersey. The project includes a total of 29 facilities, which are physically inventoried of chemical products and hazardous substances stored at the Port Authority facilities. The data of the products are compiled and a computer-generated report is produced on a facility-by-facility basis for submission. HMM has performed the surveys from 1993 through 2009 on time and within the appropriated budget. HMM has streamlined the process of the surveys from recording products with pen and paper to having a custom-designed computer program generate a database of Material Safety Data Sheet information for inventoried products; the modification in process has reduced the overall cost and timeframe of the survey. This database is then provided to Port Authority for internal use by all employees who utilize those products.

Port Authority of NY & NJ, UST Compliance Inspections, NYC Airports - Robert A. Pruno, PE, Chief- Environmental Engineer, Port Authority of New York & New Jersey, 973.565.7620

The Port Authority requested technical assistance with UST regulatory compliance inspections at various facilities within John F. Kennedy International, and LaGuardia, Airports. The Authority's goal was to reduce or eliminate penalties and fines associated with violations of regulations enforced by the NY State DEC, US EPA, New York City Fire Law, National Fire Protection Association, International Fire and Mechanical Codes, as well as identifying non-regulation driven items requiring attention. Subsequent deliverables were comprised of a series of inspection reports, as-built drawings, and design drawings addressing various deficiencies identified. Scopes of work for repairs required to address any discovered deficiencies included in the inspection reports, along with construction cost for each repair item. Discrepancies between the available, existing system drawings, and the actual field conditions were noted. Where necessary, drawings were used as part of bid documentation for tank and tank-system contractors to upgrade or modify USTs so that they would become compliant, and pass the next regulatory inspection.

Underground Storage Tank Assessments

HMM has been providing comprehensive underground storage tank (UST) management services to counties, municipalities, public authorities and private clients for over two decades. These services have included: preparation of Tank Management Plans; UST assessment investigations and closures; preparation of plans, specifications and bid documents; permitting, construction management for removals, installations and upgrades; and preparation of Remedial Investigation Reports. The Firm itself and many individuals in the firm are certified under the NJDEP UST regulations.

Preparation of Tank Management Plans

The majority of HMM's UST management projects begin with the preparation of a Tank Management Plan. This Plan serves to establish a scope of work and schedule to achieve the goals of the Port Authority. Once specific USTs are selected, replaced or upgraded, a phased schedule of these work activities is developed based on risk of leakage factors, regulatory deadlines and budget considerations. A HMM Tank Management Plan also includes projected cost estimates for construction and engineering services for each phase of the project and associated scheduled activities.

UST Assessment, Investigation and Closure

HMM has extensive experience in UST Assessment, Investigation and Closure. We can provide UST and AST engineering and design services for facilities with waste oil, oil/water separator, diesel and heating oil USTs. We have completed hundreds of projects involving UST and AST removals and installations. The new installations included concrete support pads, monitoring equipment and other related items. HMM can implement site investigations, tank testing, and soil testing to determine the optimum locations for the new ASTs and UST. HMM can prepare the engineering designs and technical specifications for the removal and installation of the storage tank systems. This includes the preparations of bid documents and specifications. We can provided construction observation and administration services for UST/AST projects.

Preparation of Plans and Specifications

For purposes of bidding construction projects to prospective Contractors, HMM engineers have been preparing engineering plans, specifications and bid documents for over 70 years. HMM engineers routinely prepare engineering designs and specifications for UST projects. Once the bid documents are prepared, HMM will assist in bidding the construction contract, conduct on-site pre-bid meetings with Contractors and will evaluate the bids for the purpose of awarding the construction contract.

Construction Management

Once a Contractor is awarded the construction contract for UST removals, installations and upgrades, HMM can provide the construction management services necessary to observe the Contractor's construction activities. HMM serves to coordinate the project in terms of scheduling, providing quality control on the project, preparing progress reports, attending project meetings, approving Contractor invoices and documenting on-site activities.

Our work with the New Jersey Turnpike (described below) as well as current work with the Port Authority (refer to Compliance Audit discussion, above) illustrates our experience with USTs in both New York and New Jersey:

New Jersey Turnpike Authority UST Program
– Christopher Rossi, Manager, Environmental Quality and Resources, New Jersey Turnpike Authority, 732.750.5300 x8257

The Turnpike Authority retained HMM to manage their UST compliance program for Parkway and Turnpike sites, part of which is a phased approach to UST upgrades. HMM designed new UST systems and upgrades and provided environmental assessments for the UST removals. Our work led to No Further Action (NFA) letters from the NJDEP in May 2010 for Maintenance District 2U, Holmdel State Police and Maintenance District 6. NFAs are pending for Maintenance District 4 and Bass River State Police. In addition, HMM recently issued Response Action Outcomes (RAO) for Woodbridge Motor Pool, Avalon State Police, Great Egg Tolls and Pleasant Plains State Police under the state's new Licensed Site Remediation Professional (LSRP) program. The RAOs stated that the specific areas of concern have unrestricted use, which is identical to no further actions. The reason for RAOs at the last sites is that the UST closure plans were submitted after the November 4, 2009 deadline for implementation of the LSRP program.

Phase I Environmental Site Assessments

Phase I ESAs or Audits, or Preliminary Assessments (PAs) are information-gathering tools performed to identify areas of suspect or known environmental concern as an initial step to implement remedial measures. These studies are also

performed prior to property transfer and may be used as a component of a general facility audit. The scope of an environmental site assessment typically employed is in accordance with ASTM E 1527 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. In New Jersey, a Preliminary Assessment (PA), which is similar to a Phase I ESA, and is defined in the NJDEP's Technical Requirements for Site Remediation (7:26E-3.1(c)) is the standard vehicle employed for due diligence or initial site review.

The purpose of a Phase I ESA or PA is to investigate a property in an attempt to ascertain the presence or absence of areas of potential environmental concern or "recognized environmental conditions". These terms mean the presence or likely presence of hazardous substances, hazardous wastes and petroleum products on a property under conditions that indicate an existing or past release, or a material threat of their release into structures on the property or into the ground, groundwater or surface water of the property. The objective of the Phase I ESA is to note the presence of such conditions or to describe the lack of same and not necessarily to fully evaluate or estimate the extent of potential contamination associated with these areas. Full evaluation of these areas (if desired) often involves sampling and analysis, which is conducted in a site/remedial investigation.

Tasks undertaken within a Phase I ESA focus on site inspection, interviews, and data gathering and evaluation culminating in production of a Summary Report. Standard record sources such as the Federal NPL Site list, ERNS list, CERCLIS list, RCRA TSD facilities and NJDEP, NYSDEC and NYCDEP sources or lists are reviewed. Historical aerial photographs and other items such as fire insurance maps and local records are also reviewed. The site inspection is a critical element in the assessment where the site is examined for current conditions of the property, general topography and to investigate the presence or absence of areas of concern. The latter can include visually discernible spills or discharges of hazardous substances, storage tanks, drums and containers, potential asbestos containing materials, potential PCB containing electrical and hydraulic equipment, stained soils and the like.

Interviews are typically conducted of knowledgeable employees, current tenants and/or the present owner(s) to obtain information concerning present and past uses of the site and other conditions. Also, agency officials from the local Health Department, Engineering Department and/or Fire Department are often interviewed to determine if they are aware of any environmental concerns, complaints or enforcement actions associated with the site and to obtain information concerning present and past uses of the site and recognized environmental conditions.

Upon completion of the Phase I ESA or PA, HMM will prepare a Summary Report describing and documenting our investigation and presenting our conclusions. The report will also locate and describe recognized environmental conditions identified during the assessment or present information describing the lack of the same. Recommendations, if any, would not be provided in the report unless specifically requested by the Port Authority.

HMM's experience with Phase I ESA's is illustrated through the following projects:

Environmental Assessment, Proposed Waterfront Park, Trust for Public Land, Newark, NJ, Colleen Graves, Program Manager, The Trust for Public Land, 973. 718.7338

HMM was retained by the Trust for Public Land to perform environmental due diligence and grant services for 17 parcels comprising the Early Action Area of the Proposed Waterfront Park along the Passaic River. Given the urban and riverfront setting, it was essential to perform a comprehensive due diligence assessment of the properties to ensure that contamination issues were identified early and could be addressed in the early stages of the design. As expected, the historical review revealed a long history of prior usage including heavy industrial uses such as smelting resulting in the identification of numerous areas of concern including the presence of ubiquitous urban fill material. To avoid time delays associated with regulatory agency reviews of individual reports, HMM developed an overall investigation strategy for the client which allowed for a sequenced review by NJDEP. Based on prior use, current ownership, and future project plans, HMM developed

a reporting strategy that allowed for a sequenced NJDEP review of Preliminary Assessments including Site Investigation Workplans (SIW), which met NJDEP 7:26E requirements and allowed Trust for Public Land to move forward with conceptual design. Additional project tasks included preparation of investigative and remedial strategies, coordination with the design team, permitting assistance, leading environmental aspects of the Steering Committee as well as developing and implementing a funding strategy to obtain Brownfield grants. HMM's ability to provide comprehensive due diligence services in a cost and time efficient manner has enabled this project to proceed quickly into final design while balancing environmental, ecological, engineering and community interests.

New Jersey Schools Development Authority – Site Feasibility & Environmental Site Closure Services – Ronald Carper, P.G., Director of Environmental Services 609.777.1805

In 2008 the New Jersey Schools Development Authority retained HMM to provide Site Feasibility Investigation Services & Environmental Site Closure Services. This three-year contract involves conducting pre-development site evaluations to assess the feasibility of proposed sites for use as primary and secondary school construction and/or rehabilitation throughout the State of New Jersey. The site feasibility investigations generally consists of one or more of the following tasks: preliminary environmental screening; boundary and topography survey; utility survey; Preliminary Assessment/Phase I Environmental Site Assessment, site investigation; geotechnical investigation; wetland investigation; asbestos/lead paint/ mold and PCB investigation; environmental remedial cost estimating; traffic and air quality analysis; Executive Order 215/EIS evaluation; historical and cultural resource evaluation; building evaluation; Architectural pre-design evaluation; local planning board presentation; and meetings. To date, HMM has completed 14 new school projects that required the preparation of a Preliminary Assessment/Phase I Environmental Site Assessment. Many of these projects required the assessment of multiple properties to be acquired for the construction of the proposed educational and sports facilities.

Open Space Program Property Evaluation, MCIA, Various Sites, Middlesex County, NJ, Paul Clark, Chief Operating Officer, Special Projects, 609. 655.5141

HMM has provided multi-faceted oncall services to the Middlesex County Improvement Authority's (MCIA) Open Space Program since 2006. Typical project programs include assessments/investigations (as needed) in accordance with the New Jersey Technical Requirements for site remediation, wetland assessments/field surveys, and lot yield analyses. HMM has developed an expanded Preliminary Assessment format which fulfills the requirements of both ASTM E1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (EPA AAI regulations and the NJDEP Technical Requirements for Site Remediation (TRSR, N.J.A.C. 7:26E). Wetland reviews include a feasibility assessment for various land uses, including recreational opportunities such as conservation, passive use, active use (ballfields, playgrounds, etc.), and entertainment. The lot yield analyses consist of determining the number of buildable lots which can be obtained from the property given the current zoning and other known site-specific land-use constraints, including contamination issues, wetlands, streams/surface water bodies, threatened and endangered species, and topography, as well as the availability of utility service and other required infrastructure. Given our success with these initial due dilligence efforts, HMM has been awarded Phase II and remedial oversight phases of many projects.

Risk Assessment

Risk assessment provides a framework for characterizing the threat to the human and natural environments as a result of contaminants and or actions to remediate those contaminants. The methodology is intended to reduce the uncertainty associated with understanding the environmental effects of a contaminant or a site and attempts to place some boundaries on that uncertainty. The environmental health and ecological evaluations follow parallel tracks in determining the possible impacts of contaminants from a site or source. The common path of both of these evaluations is:

- Identifying the contaminants of concern
- Quantifying the release or migration of the contaminant

- Identifying exposure routes
- Risk characterization

Each of these components requires a series of studies to provide the information necessary to make the health and ecological evaluations. HMM's staff utilizes a step-wise conservative approach to these risk assessments. Risk assessors often propose an initial preliminary screening assessment to identify current human or ecological risks. This initial characterization may be a comparison to chemical criteria or regulatory standards.

Later more detailed studies may be conducted, if required, to answer more complex questions. In an ecological risk assessment there are often hundreds of species at a site, so it is often critical to select the most important species and the biological endpoints to determine the risk, and if required the cleanup criteria. The more stepwise approach allows the risk assessor to focus the process on the critical issues and reduce the need for additional studies.

HMM has the credentials and experience to negotiate and execute risk assessment work scopes that provide the essential information without wasting the resources of the client or the agency. In accordance with EPA human health risk assessment guidance the components of the risk assessment include: 1) hazard assessment, 2) toxicity assessment, 3) exposure assessment, and 3) risk characterization. Hazard assessment includes identification of contaminants of concern in environmental media at the site. Toxicity assessment involves identification of the toxicity parameters (Reference Dose or Reference Concentration for non-carcinogens, Cancer Potency Slope or Unit Risk for carcinogens) for the contaminants of concern. Exposure assessment involves identification of current and potential future exposure pathways for each type of receptor (e.g. worker, resident, trespasser) and exposure route (e.g. ingestion, dermal, inhalation), as well as exposure assumptions concerning the exposure scenario (e.g. exposure frequency, exposure duration, ingestion rate). Risk characterization involves calculation of carcinogenic and non-carcinogenic risk.

Carcinogenic risk is calculated by multiplying the estimated intake of a carcinogen at the site by the cancer potency slope or, for inhaled carcinogens, the unit risk. Risk of non-carcinogenic contaminants is calculated as the Hazard Quotient (HQ), the quotient of the intake dose (or air concentration) divided by the "safe" dose (Reference Dose or Reference Concentration).

As described in the most recent EPA ecological risk assessment guidance, the components of ecological risk assessment include: 1) problem formulation, 2) analysis, and 3) risk characterization. Problem formulation involves selection of ecological assessment endpoints (e.g. protection of survival and reproduction of aquatic organisms) and selection of measures of effect (e.g. chronic toxicity) and measures of exposure (e.g. tissue residues) which will be used to measure whether the assessment endpoint is achieved. The analysis phase involves collection and analysis of data at the site pertaining to the selected measures of effect and exposure. The risk characterization phase characterizes the risk, typically by comparing contaminant concentrations with ecological benchmarks or calculating ecological hazard quotients as the quotient of the contaminant dose or concentration at the site divided by the ecological reference dose or concentration (e.g. the no effect concentration).

Examples of risk assessment and related services are exemplified through the following projects:

Howland Hook Marine Terminal (HHMT) - Port Ivory Landfill, Robert A. Pruno, PE, Chief-Environmental Engineer, Port Authority of New York & New Jersey, 973.565.7620

Proctor & Gamble (P&G) emplaced construction and demolition debris in a landfill at the HHMT-Port Ivory Facility from 1958 to 1989 and closed the landfill in 1995. The NYSDEC approved Closure Plan, required that P&G and all subsequent owners perform post-closure monitoring including groundwater sampling and reporting and an inspection of the integrity of the soil/vegetative cover. P&G sold the HHMT-Port Ivory Facility to the Port Authority in 2000, and the Port Authority retained HMM to perform the post-closure monitoring tasks. Based on the groundwater

monitoring data, HMM recognized that the closed landfill did not pose a hazard to either human health or the environment and initiated actions to obtain NYSDEC approval to discontinue to the post-closure monitoring program. HMM performed a statistical analysis using the historical groundwater data to demonstrate to the New York State Department of Environmental Conservation (NYSDEC) that additional sampling at the closed landfill was unnecessary. The NYSDEC agreed, and the Port Authority ceased groundwater monitoring after the 2008 monitoring event, saving over $40,000 per year.

Baseline Ecological Evaluation (BEE) and Assessment, NJ Turnpike Authority, Various Sites, NJ, Christopher Rossi, Manager, Environmental Quality and Resources, New Jersey Turnpike Authority, 732.750.5300 x8257

HMM has performed baseline ecological evaluations and receptor evaluations in conjunction with site investigation and remedial investigation phases of projects along the NJ Turnpike from as far south as Exit 2 to more northerly locations including Exit 16 (Gloucester, Camden, Burlington, Monmouth, Mercer, Middlesex, Union, Essex, Hudson, and Bergen Counties). HMM has been successful in limiting remediation to source areas at several NJ Turnpike sites based upon our review of both human and ecological receptors, contaminant pathways and contaminant mobility. In addition, these studies have also formed the basis for natural attenuation proposals.

Environmental Assessments

Infrastructure and building projects are designed to accomplish specific purposes or goals. These objectives can include providing additional port capacity, relieving traffic congestion, or the like. No matter how worthy or necessary the project's objective may be, the implementation and operation of that project may have adverse impacts on other components of the natural or man-made environment. The process of Environmental Impact Analysis is designed to comprehensively identify and assess the impacts of a given project, and to evaluate options to reduce those impacts. In this way, the benefits that accrue from the project's implementation can be weighed against inevitable adverse impacts. This permits owners and regulators to make informed decisions about moving forward with a wide range of projects and proposals.

The process of Environmental Impact Assessment was initiated with the passage of the National Environmental Policy Act in 1969. The original Federal law precluded any Federal agency from undertaking a "significant Federal action" until the environmental impacts were properly studied and evaluated. Over time, this requirement for an Environmental Impact Statement (or EIS) has been adopted, in various forms, by states, and other governmental units. Today, the need to prepare an EIS for a wide range of projects, from small to large, is ubiquitous.

HMM, with a widely diversified staff of environmental scientists, ecologists, modelers, economists, planners, geologists, engineers, and chemists, is well suited to undertake these multi-disciplinary studies. HMM staff possesses not only the raw technical skills to undertake these assessments, but has the experience with specific agencies and their unique requirements as they apply to the EIS process. HMM staff has prepared EIS documents for a wide range of federal agencies, state agencies, and local jurisdictions.

Examples of some EIS projects undertaken by HMM include:

DC Water – Fort Stanton Park, District of Columbia, Jodye Russell, Planning Supervisor, DC Water, 202.787.2248

HMM was retained to prepare an Environmental Assessment (EA), on behalf of DC Water and the National Park Service (NPS), to evaluate potential environmental impacts associated with required improvements to an existing reservoir at the Fort Stanton Park Site. The NPS and DC Water propose to repair, stabilize and environmentally restore a failed slope embankment and concurrently execute a transfer of jurisdiction of NPS property to DC Water within Fort Stanton Park (U.S. Reservation 412). The failed slope embankment area consists of approximately 0.43-acres located on the southeast slope of DC Water's Reservoir No. 2. The transfer of jurisdiction consists of the area of the proposed improvements and adjacent areas required for maintenance purposes. The Fort Stanton Reservoir Compound consists of Fort Stanton Reservoir No.

1 (constructed in 1932 with a 3 million gallon capacity) and Reservoir No. 2 (constructed in 1943 with a 10 million gallon capacity) and some adjacent properties. As part of the transfer of jurisdiction, NPS has requested that DC Water include an area of approximately 10 feet off the fence line for maintenance purposes. The proposed alternatives were assessed in accordance with the National Environmental Policy Act (NEPA) and the NPS Director's Order 12; Conservation Planning, Environmental Impact Analysis, and Decision-making (NPS 2001), which requires that impacts to park resources be analyzed in terms of their context, duration, and intensity. As part of the environmental analysis of the project, HMM assisted DC Water in assessing alternatives for the proposed slope restoration focusing on the development of a sustainable solution to both restoration and future maintenance. The EA concluded that no major impacts are anticipated as a result of the proposed project.

NJ Turnpike – Environmental Impact Analysis/HAZMAT Screening, Interchange Improvements, Middlesex County, NJ, Michael Grant, PE, Senior Project Engineer/Planning, New Jersey Turnpike Authority, 732.750.5300 x 8249

HMM performed a hazardous waste screening study and environmental impact analysis of project alternatives associated with proposed improvements to an existing interchange located in Middlesex County. The Hazardous Waste Screening Study was specifically designed to identify recognized or potential environmental conditions, including known contaminants in soil and groundwater, of the subject property and immediate vicinity (within 250 feet), which may or may not have an impact on the project construction activities. The study included the concurrent review and evaluation of six project alternates for the purpose of assessing the relative impacts between the proposed alternates. All information was presented in a HAZMAT Screening Report as well as incorporated in a comprehensive Environmental Screening/Constraints Analysis, prepared by the Team for the overall project. Additional project tasks for the selected alternative include the performance of an expanded Preliminary Assessment / Site Investigation Report for the project site, assistance with soil re-use planning and, as necessary compliance with the Administrative Requirements for the Remediation of Contaminated Sites (ARRCS) Rules N.J.A.C. 7:26C for both soil and groundwater and further review of environmental contamination for inclusion in the EO215 for the project. HMM completed the Hazardous Waste Screening for all alternatives and prepared the relevant sections of the comprehensive screening document within six weeks of project startup.

New Jersey American Water – Canoe Brook, Environmental Assessment, Robert Biehler, P.E., Sr. Engineering Project Manager, New Jersey American Water Company, 908.431.3256

HMM prepared a Level 2 Environmental Assessment (EA) to fulfill the requirements of Subchapter 10, Environmental Assessment Requirements for State Assisted Environmental Infrastructure Facilities, which sets forth the specific requirements environmental reviews for projects receiving financial assistance pursuant to N.J.A.C. 7:22-3,4 and 6 as well as N.J.A.C 7:22A-6 and 7. HMM performed an environmental impact assessment (Level 2 EA) in conformance with the regulatory requirements set forth in N.J.A.C. 7:22-10.5 as pertinent to the proposed water supply improvement project. The project included a review of the existing and proposed conditions for the project site, a larger defined project area as well as a larger planning area. The alternatives analysis including both the build and no-build condition was performed in consideration of the three defined areas. HMM developed a scoping and presentation strategy which utilized GIS mapping and accompanying summary tables to present the majority of information required for the three levels of environmental aspect review, thereby minimizing time and cost for the Client.

Categorical Exclusion/Environmental Evaluation & Categorical Exclusion Update, New Jersey Transit, Wesmont Station, Bergen County, NJ, Dara Callender, P.E., Supervising Compliance Specialist, Environmental Services Unit, NJ TRANSIT, 973.491.7205

HMM prepared a Categorical Exclusion/Environmental

Evaluation document and, has recently been tasked to prepared an Updated CE document associated with the construction of a new station on the Bergen County Line including associated parking, located within in a planned mixed-use Transit-Oriented Development (TOD) in Bergen County, New Jersey. The CE/EE was prepared for the Federal Transportation Agency (FTA) in accordance with the National Environmental Policy Act (NEPA), FTA's Environmental Impact and Related Procedures and Urban Mass Transportation Administration (predecessor to FTA) "Guidelines for Preparing Environmental Assessments". The FTA issued its concurrence based on the assessment and findings presented in the July 2007 CE/EE. During final phases of the project development with the private site developer, NJ Transit determined that the proposed station required relocation and retained HMM to provide additional support services with respect to fulfilling FTA requirements for an updated EE/CE that adequately assessed impacts of the modified project elements. HMM is currently providing overall review and issues evaluation support as well as performing a focused analysis of potential issues associated with air quality, vibration and noise due to the modification in the proposed project.

Environmental Impact Assessment & Permitting, New Jersey Transit, Long Slip Canal Project Dara Callender, P.E., Supervising Compliance Specialist, Environmental Services Unit, NJ TRANSIT, 973.491.7205

HMM is currently preparing an updated Environmental Assessment (EA) to fulfill Federal Transit Administration (FTA) requirements for completion of the remaining elements of the proposed Long Slip project. NJ Transit received federal and state approvals in 2000 based on an EA and permits to complete a multi-faceted project including construction of a walkway bridge. Based on budget constraints, the canal fill was not completed and, as the project will be funded with federal monies, HMM, in association with specialty contractors, is preparing an updated EA pursuant to NEPA as well as various federal and state natural resource permits needed to complete the remainder of the project.

HazMat Evaluation/Draft EIS, New York Container Terminal (NYCT), HHMT-Port Ivory Facility, C. Allen Hubler, PE, Program/ Project Manager, New York Container Terminal, 718.568.1749

HMM was retained by NYCT to prepare the Hazardous Materials section of the EIS for NYCT's Berth 4 Project in accordance with the City Environmental Quality Review (CEQR) Manual dated October 2001. At on the onset of this project, HMM identified potential data gaps for the client (i.e., outstanding Phase I Environmental Site Assessment for certain parcels) and integrated the additional data gathering efforts into the scope of work. This forward looking approach enabled to HMM to minimize overall cost and time for the completion of this project.

HMM prides itself on providing comprehensive environmental services. As such, the majority of our projects include all seven of the components discussed in this Technical Approach. To further illustrate, our project experience we have provided a matrix which documents both the Scope of Work and Tasks included in the projects described in this section.

Projects/ Services Experience

Projects/Services	Scope of Work: Soil & GW Investigation	Remediation Design	Compliance Audits	Underground Storage Tank Assessments	Phase I Assessments	Risk Assessments	Environmental Assessments	Tasks: Project Scoping	Field Inspections	Environmental Data Collection and Analysis	Report Preparation	Cost Estimating	Environmental Modeling	Preparation of Contract Documents	Shop Drawing Review and Approval
Port Authority of NY/NJ (HHMT, Right to Know, UST Compliance Inspections NYC Airports)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Roselle Park, NJ – Youth Baseball Fields Remediation	X	X						X	X	X	X	X		X	X
Former Tube Manufacturing	X	X	X	X	X	X		X	X	X	X	X	X	X	X
City of Plainfield/OnCall Brownfield Consulting	X	X		X	X	X	X	X	X	X	X	X	X	X	
New Jersey Turnpike Authority OnCall (Interchange 14, UST Program, BEE)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Passaic Valley Sewerage Commissioners	X	X			X	X		X	X	X	X	X	X	X	X
Seaview Manor and Grant Court Housing Development Remediation, Long Branch	X	X			X	X	X	X	X	X	X	X	X		
New Jersey Transit OnCall (Union City Bus Garage Remedial Action, Wesmont CED, Long Slip CED)	X	X		X	X	X	X	X	X	X	X	X	X	X	X
Ramapo College			X					X	X	X	X	X			
Republic Services of NJ, LL C (multiple sites)	X		X		X	X	X	X	X	X	X	X		X	X
Proposed Waterfront Park, Trust for Public Land	X	X		X	X	X	X	X	X	X	X	X	X	X	X
NJ Schools Development Authority – Site Feasibility & Environmental Site Closure Services	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Middlesex County Improvement Authority, Open Space Program Property Evaluation	X	X		X	X	X		X	X	X	X	X			
DC Water – Fort Stanton EA		X			X	X	X	X	X	X	X	X			
HazMat Screening/Environmental Impact Analysis – NJ Turnpike Interchange Improvements	X				X	X	X	X	X	X	X				
New Jersey American Water Canoe Brook EA					X	X	X	X	X	X	X	X		X	X
NYCT – HazMat Evaluation – Draft EIS				X	X	X	X	X	X	X	X	X			

Note: The information provided in the text of the proposal focused on specific items and/or tasks of the above listed projects. The scope of work and task items identified for each project in this matrix reflect all aspects of the project or On-Call contract.

Project Management Approach

THE PORT AUTHORITY OF NY & NJ

Introduction

Hatch Mott MacDonald (HMM) presents a comprehensive team of professionals specifically tailored to provide technical support to the Port Authority of New York and New Jersey (Port Authority) in connection with the seven technical scope areas included in this solicitation. In addition to those personnel selected for this project, the project team has access to over 475 additional full-time, locally-based HMM staff. We maintain a "pool" of qualified MBE/WBE subcontractors with whom we have established working relationships. To meet desired MBE/WBE goals for this project HMM will draw from this pool.

Project Management

As shown by the Project Organization Chart, the Project Management Team includes Kevin E. Koch, P.E., as Project Manager and Jennifer Kohlsaat as Deputy Project Manager. Dennis J. Suler, Robert J. Lynes, P.E. and Brendan Mullen, P.E. will be responsible for Technical Oversight and QA/QC.

The Project Manager, Mr. Koch, is ultimately responsible to the Port Authority and is the leader of the team of professionals who perform the environmental tasks and assignments. Mr. Koch will communicate with the Port Authority's work assignment Project Managers and Contract Manager. He will focus all of the multi-disciplinary, team efforts necessary for the successful completion of every work assignment and perform all aspects of subconsultant oversight. To assure complete responsiveness to the Port Authority Ms. Kohlsaat will act as Deputy Project Manager.

Task Leaders

Project control for each of the seven technical areas centers on the Task Leaders. Each Task Leader works with the Project Manager and with any or all of the other Task Leaders as needed by a specific work assignment to plan, develop, implement and complete projects. In general, for typical projects, the Task Leaders will serve as Project Managers for the individual projects. They will be assigned staff as required to efficiently and expeditiously complete the required assignments and manage the projects on a day-to-day basis. For complex projects, more than one Task Leader may be assigned to specific project tasks. In this case, overall project management would fall to the Project Manager, Mr. Koch.

MBE/WBE Firms

To accomplish the Port Authority's goal of 12% participation by qualified and certified MBEs and 5% to qualifies and certified WBEs HMM will draw from the Port Authority's approved MBE/WBE list. We have been successful in meeting contract-required MBE/WBE goals on previous general environmental engineering contracts and individual projects by maintaining flexibility in assigning work tasks to suitably qualified MBE/WBE subcontractors. We find that this approach is more successful than including one or two MBE/WBE firms on the project team for task order or "call-in" contracts. The reason for this is that the specific assignments that will result from a task order contract cannot be accurately predicted in advance. Therefore, specific subcontract needs cannot be determined. If a flexible approach is employed, the subcontractors can be better matched to the project, better ensuring the attainment of specified goals. As an example, HMM was able to meet the 30% DBE goal for a three-year, $2M NJ Transit contract using this approach.

Project Management Structure

The management approach, which will be followed in executing this project, relies on five levels of project organization. These include Central Project Management, Quality Control, Technical Task Management, Technical Staff, and Support Staff Functions.

Central Project Management

Central Project Management is responsible for interfacing and communicating with Port Authority; coordinating the response of the overall Project Team; and meeting required project objectives, budgets,

and schedules. As stated previously, the Project Management Team consists of Kevin E. Koch, P.E. Jennifer N. Kohlsaat, Dennis J. Suler, Robert J. Lynes, P.E. and Brendan Mullen, P.E. Mr. Koch is designated as Project Manager, Jennifer N. Kohlsaat as Deputy Project Manager and Messrs. Suler, Lynes, and Mullen are responsible for technical oversight and QA/QC.

Each member of the Project Management Team has broad-based environmental experience, which is necessary for a central project role in this case, and all have experience in managing projects which involve multi-disciplinary project teams including HMM and subcontractor elements. Most importantly, the Project Management Team has worked together for over 20 years. Their physical proximity and close organizational and working ties will ensure a smooth working relationship and production of a consistent, technically superior product. Having been jointly responsible for the management and completion of millions of dollars in various types of projects, including many task order and call-in type contracts, this Project Management Team has experience with various types of clients and a multitude of sites and situations. Theirs is a proven track record of superior service to the client.

Mr. Koch has managed numerous projects assigned under various "on call" contracts and has managed the majority of the projects performed for the Port Authority under our existing "call-in" contract. In addition, Mr. Koch has managed many of the largest ECRA/ISRA and hazardous waste remediation projects undertaken by HMM. He has performed and/or managed various types of Phase I assessments, site investigations, remedial investigations, remedial design, risk assessments, environmental assessments, environmental impact statements (EISs)/EO 215's, underground storage tank (UST) assessments and compliance audits at locations in NJ and NY. He has excellent project management abilities and consistently completes projects on time and within budget.

Ms. Kohlsaat has been involved in the areas of environmental site and risk assessments, environmental baseline and impact analysis, EISs, industrial site evaluations, Brownfields redevelopment, environmental permitting and hazardous waste investigations. Her responsibilities include overall project management, on-site investigations, reduction/interpretation of analytical data and other technical information, evaluating feasibility and cost effectiveness of remedial plans and interfacing with clients, contractors and representatives of regulatory agencies to ensure project completion.

Messrs. Suler, Lynes and Mullen have over 75 years of collective environmental experience, which will provide the broad based environmental and engineering knowledge necessary for comprehensive technical oversight and QA/QC. Mr. Suler has managed large environmental projects including those consisting of multi-disciplined teams. His projects have involved EISs, water pollution control facilities, hazardous waste remediation projects, and solid waste facilities. He has superior project management, administrative, and organizational abilities enhanced by his hands-on involvement with major contracts.

Mr. Lynes and Mr. Mullen both have extensive experience in civil and environmental engineering. Their individual project responsibilities have included preparation of feasibility studies, initial field studies, preparation of plans, specifications and bid documents, construction supervision and engineering, permitting, and meeting with clients, the public and various overseeing agencies. They have both been involved with UST and remedial systems design (including free product recovery, pump and treatment systems and soil vapor extraction).

Mr. Koch will be ultimately responsible for the proper conduct of the project both to the Port Authority and to HMM management. He will be the primary point of contact and communication between HMM and the Port Authority. When a specific project assignment has been issued, the Project Management Team will assemble and assign a specific Project Team and a specific technical Task Leader, or will divide the assignment among several Task Leaders, as appropriate. He will also manage and "track" the projects in terms of technical progress, schedule, and budget. Ms. Kohlsaat will assist in assuring that these items are

completed to the full satisfaction of the Port Authority. Ms. Kohlsaat will also coordinate the technical review of the project deliverables with Messrs. Suler, Lynes and Mullen.

Quality Control

The Project Management Team will conduct quality control of project deliverables. Each assignment will be subject to technical and QA/QC review by Messrs. Suler, Lynes or Mullen and at least one other member of the Project Management Team. Other senior management or technical personnel from HMM will be added to this review process as needed on individual assignments, based on the technical nature of the particular assignment. In the event that such personnel are utilized in a given project assignment, they will not be used for technical review purposes on that assignment.

Technical Task Management

For each project assignment, one or more Task Leaders will be assigned to the project, depending on its specific nature. When the project is underway, the Task Leader will be responsible for the technical implementation of the project. It is expected that the Task Leader will have direct day-to-day contact with technical personnel at the Port Authority as necessary for the execution of the project.

If a specific assignment would best be implemented by a senior technical staff member other than the named Task Leader, HMM will assign the appropriate personnel. For example, while Roy Redmond is assigned as Task Leader for Soil and Groundwater Investigations, if a project, which involved a resource recovery facility, was identified, we might assign a task leader from our Solid Waste group. HMM has significant staff depth and can offer specialized personnel in a wide-range of specific disciplines.

Technical and Support Staff

Technical staff beyond those key personnel included in the Project Organization Chart will be assigned to the project depending on needs of the project and availability of personnel. HMM has full-time staff of over 475 locally based personnel who could be made available for Port Authority projects. The personnel described herein represent only a portion of our staff resources, which will be available to the Port Authority. Additional staff resources in these and related fields are available for assignment. Additionally, HMM maintains significant support staff, which will provide logistical and technical assistance of project assignments. Support areas include IT, field surveying, sewer inflow/infiltration testing, drafting/design, CADD. GIS, construction management and contract operations.

Time Accounting

HMM will establish specific job number for each assigned project. Monthly invoices (if warranted) are generated against each individual authorization. Assigned staff, charge time against the individual job numbers with all costs tracked against individual assignment authorizations. Each week, a project control report is generated and distributed to individual project managers to track labor and expense costs against Port Authority authorizations. Every dollar charged against any assignment can be tracked and monitored with the system. Any requested back-up information for the invoicing could be provided. The time and cost accounting system used by HMM can monitor project percent completions versus allotted budgets. The project manager is able to determine the number of hours expended on the project versus the budgeted estimates on a weekly basis. By comparing that percent to his estimate of the percent completion of the project, the project manager is able to assess the adequacy of the budget to complete the project, and to make corrections or adjustments in the work to address these issues.

Project Scoping

When notified of an assignment, HMM will meet with the Port Authority to discuss the scope, nature and important issues of the project. HMM personnel and the Port Authority will have a clear understanding of the problem at hand and, if necessary, HMM will suggest alternatives to proceed in the anticipation of developing a scope of work for the project. The HMM Project Management Team will then meet to scope and plan the project, to designate an appropriate Task Leader and to select appropriate staff to assign to

the project, including subcontractors as needed. The result of this process will be reflected in a Scope of Work describing the work necessary to implement the project. The Scope of Work will include a description of the work to be performed and the anticipated costs associated with the project. HMM will discuss the Scope of Work, in detail, with Port Authority personnel prior to submission to expedite the overall approval process and to ensure the fulfillment of the project goals.

Project Scheduling

Project scheduling will be planned and agreed upon by both HMM and the Port Authority. HMM will provide personnel as necessary and as quickly as possible as the need arises. Subcontractors will also be expeditiously scheduled. Prior to the commencement of each assignment, HMM and the Port Authority will establish mutually agreeable time frames and budgets for project completion.

Management of Subcontractors

HMM will coordinate all aspects of each of the projects unless otherwise specified by the Port Authority. Subcontracting work will be scheduled and coordinated by the project staff and their work will be observed by HMM personnel. Subcontractors may include New Jersey and New York licensed well drillers, analytical laboratories, general construction contractors, etc.

Summary

Overall, we feel that the structure and organization of the proposed HMM Project Team will serve to meet the objectives stated at the beginning of this section, and will continue to provide high quality environmental services to the Port Authority, as required by this request for proposal. The accompanying Matrix provides additional information on the our staff's experience in the tasks likely to be required by the Port Authority during term of the on-call contract.

Hatch Mott MacDonald

Qualifications of Key Personnel

Personnel /Services	Port Authority Experience	Scope of Work: Soil & Groundwater Investigation	Remediation Design	Compliance Audits	Underground Storage Tank Assessments	Phase II Assessments	Risk Assessments	Environmental Assessments	Tasks: Project Scoping	Field Inspections	Environmental Data Collection and Analysis	Report Preparation	Cost Estimating	Environmental Modeling	Preparation of Contract Documents	Shop Drawing Review and Approval
Suler	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Koch	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mullen		X	X	X	X		X	X	X	X	X	X	X	X	X	X
Lynes	X	X	X		X			X	X	X	X	X	X	X	X	X
Kohlsaat	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Clark	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Pedro	X	X	X	X	X				X	X	X	X	X	X	X	X
Walker	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Redmond	X	X	X		X	X	X	X	X	X	X	X	X	X	X	
Poland		X	X		X	X	X		X	X	X	X	X	X	X	X
Herrighty	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Moore	X	X	X		X	X	X	X	X	X	X	X	X	X		
Trepp	X	X	X		X	X	X	X	X	X	X	X	X	X		
Chapman	X	X			X	X	X	X	X	X	X	X	X			
Miller	X	X			X	X	X		X	X	X	X	X	X		
Henning		X	X	X	X			X	X	X	X	X	X	X	X	X
Allen		X	X		X	X	X		X	X	X	X	X	X	X	
Starcher	X	X	X		X		X	X	X	X	X	X	X	X	X	
Toder		X	X		X	X			X	X	X	X	X	X	X	
Flatin		X	X		X				X	X	X	X	X	X		
Cunniff	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Manners	X	X		X	X			X	X	X	X	X	X	X	X	X
Lin-	X						X	X	X	X	X	X	X	X	X	

Firm's Affiliates

THE PORT AUTHORITY OF NY & NJ

Hatch Mott MacDonald Group, Inc. (DE 2001)
27 Bleeker Street
Millburn, NJ 07041
EIN:

Hatch Mott MacDonald NY Inc.
f/k/a BAC Killam Inc. (NY 1910)
27 Bleeker Street
Millburn, NJ 07041
EIN:

Hatch Mott MacDonald Ltd.
(Ontario, Canada 1995)
2800 Speakman Drive
Mississauga, Ontario L5K 2RZ

Hatch Mott MacDonald, LLC
f/k/a Hatch Mott MacDonald T&T Inc. (DE 1972)
27 Bleeker Street
Millburn, NJ 07041-1008
EIN:

Hatch Mott MacDonald Massachusetts, LLC
f/k/a Mott MacDonald Inc. (MA 1988)
27 Bleeker Street
Millburn, NJ 07041
EIN:

Hatch Mott MacDonald Michigan, LLC
(MI 1999)
27 Bleeker Street
Millburn, NJ 07041
EIN:

Hatch Mott MacDonald Holdings, Inc.
f/k/a Hatch Mott MacDonald Group Inc.
(DE 2000)
27 Bleeker Street
Millburn, NJ 07041
EIN:

Hatch Mott MacDonald Consultants, Inc.
f/k/a The Killam Group Inc.
27 Bleeker Street
Millburn, NJ 07041
EIN:

Hatch Mott MacDonald Florida, LLC
f/k/a CarlanKillam Consulting Group, Inc.
(FL 1970)
5111 North 12th Avenue
Pensacola, FL 32513
EIN:

Hatch Mott MacDonald Alabama, LLC
f/k/a/ CarlanKillam Consulting Group of Alabama, Inc. (AL 1986)
5111 North 12th Avenue
Pensacola, FL 32513
EIN:

Hatch Mott MacDonald I&E, LLC
f/k/a Elson T. Killam Associates, Inc.
(NJ 1957)
27 Bleeker St.
Millburn, NJ 07041
EIN:

Hatch Mott MacDonald Operating Svcs, LLC
f/k/a Killam Management and Operational Services, Inc. (NJ 1990)
27 Bleeker Street
Millburn, NJ 07041
EIN:

Paragon Engineering, Inc.
(AL 1968)
2320 Highland Avenue South
Suite 175
Birmingham, AL 35205
EIN:

Conflict of Interest

THE PORT AUTHORITY OF NY & NJ

Conflict of Interest

THE PORT AUTHORITY OF NY & NJ

Conflict of Interest

Hatch Mott MacDonald or any employee of Hatch Mott MacDonald does not have any financial relationships that might create a conflict of interest or the appearance of a conflict of interest in contracting with or representing the Port Authority of New York & New Jersey.

Hatch Mott MacDonald does not anticipate any present or future conflicts of interest.

Signature and Title

Dennis J. Suler, Executive Vice President

Standard Agreement

THE PORT AUTHORITY OF NY & NJ

Standard Agreement

Hatch Mott MacDonald does not have any exceptions to the Standard Agreement.

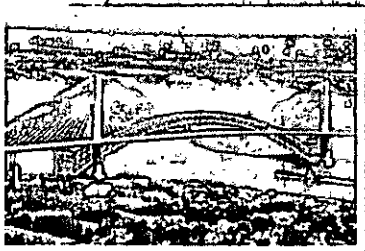
Original

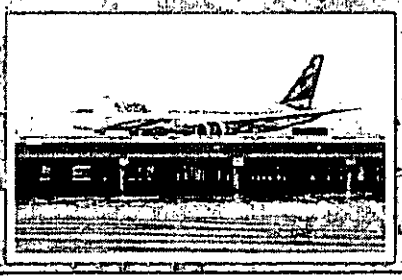
CFNY3NJ

Performance of Expert Professional Environmental Engineering Services as Requested on a "Call-In" Basis During 2011

RFP Number 21999

Submitted by: Henningson, Durham & Richardson Architecture and Engineering, PC





September 13, 2010

The Port Authority of New York and New Jersey
One Madison Avenue, 7th Floor
New York, New York 10010

Attention: RFP Custodian

Re: **Proposal for Performance of Expert Professional Environmental Engineering Services as Requested on a "Call-In" Basis during 2011, RFP# 21999**

Dear Ladies/Gentlemen:

HDR is pleased to submit the attached proposal for Performance of Expert Professional Environmental Engineering Services on a "Call-In" basis as part of the Architectural/Engineering Design Division's Program for 2011-2014. We have been providing related engineering consulting services to clients in the public and private sectors for over 90 years. Our environmental engineering and environmental science services include field and laboratory services, hazardous waste investigations and management, environmental impact assessment, environmental compliance analysis and permitting, wetlands and threatened and endangered species studies, air pollution control, water and wastewater engineering, civil and site engineering, and mathematical modeling.

Our experience with the past and ongoing assignments (over 200) for the PANYNJ and with term contracts for other governmental agencies in New York and New Jersey provides us with an established management basis to successfully and expeditiously handle assignments under this call-in term contract.

Our multidisciplinary experience, our familiarity with environmental regulations, and recognition of our expertise by government agencies, along with our convenient geographic locations throughout New York and New Jersey are important factors in the cost-effective completion of these assignments.

As requested in the RFP, a signed copy of Attachment B is located in Section A of the enclosed proposal. We appreciate the opportunity to propose on this contract and hope to be selected to work with you. We are fully committed to execute this project at the highest priority within our firm. We believe HDR's qualifications match your needs well. Should you wish to discuss any aspect of this submission in greater detail, or if you require additional information, please do not hesitate to contact me at (845) 735-8300.

Sincerely,

Werner Mueller, PE, CFM
Senior Vice President

Henningson, Durham & Richardson Architecture and Engineering, P.C.

One Blue Hill Plaza, 12th Floor
P.O. Box 1509
Pearl River, NY 10965-8509

Phone: (845) 735-8300
Fax: (845) 735-7466
www.hdrinc.com

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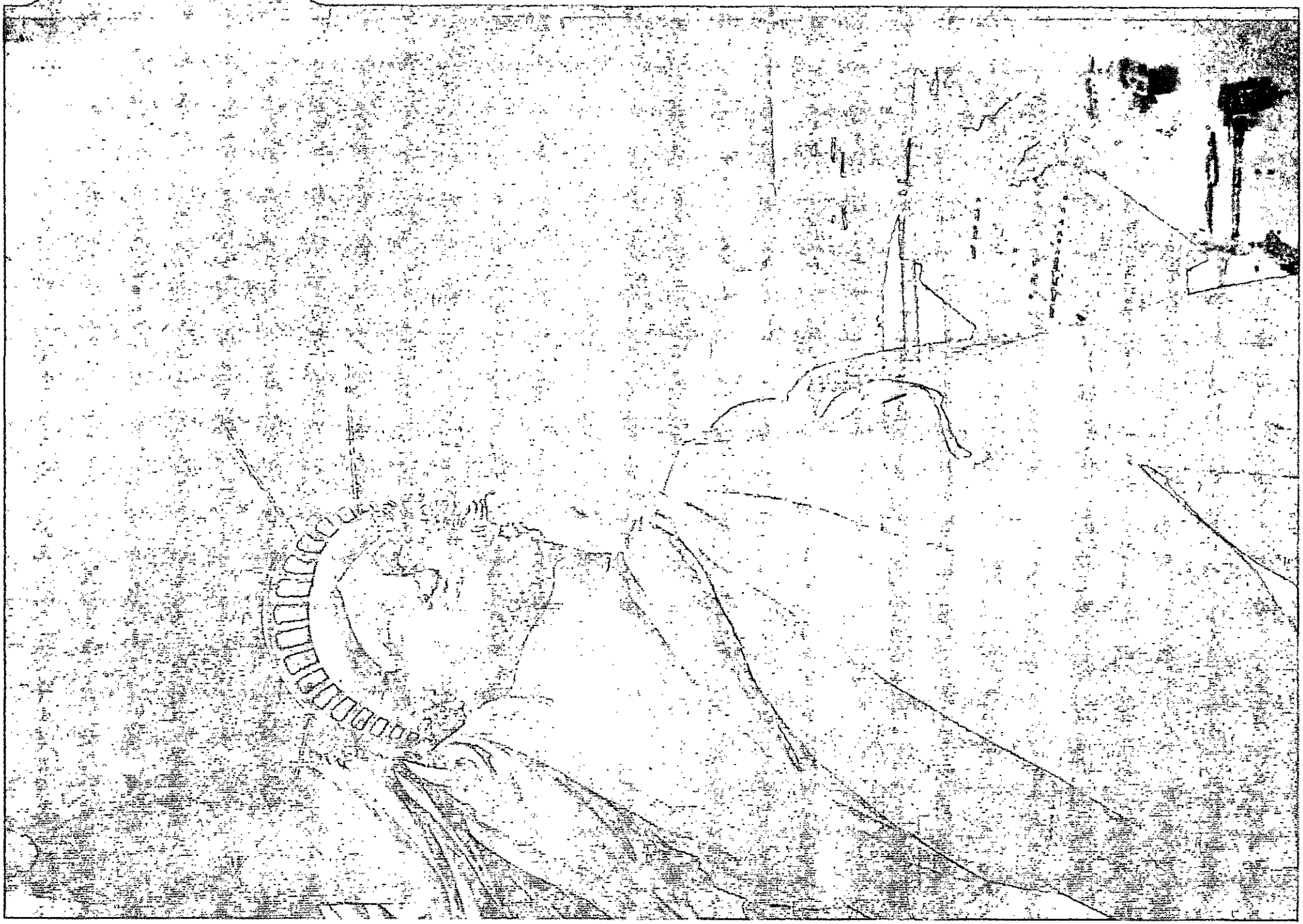
A. Attachment B
(Agreement on Terms of Discussion)



ATTACHMENT B

PERFORMANCE OF EXPERT PROFESSIONAL ENVIRONMENTAL ENGINEERING SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011

AGREEMENT ON TERMS OF DISCUSSION

The Port Authority's receipt or discussion of any information (including information contained in any proposal, vendor qualification, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) shall not impose any obligations whatsoever on the Port Authority or entitle us to any compensation therefor (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with or after this Agreement on Terms of Discussion ("Agreement"), either orally or in writing, is not given in confidence. Such information may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this Agreement, whether made as part of or in connection with this Agreement, shall be void and of no effect. This Agreement is not intended, however, to grant to the Port Authority rights to any matter, which is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Port Authority's Freedom of Information Policy and Procedure adopted by the Port Authority's Board of Commissioners on November 20, 2008, which may be found on the Port Authority website at: *http://www.panynj.gov/corporate-information/pdf/Freedom-of-Information-Policy-and-Procedure.pdf*, not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause substantial injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

Henningson, Durham & Richardson Architecture and Engineering, P.C.

(Company)

(Signature)

Senior Vice President

(Title)

9/14/10

(Date)

ORIGINAL AND PHOTOCOPIES OF THIS PAGE ONLY.
DO NOT RETYPE.

B. Attachment C
(Company Profile)

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR THE EXPERT PERFORMANCE OF EXPERT PROFESSIONAL ENVIRONMENTAL ENGINEERING SERVICES AS REQUESTED ON A "CALL-IN" BASIS DURING 2011 (RFP #21999)

1. Company Name (print or type):
   Henningson, Durham & Richardson Architecture and Engineering, P.C.

2. Business Address (to receive mail for this RFP):
   One Blue Hill Plaza, Pearl River, NY 10965

3. Business Telephone Number: 845 735-8300

4. Business Fax Number: 845 735-7466

5. Firm website: http://www.hdrinc.com

6. Federal Employer Identification Number (EIN): (Ex. 1)

7. Date (MM/DD/YYYY) Firm was Established: 6 / 28 / 1977

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):
   see Attachment C-1.

9. Officer or Principal of Firm and Title:
   Peter McGroddy, PE, Senior Vice President

10. Name, telephone number, and email address of contact for questions:
    Werner Mueller, PE, CFM, 845 735-8300, werner.mueller@hdrinc.com

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☐ Yes ☒ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/business-opportunities/supplier-diversity.html, to receive information and apply for certification.

C-1 Attachment

Name of Affiliate	Address	EIN
BROWN, VENCE & ASSOCIATES	198 Cirby Way, Suite 170, Roseville, CA 95678-6430	(Ex. 1)
CGvL	26250 Enterprise Court, Suite 150, Lake Forest, CA 92630-8408	
CLAUNCH & MILLER, INC.	4635 Southwest Freeway, Suite 1000, Houston, TX 77027-7105	
COCHRAN & WILKEN, INC.	5201 South Sixth St. Rd., Springfield, IL 62703-5143	
CUH2A Europe, Inc.	1000 Lenox Drive, Lawrenceville, NJ 08648	
CUH2A, INC. ARCHITECTURE ENGINEERING PLANNING	1000 Lenox Drive, Lawrenceville, NJ 08648	
Devine Tarbell & Associates, Inc.	970 Baxter Blvd., Portland, ME 04103	
E. T. Archer Corporation	3741 N.E. Troon Drive, Lee's Summit, MO 64064	
ECONOMIC & ENGINEERING SERVICES, INC. (EES)	10900 N.E. 4th Street, Suite 1110, Bellevue, WA 98005	
engineering-environmental Management, Inc. (e2m)	9563 South Kingston Court, Suite 200, Englewood, CO 80112-5952	
HAWAII PACIFIC ENGINEERS, INC.	1132 Bishop Street 10th Floor, Suite 1003 Honolulu, HI 96813	
HDR ACQUISITION SERVICES, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR ALASKA, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR ARCHITECTURE ASSOCIATES, INC.	1525 Carling Ave., Suite 500, Ottawa, ON K1Z 8R9	
HDR ARCHITECTURE CANADA, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR ARCHITECTURE, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR ARCHITECTURE, P.C.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR ARCHS. & ENGRS., P.C.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR Canada Holding Corporation	1525 Carling Ave., Suite 500, Ottawa, ON KIZ 8R9	
HDR CONSTRUCTION CONTROL CORPORATION	8404 Indian Hills Drive, Omaha, NE 68114	
HDR CORPORATE SERVICES, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR CORPORATION	1525 Carling Ave. Suite 500, Ottawa, ON KIZ 8R9	
HDR dé PUERTO RICO, P.C.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR DESIGN-BUILD, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR ENGINEERING, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR ENGINEERING, INC. OF THE CAROLINAS	8404 Indian Hills Drive, Omaha, NE 68114	
HDR ENVIRONMENTAL TECHNOLOGIES, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR INTERNATIONAL, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR MICHIGAN, INC.	5405 Data Court, Ann Arbor, MI 48108	
HDR OF THE DISTRICT OF	8404 Indian Hills Drive, Omaha, NE 68114	

COLUMBIA, P.C.		
HDR PROJECT DEVELOPMENT SERVICES, INC.	8404 Indian Hills Drive, Omaha, NE 68114	(Ex. 1)
HDR PROJECT SERVICES CORPORATION OF ARIZONA	8404 Indian Hills Drive, Omaha, NE 68114	
HDR SECURITY OPERATIONS, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR/WLJORDEN, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HDR-RICHARDSON GORDON, INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HENNINGSON, DURHAM & RICHARDSON INTERNATIONAL INC.	8404 Indian Hills Drive, Omaha, NE 68114	
HENNINGSON, DURHAM & RICHARDSON OF PENN., ARCHS. & ENGRS., P.C.	8404 Indian Hills Drive, Omaha, NE 68114	
HENNINGSON, DURHAM & RICHARDSON, P.C.	8404 Indian Hills Drive, Omaha, NE 68114	
HLB DECISION ECONOMICS, INC.	8403 Colesville Road. Suite 910. Silver Spring, MD 20910-3313	
iTRANS Consulting, Inc.	100 York Boulevard, Suite 300, Richmond Hill, ON L4B 1J8	
JOHNSON-BRITTAIN & ASSOCIATES, INC.	378 North Main Avenue, Tucson, AZ 85701	
PHAROS CORPORATION	123 Second Avenue South, P.O. Box 1569, Edmonds, WA 98020-8457	
QUEST ENGINEERS, INC.	2517 Sir Barton Way, Lexington, KY 40509	
SHINER, MOSELEY AND ASSOCIATES, INC.	555 N. Carancahua, Suite 1650, Corpus Christi, TX 78748-0010	
SURFACE WATER RESOURCES	2031 Howe Avenue, Suite 110, Sacramento, CA 95825-0196	
WHM TRANSPORTATION ENGINEERING CONSULTANTS, INC.	504 Lavaca Street, Suite 1175, Austin, TX 78701-2817	

C. Multiplex

SECTION C. MULTIPLIER

HDR is proposing a multiplier of **2.85** times direct salary as the multiplier for the first line of subparagraph 9A of the Standard Agreement. The multiplier backup for our Federal Acquisition Regulations (FAR) is provided in the following table. HDR does not plan on utilizing temporary employees on this project.

HDR ENGINEERING, INC. AND SUBSIDIARIES

STATEMENT OF DIRECT LABOR, FRINGE BENEFITS AND GENERAL OVERHEAD
FOR THE YEAR ENDED DECEMBER 26, 2009

	Actual	Unallowable	FAR Reference	Allowable
DIRECT LABOR	$265,083,538	$		$265,083,538
FRINGE BENEFITS:				
Vacation	$ 34,745,410	$		$ 34,745,410
Holiday	12,892,587			12,892,587
Sick leave	752,687			752,687
Payroll taxes	34,249,780			34,249,780
Group insurance	31,237,641			31,237,641
Retirement benefits	16,360,490	11,021	31.205-6(j)	16,371,511
Total fringe benefits	130,238,595	11,021		130,249,616
GENERAL OVERHEAD:				
Indirect labor:				
General	111,645,368	(2,124,580)	31.205-6(p)/31.205-27(a)	109,520,788
Marketing	36,835,701			36,835,701
Travel and expenses — general	7,745,673	(766,801)	31.203(a)/31.205-46	6,978,872
Employees' expenses	10,295,718	(2,651,272)	31.205-13(e),14,22,46,51	7,644,446
Supplies	119,871			119,871
Building rental and expenses — net	45,134,045			45,134,045
Autos	896,470	(55,068)	31.205-6(m)(2)	841,402
Taxes — general	3,078,168			3,078,168
Depreciation and amortization	15,452,314	(9,922,195)	31.201-1	5,530,119
Postage and freight	799,720			799,720
Telephone	4,727,785			4,727,785
Subscriptions	188,102			188,102
Donations	303,542	(303,542)	31.205-8	
Insurance and self-insurance	9,923,243	(1,039,303)	31.205-19	8,883,940
Bad debts	120,082	(120,082)	31.205-3	
Office expenses	1,735,612			1,735,612
Interest — net	939,011	(939,011)	31.205-20	
Professional services	1,006,083			1,006,083
Printing	1,096,814			1,096,814
Temporary help	424,637			424,637
Goodwill	(1,000,000)	1,000,000	31.205-49	
Marketing	7,558,982	(3,382,250)	31.205-1(f)(1),14,46	4,176,732
Allocated expense	77,589,369	(68,015,939)		9,573,430
Computer expense	16,180,599	(34,070)	31.205-1(f)(1),14,27,46	16,146,529
Intercompany overhead	(526,611)			(526,611)
Administrative costs	9,706,465	(1,285,895)	31.205-1(f)(1),14,27,46	8,420,570
Other — net	887,043	(711,593)	31.205-3,14,15,46(e)(2)	175,450
State income tax expense	224,688	788,014	31.205-41(b)(7)	1,012,702
Total general overhead	363,088,494	(89,563,587)		273,524,907
TOTAL FRINGE BENEFITS AND GENERAL OVERHEAD	$493,327,089	$(89,552,566)		$403,774,523
TOTAL FRINGE BENEFITS AND GENERAL OVERHEAD RATE	186.10 %			152.32 %

See notes to statement and schedule.

* With computer allocation 161.44%

Computer Allocation — The Company accumulates Computer Aided Design and Technical Personal Computer costs in one cost center. These costs are charged directly to contracts as a general technology charge using an hourly billing rate of $3.70. The actual cost per hour for the year ended December 26, 2009 was $4.38. The variance between the technology costs charged directly to contracts and the total technology costs is included in the overhead pool. The total technology costs charged direct to contracts was $24,176,207 for the year ended December 26, 2009. Total technology costs incurred were $28,616,764 for the year ended December 26, 2009. Had the company not charged the general technology costs direct to contracts, then these costs would have been included in the overhead pool and the resultant allowable indirect rate would be 161.44%.

D. Resumes

SECTION D. RESUMES

Introduction

HDR has assembled a multi-disciplinary team consisting of key leaders and a large, diverse, qualified support staff for the potential tasks and project types to be covered by this call-in contract. The paragraphs below summarize the technical qualifications of our key management personnel. Our project organization chart and staff resumes highlighting the qualifications of the staff to be assigned to this contract immediately follow.

Werner Mueller, PE, CFM, will serve as Contract Manager. He is a Senior Vice President with over 30 years of experience in diverse projects requiring compliance with environmental rules, regulations, and policies. He has been principal in charge on contracts encompassing a wide range of skills including, water resources, environmental science, brownfields, environmental planning, fisheries, solid waste management and site civil engineering. He has been serving as the contract manager on HDR's current Environmental Engineering Call-In contract with the PANYNJ.

Karim Abood, PhD, PE, will be a Quality Assurance/Quality Control Officer (QAO) for regulatory and programmatic compliance. Dr. Abood he has been the QAO in all of our PANYNJ environmental call-in term contracts. He offers over 49 years of experience in environmental impact assessments, environmental compliance and permits, water quality and aquatic investigations, hazardous waste management, ecological investigations, and modeling projects.

Patrick Lawler, PE, will serve on the Board of Experts (BOE). He has over 49 years of experience in bench/pilot-scale testing, drainage system design, infrastructure analyses, water/wastewater facilities design, hazardous waste remedial design, resident engineering, and construction-related services. Mr. Lawler has been involved in numerous PANYNJ projects including the Newark Sewer Surcharge Study, the Newark Peripheral Ditch Odor Control project, and the JFK Airport Bulk and Satellite Fuel Farms wastewater treatment designs.

Thomas Pease, PhD, PE, will serve on the BOE. In his 45 year career, Dr. Pease has provided technical expertise in the areas of contaminant investigations, spill investigations/remediation, remedial design, Phase I assessments, risk assessment/management, contaminant fate and transport modeling, litigation support, and regulatory interpretation. Dr. Pease recently assisted the PANYNJ in obtaining a beneficial use determination for reuse of soils JFK airport and was the technical expert for environmental assessment services provided by HDR at Stewart Airport.

Bradley Williams, PhD, will be the primary project manager for soil and groundwater investigations. Dr. Williams is responsible for ensuring that sampling and analytical QA/AC procedures are implemented. Dr. Williams has over 26 years of experience in the supervision, collection, analysis, and interpretation of environmental samples collected throughout NY/NJ including assignments at John F. Kennedy and Due Diligence for Stewart International Airports.

Thomas Connors, PE, will be the primary project manager for remediation design projects. Mr. Connors has over 19 years of environmental consulting experience in site (soil and groundwater) investigation and remediation, remedial system design including strategic planning to evaluate remedial alternatives, regulatory compliance review, construction oversight, and coordination with regulatory agencies. Mr. Connors' work experience includes preparation of design construction plans, technical specifications, cost estimates, engineering reports, construction bid documents, construction management, shop drawing review and approval, and permit applications.

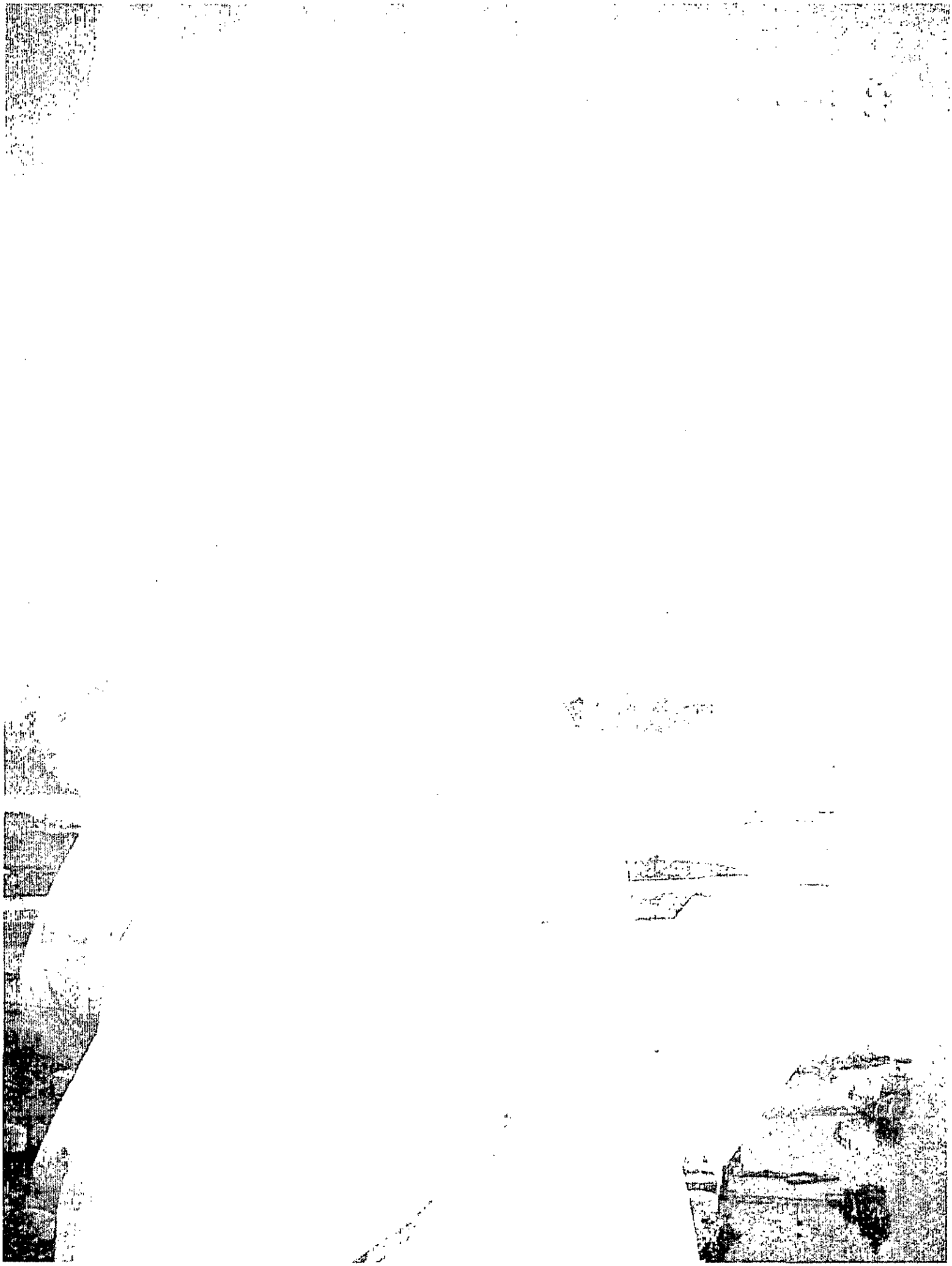
Stuart Bassell, PE, will be the primary project manager for compliance audit projects. He has over 34 years of experience in the areas of RCRA compliance, air permitting and assessment, NPDES/SPDES/NJPDES permitting and compliance, oil spill remediation, petroleum bulk storage compliance, spill control and response plan preparation, remedial investigations/feasibility studies/remedial design (RI/FS/RD), and implementation of industrial pretreatment programs. Mr. Bassell worked with the PANY/NJ on assignments including UST closures at JFK airport, SPCC Plans at Newark, LaGuardia and JFK airports, and re-use of contaminated soils at JFK.

Edward Schwetz, PG, will be the primary project manager for UST assessment and closure projects. He is a New Jersey-certified UST subsurface evaluator and has been responsible for site assessments; geological, hydrological, geochemical, geotechnical, and contaminant investigations, feasibility studies, remedial designs, and system installation/operation/maintenance.

Patricia Parvis, LSRP, will be the primary project manager for the Phase I Assessments. She has 13 years experience in Phase I/II Environmental Assessments, petroleum spill investigation/remediation, underground storage tank (UST) closure and removal oversight, and coordination with regulatory agencies. Ms. Parvis performed the Brooklyn Marine Terminal Pier 7 Gasoline Spill Investigation, managed the remedial action and report for the Olympia Trails Bus Depot, prepared the SPCC Plans for JFK and Newark Airports and reviewed remedial investigations at the Allied Signal Property in Elizabeth, NJ.

Michael Musso, PE, will be the primary project manager for risk assessment projects. He has 15 years of experience with public health aspects of chemical development and use, conducted human health risk assessments and exposure analyses, and has a thorough knowledge of toxicology. Mr. Musso has performed baseline human health risk assessments and exposure pathway analyses for numerous projects including USA EPA Superfund sites, industrial properties, landfills, and proposed re-development sites.

Jennifer Curran will be the primary project manager for environmental assessment projects. She has over 14 years of experience and specializes in leading multi-discipline teams conducting assessments to conform to NYS SEQRA, NYC CEQR and NJ permit requirements. Ms. Curran is well know to the PANYNJ and has recently been involved in projects including Port Jersey Wind Energy Project Avian Studies, Bayonne Bridge Environmental Screening and Alternatives Analysis, the Howland Hook Marine Terminal Eastbound Ramp Configurations Alternatives Analysis.



Werner Mueller, PE, CFM

Project Role: Contract Manager

Education
M.S., Environmental Policy, 1999 / B.S., Civil Engineering, 1979

Registrations/Certifications
Professional Engineer (NY, NJ), Certified Floodplain Manager

Experience
Mr. Mueller's is skilled in the management of large teams undertaking complex inter-disciplinary projects. He has integrated specialists in technical disciplines, regulatory requirements, and stakeholder input to achieve successful outcomes for a variety of projects ranging from the development of port facilities and large civil works, to disaster recovery efforts. The majority of these projects required compliance with environmental legislation, environmental rules and regulations, and environmental policies. Mr. Mueller has been integrally involved in achieving environmental compliance under the National Environmental Policy Act (NEPA) for federally funded projects. He is also familiar with New York State Environmental Quality Review Act (SEQRA), as well as the environmental regulations promulgated by the New Jersey Department of Environmental Protection. The following are examples of Mr. Mueller's relevant experience:

PANYNJ, 2008-2010 Environmental Engineering Call-In Contract. Mr. Mueller is the contract manager for HDR's current Call-In contract for Environmental Design Services with the PANYNJ. Under this contract Mr. Mueller has managed staff undertaking project assignments including Newark Airport Switch House UST closure and removal, Howland Hook Marine Terminal East Bound Ramp analysis, Teterboro Runway Safety Improvements, and La Guardia Airport SPCC Plans.

PANYNJ, 2008-2010 Ecological Studies and Design Services Call-In Contract. Mr. Mueller is a designated member of HDR's "Board of Experts" under our current Call-In contract for Ecological Services. In this role, he works closely with John Duschang, HDR's Contract Manager, to ensure that the staff assignments, study methodologies, and design services for our call in assignments are appropriate to achieving the objectives set by the PANYNJ. Representative assignments include the Port Jersey Wind Energy Studies, JFK Airport SPDES analyses to assess receiving water impacts associated with glycol in stormwater runoff, and World Trade center cooling water intake studies.

Characterization of Dredged Materials in Confined Disposal Facilities, I BOAT NJ Grant Program. Mr. Mueller was Principal-in-Charge for a study to characterize historic dredged materials that are residing in confined disposal facilities (CDFs) along the Atlantic Coast of New Jersey. The intent of the study is to adequately define physical and chemical characteristics of the materials within CDFs so that an Alternate Use Determination (AUD) application can be filed with the NJ Department of Environmental Protection – Office of Dredging and Sediment Technology. Definition of the types of materials located in the CDFs will promote beneficial use of the material and free CDF capacity for future dredging needs.

USACE, New York District, Green Brook Flood Control, NJ. Mr. Mueller was the project manager for over ten years on this large flood control project incorporating both structural and non-structural flood control techniques. His duties included leading and supervising a multi-disciplinary project team involved in completing a general re-evaluation report incorporating preliminary design. Project tasks included a hazardous, toxic and radioactive waste (HTRW) Phase 1 and 2 site assessments of the project alignment utilizing literature research, local interviews, site inspections and intrusive investigations to determine the extent of soil and groundwater contamination.

PANYNJ, JFK Airport/Red Garage Stormwater Pollution Prevention Plan (SPPP), Queens, NY. As Project Manager, Mr. Mueller assisted the Port Authority in achieving compliance with new Phase II - Stormwater General Permit requirements outlined by the New York Department of Environmental Conservation. He successfully coordinated a strategy to achieve required water quality improvements on a project that is redeveloping a previously developed area. Mr. Mueller developed a SPPP document in accordance with Phase II rules.

PANYNJ, Port Newark/Port Elizabeth Express Rail Stormwater Management, NJ. As Principal-in-Charge, Mr. Mueller facilitated the development of an efficient stormwater management system that will be acceptable to the New Jersey regulatory agencies for the Expressrail Corbin Street Intermodal Rail Facility. Analyzed existing drainage patterns and, in coordination with PANYNJ staff, develop a stormwater management plan that addresses the full build out of the referenced facility. This holistic approach will prevent fragmentation of the project and will allow a comprehensive examination of stormwater issues as well as design of an efficient system that meets regulatory targets.

NJDOT/OMR, Container Ship Terminal Development at Former MOTBY Site. Mr. Mueller was Project Manager for the development and implementation of a procurement process to design, build, operate, and maintain (DBOM) a container ship terminal within Maritime Industrial District at the Peninsula at Bayonne Harbor (former Military Ocean Terminal Bayonne). He developed a request for expressions of interest (RFEI) that defined the physical characteristics of the site, site development requirements and anticipated off-site transportation infrastructure improvements required for the successful completion of a design-build scenario. Mr. Mueller evaluated qualifications and technical submissions of prospective developers. He drafted performance specifications and contract requirements to be issued in a Request for Proposals to solicit developers for the construction and financing of the terminal. Mr. Mueller incorporated Green Port principles into the performance specifications to enhance surrounding ecosystems and reduce the impacts of development on human health and the environment.

New Jersey Department of Transportation/Office of Maritime Resources (NJDOT/OMR), Economic Analysis of Dredged Material Management, NJ. As Principal-in-Charge, Mr. Mueller was responsible for Quality Assurance/Quality Control on an Economic Analysis identifying feasible alternative management strategies for dredged material originating from New Jersey's State navigation channels and marinas. Four case studies were performed to determine cost-efficient material management strategies. He performed reviews on final project deliverables summarizing the collection of information, case study analyses, and identification of feasible material management strategies. Mr. Mueller also presented results of the study and the 2005 Marine Trades Association conference on Dredged Materials at Monmouth University.

Karim Abood, PhD, PE

Project Role: Quality Assurance/Quality Control Officer

Education
Ph.D., Civil & Environmental Engineering, 1977 / M.S., Sanitary Engineering, 1964
B.C.E., Civil Engineering, 1961

Registrations/Certifications
Professional Engineer (NY, NJ)

Experience
Dr. Abood has more than 46 years' experience in the areas of environmental science and engineering. He has served as principal-in-charge of environmental and engineering projects including waterfront developments, dredging and dredged material placement, marine borer remediation, navigation, environmental impact, ecological investigations, environmental compliance and permitting, mathematical modeling, hazardous waste management, waterbody impact studies, environmental impact studies (EIS), aquatic impact, mitigation plans, power plant studies, salinity intrusion control, water supply, flood control, resident engineering, and sustainability. Dr. Abood has served as principal-in-charge and/or Quality Assurance/Quality Control Officer (QAO) of a number of key regional projects, including:

- JFK Airport - SPDES and SPDES Water Quality Modeling; Water Quality and Flow Monitoring; DMR Preparation and Compliance
- Newark Liberty International Airport Peripheral Ditch Odor Control; Switch House #1 UST Closure; Building 94
- Brooklyn Marine Terminal Pier 7 Gasoline Spill Investigation
- Howland Hook Marine Terminal Exit Ramp Alternatives Analysis
- Port Jersey Wind Energy Project Avian Studies
- Stewart Airport Wetland Delineation
- Teterboro Airport Habitat Delineation Studies and Airport Runway Safety Improvements
- Port of New York and New Jersey Clean Air Strategy
- Remedial Action and Report, Former Olympia Trails Bus Depot
- Critical Review and Use Assessment Due Diligence Investigation, Staten Island, NY

PANYNJ, Call-In Contracts, Various Locations. Dr. Abood is the Program Manager for eight previous and current call-in contracts since 1992 for the PANYNJ. He served as Quality Assurance Officer (QAO) for a number of site assessment studies; feasibility studies; management of dredging and disposal of dredged material projects; beneficial use of dredged material, data collection and analysis, water and sediment quality studies; environmental impact statements (EISs), environmental assessments (EAs), and permitting projects; stormwater (SWMPP) plans; SPDES; NJPDES; beneficial use of dredged material studies; spill prevention, control, and countermeasure (SPCC) plans; stormwater plans; Greenport workshops; due diligence (Stewart Airport & GATX); dredging technology, "Greenports" initiatives, and sustainability; ecological surveys; sediment budget modeling; wastewater systems and treatability studies; effluent toxicity; essential fish habitat (EFH); groundwater investigations; hazardous waste management; tank removal; de-icing investigations, port development planning, public and stakeholder analysis, interagency coordination, development of supporting publications and presentations; and health and safety studies conducted at the PANYNJ facilities. Major facilities covered by these call-in contracts (over 200 assignments) include:

Airports (JFK, Newark, LaGuardia, Stewart), Port Commerce (Newark, Howland Hook, Port Ivory, CAC Pits, Newark CDF), Other Facilities and Programs (WTC, A&A Landfill, Elizabeth Industrial Park, Holland and Lincoln Tunnels, George Washington Bridge, PST, Hoboken Ferry, WFC Ferry, CPIP, New York Harbor Navigation, HRE Restoration, Goethals Bridge, Access to Regions Core), Green Ports and Innovative Dredging technologies.

PANYNJ, Newark Liberty International Airport Peripheral Ditch Odor Control, Newark, NJ. Dr. Abood served as Quality Assurance/Quality Control Officer for this project. The Peripheral Ditch receives Combined Sewer Overflows (CSOs) from several Districts (Adams, Wheeler, Peddie, Queen and Waverly) of the City of Newark, NJ, stormwater from Newark Airport during wet weather, and blowdown discharge water from the newly completed closed cycle cooling system of the Airport Complex. The odor problem of H_2S has been exacerbated since conversion of the Airport cooling system to closed-cycle from once-through system which resulted in the longer retention time of previously discharged organic matter into the Ditch.

PANYNJ, Dredging Technology Innovation. As Principal-in-Charge, Dr. Abood assisted the PANYNJ in the development of an efficient cost-effective and environmentally sound New York Harbor dredging program and to secure the position of the Harbor as a world class estuary. We investigated innovative dredging and dredged material placement and beneficial use alternatives and schemes to reduce the amount of sediment requiring dredging and sediment contamination in a sustainable manner. Short-term strategies to alleviate the need to remove and dispose of both clean and contaminated sediments were also investigated.

PANYNJ, World Trade Center (WTC) Cooling Water Intake and Discharge Analysis, New York, NY. Dr. Abood evaluated several cooling water intake and discharge options for the new WTC including Best Technology Available (BTA) investigations and permits. Sustainability was one of the major criterions considered. Dr. Abood performed QA/QC for detailed three-dimensional hydrodynamic and thermal CFD modeling was done to assess the design of the cooling water intake and discharge system for the new World Trade Center Complex. The model was calibrated using HDR field survey data. The model domain extended 2,000 ft North and South of the entrance to North Cove and approximately 500 ft out into the Hudson River. The project also included aquatic studies, entrainment & impingement, and SPDES permits.

PANYNJ, Battery Park City Ferry Terminal Expansion, New York, NY. Dr. Abood was Principal-in-Charge for the planned Battery Park City Ferry Terminal Expansion. Located along the western shoreline of Manhattan, the expansion of the terminal to meet increased demand and improve the level of service involves constructing a new terminal consisting of a 32,000 ft^2 deck supported by two anchor towers constructed on 30 x 50 ft concrete base supports. HDR coordinated on-site monitoring and forecasting of noise levels under existing and proposed ferry terminal operations, as well as, air emission testing and air quality modeling of existing and proposed ferry vessels calling at the terminal.

PANYNJ, Comprehensive Port Improvement Plan. Dr. Abood performed an Environmental Impact Statement and an Environmental Assessment (EIS/EA) for the Comprehensive Port Improvement Plan (CPIP) for the Port of New York and New Jersey (the Port). The purpose of the EIS/EA was to examine the potential beneficial and adverse social, economic, and environmental effects of port and transportation improvements included in the CPIP.

Patrick Lawler, PE

Project Role: Board of Experts

Education
M.S., Public Health Engineering, 1966 / B.E., Civil Engineering, 1961

Registrations/Certifications
Professional Engineer (NY)

Experience
Mr. Lawler has served as principal-in-charge or project manager for a wide variety of hazardous waste projects, including HDR's contract with the U.S. Postal Service, remedial investigations/feasibility studies (RI/FS), Phase II investigations, remedial design (landfill capping, excavation of contaminated soils or wastes, groundwater treatment), and resident engineering/construction services (landfill cap, groundwater treatment). The following are Mr. Lawler's relevant project examples:

PANYNJ, Newark Liberty International Airport Peripheral Ditch Odor Control, Newark, NJ. The Peripheral Ditch receives Combined Sewer Overflows (CSOs) from several Districts (Adams, Wheeler, Peddie, Queen and Waverly) of the City of Newark, NJ, stormwater from Newark Airport during wet weather, and blowdown discharge water from the newly completed closed cycle cooling system of the Airport Complex. The odor problem of H_2S has been exacerbated since conversion of the Airport cooling system to closed-cycle from once-through system which resulted in the longer retention time of previously discharged organic matter into the Ditch. Mr. Lawler managed this project to come up with short-term/long-term solutions to the odor control.

PANYNJ, Sewer Service Surcharge Study for Newark Airport, Newark, NJ. As Project Manager, Mr. Lawler performed this study based on a scope of services he developed in consultation with the PANY/NJ. The first phase of the study examined the sewer system and a suite of possible reasons for sewer service charges that had increased dramatically in a short period of time. The study identified the design of the new sampling installation at the raw waste pump station as the most likely cause of unrepresentative samples being taken, in turn leading to the sharply increased service charges. The second phase of the study confirmed this conclusion by statistical analysis of the data and a detailed review of pump station hydraulics.

PANYNJ, John F. Kennedy Airport Wastewater Treatment Systems at the Bulk and Satellite Fuel Farms. Their wastewater is generated from stormwater runoff within and surrounding the tank farms containment areas; the fuel dewatering systems; and a contaminated groundwater recovery system. The contamination is primarily jet fuel and suspended solids. Mr. Lawler served as Project Manager for the design of identical facilities for the two fuel farms that included new pumping units from the collection tanks and a treatment train consisting of dual oil/water separators, chemical addition, dual continuously backwashed sand filters, air stripping, and sludge thickening. These systems have operated successfully since 1996.

PANYNJ, Bench-Scale Treatability Study for Elizabeth Industrial Park Wastewater, NJ. As Project Manager, Mr. Lawler developed the study, reviewed the data, decided on step-wise modifications, and directed the final data analysis and full-scale conceptual design. As designer of record for the detailed design, he was in responsible for the conversion of the conceptual design to plans and specifications and made many design decisions. Mr. Lawler also designed the conversion of an existing sump to an oil/water separator, predicting its performance based on wastewater sampling and analysis.

Rockaway Borough Superfund Site, USACE, Kansas City District/USEPA Region 2 IDC, Rockaway Borough, NJ. Senior Civil Engineer. Mr. Lawler reviewed the Remedial Action Design at the conceptual and 65% complete phases, and provided QC oversight in the preparation of the specifications.

Imperial Oil Superfund Site, USACE, Kansas City District/USEPA Region 2 IDC, Monmouth County, NJ. Mr. Lawler participated in the value engineering of the pre-existing design of this remediation, then provided remedial design services for the groundwater barrier slurry trench and deep soil mixed wall and for the contaminated groundwater treatment system. He also was the QC officer for the preparation of specifications and participated in the MCACES cost estimate for the 95% design.

Jones Sanitation NPL Site, Hyde Park, NY. Principal-in-Charge. HDR prepared the remedial design. The remediation consisted of regrading of the site, demolition of structures, consolidation of contaminated soils into the center of the site, capping, drainage control, access control, and monitoring. Mr. Lawler designed the main features of the landfill remediation. He authored several chapters of the design report and led the response to government commentary on the design aspects of the overall project. Based on the successful completion of the remediation this site was deleted from the NPL in 2005.

Harrison Sub-Residency, Westchester, NY. The first phase of this project included the closing of a landfill that had not only C&D waste, but other more environmentally impacting chemicals. The design for the closing of the fill included substantial regrading, complex surface runoff diversion, wetlands protection, and steep slope protection. Mr. Lawler led the conceptualization of the design, and was the Engineer-of-Record for the plans and specifications. The second phase included an air sparging and vacuum recovery system for the removal of volatile organics on a property formerly used as a truck service depot. Mr. Lawler reviewed the design, including the basis of spacing of piping, the selection and sizing of blowers, and the overall layout of the design.

Voluntary Cleanup Program Sites, New York, NY. Mr. Lawler acted as chief design reviewer for this extensive remediation project, the Fulton Fish Market at Hunt's Point, which won a Phoenix Award for excellence. The design included an engineered cap/extensive parking and traffic way system, and a large, under-building soil vapor extraction and air sparging system.

Thomas Pease, PhD, PE

Project Role: Board of Experts

Education
Ph.D., School of Engineering and Science, 1977 / M.S., School of Engineering and Science, 1969
B.S., Physics, 1965

Registrations/Certifications
Professional Engineer (NY, PA); OSHA HAZWOPER 40 hour, Supervisor and 8 hour refresher

Experience
In his 34 year career, Dr. Pease has had extensive term contract experience with Federal and State agencies. He has provided technical expertise in the areas of contaminant investigations, spill investigations/remediation, remedial design, Phase I assessments, risk assessment/management, contaminant fate and transport modeling, litigation support, and regulatory interpretation. Dr. Pease has supervised the assessment of environmental impacts of facilities and various contaminants on the coastal zone, other navigable waters and groundwaters. Dr. Pease has participated in the development and implementation of quality control plans for numerous projects and contributed to the HDR quality assurance plan. He is a recognized expert having testified in Federal, New York, New Jersey and Pennsylvania courts. He frequently consults on the scoping of innovative projects, regulatory interpretations and projects with complex technical issues.

Dr. Pease has supervised environmental scientists and engineers conducting site assessment, hazardous and toxic waste, geology, and groundwater investigations and remedial projects for industries, electrical utilities, municipalities, states, and site developers. Dr. Pease has been responsible for the development of work plans, implementation of studies and interpretation of results for hundreds of site investigations over the last two decades. Dr. Pease provides technical review and quality control of Phase I assessments (ongoing) and provides advice to staff on interpretation of guidance and requirements for conducting Phase Is for various public and private clients. Dr. Pease managed and supervised multiple RCRA and CERCLA projects ranging from site audits and investigations through the development of remedial action plans and litigation of cost allocation. He has managed projects involving the interpretation of NYSDEC regulations and standards that have included investigations of petroleum contamination, hazardous substances, PCBs, munitions and specifically many sites with USTs. Dr. Pease has investigated dozens of landfills in downstate NY under private, municipal, and NYSDEC contracts. He has managed and directed modeling studies of landfills and has designed and negotiated remedial systems with NYSDEC for many sites. The following are Dr. Pease's relevant project examples:

Over the last 15 years Dr. Pease has been the partner-in-charge and technical adviser of several contracts with NYSDOT and NYSDEC and that entailed site investigations and developing remedial plans.

PANYNJ, LaGuardia and JFK Airport Site Investigations, NY. *Dr. Pease was responsible for the investigation of various contaminants including petroleum and a UST closure at LaGuardia and JFK.*

Jones Sanitation Superfund Site, Hyde Park, NY. Dr. Pease was the Hazardous Waste Technical Consultant for this project. He was responsible for initial site investigation and EPA negotiations. Dr. Pease directed the staffing and tasking on the design stage, with land use controls imposed by the agency.

NYSDEC, Superfund Term Contract. Dr. Pease was the Program Manager for the NYSDEC Superfund term contract for site investigations and development of remedial plans for the sites. Dr. Pease interpreted the agency's requirements, selected appropriate project managers, provided guidance on execution of the work, monitored HDR performance, and was the single point of contact to NYSDEC on all contract issues.

NYCEDC, Term Contract. Dr. Pease developed the approach to the program, assigned staff and directed individual engineering assignments, including compliance with state and federal regulatory programs. Services include investigation and remediation of contaminated sites, including remedial redevelopment of a manufactured gas plant site being converted into food distribution warehouses.

NYCDEP, Pennsylvania Avenue and Fountain Avenue Landfills. Dr. Pease supervised the risk assessment for the Pennsylvania Avenue and Fountain Avenue landfills on Jamaica Bay. HDR assessed the on-site wetland and upland habitat, performed aquatic sampling for fish and shellfish, and assessed bioaccumulation of metals and PCBs.

USACE, Kansas City District/USEPA Region 2 Indefinite Delivery Architect-Engineer Service Contract, Chemical Insecticide Corporation Superfund Site, Edison, NJ; Imperial Oil and Champion Chemical, Morganville, NJ. Dr. Pease is the Deputy Contract Manager for this project. Dr. Pease was responsible for assisting in the development of all contract administrative and technical supporting documents and defined the team for initial assignments. He is the Deputy Contract manger responsible for coordination of task orders and project quality. Dr. Pease is also responsible for coordination of staff and resources and supervision of project managers. For the CIC site he contributed to the long term and post construction elements of the remedy, refining the goals of the long term monitoring program. Dr. Pease defined and guided assignments for the final design development for Imperial Oil site OU 3. He provided QC review of the final designs and specifications for demolition of site structures, excavation off-site disposal of impacted soil and other secondary waste streams, dewatering, water treatment, and restoration of the site. Dr. Pease's analyses included development of the most appropriate excavation support and hydraulic barrier design and cost estimates.

NYSDOT, Harrison Sub-residency Remediation, Harrison, NY. Dr. Pease is actively involved in the Harrison Sub-Residency landfill project for the NYSDOT. The NYSDOT assignment was to bring the site into compliance and closure interpreting NYSDEC requirements. Dr. Pease was the senior engineer for the contract; he specified the approach to the site investigations, remediation and ultimately closure. He was the senior reviewing engineer for deliverables. Site features included a stream with up gradient contaminant sources, a landfill and contaminated wells. The site was adjacent to a New York City water supply reservoir.

Bradley Williams, PhD

Project Role: Project Manager – Soil & Groundwater Investigations

Education
Ph.D., Environmental Science, 1993 / M.S., Environmental Science, 1990 / B.A., Geology, 1984

Experience
Dr. Williams is a senior project manager and director of the Environmental Chemistry Section at HDR. As senior project manager he is responsible for client contact, work scope and budget development, preparing subcontractor(s) contracts, manpower projections, scheduling, and report generation. As director of the Environmental Chemistry Section, Dr. Williams is responsible for defining sample chemical analyses to meet project and data quality objectives and subsequent data interpretation and assessment. As part of the data interpretation, Dr. Williams conducts statistical analysis and modeling. He also evaluates transport and fate of contaminant occurring in various media. The following are Dr. William's relevant project examples:

PANYNJ, John F. Kennedy International Airport Site Investigations. Dr. Williams has directed a number of site investigations conducted at the John F. Kennedy International Airport for PANY/NJ including work at Building Nos. 56, 67, 197, 215 and Area 7. These investigations typically include soil, soil gas, surface water and groundwater analyses for organic and inorganic contaminants. His responsibilities included project development, management, subcontractor oversight, client contact, data interpretation and report generation.

PANYNJ, Allied Signal Environmental Remediation, Elizabeth, NJ. Dr. Williams is currently assisting the PANY/NJ with the preparation and oversight of an environmental remediation of portions of a large parcel of land located in Elizabeth, New Jersey. Remediation is being conducted to address soil and groundwater contamination encountered during site investigations performed as part of due diligence prior to property acquisition by PANYNJ. Additional services currently being performed include preparation and submittal of necessary permits to NJDEP, delineation of the freshwater wetlands and preparation of a renewed Letter of Intent (LOI), and preparation and sampling in support of a Community air Monitoring Plan.

The Related Companies, Staten Island, New York Site. Dr. Williams provided technical support during the acquisition and is currently providing support during the redevelopment of a large former major oil storage facility in Staten Island. Activities have included preparation of a human health exposure assessment, development of site cleanup levels based on those findings and negotiation with NYSDEC and NYSDOH, assisting with the preparation of a Beneficial Use Determination (BUD) petition for the importation of common fill and preparation of a BUD petition for the specific use of processed dredge material.

PANYNJ, Air Quality Monitoring Program. Dr. Williams developed an air quality monitoring program for the PANYNJ to assess whether ferry operations at the temporary landing associated with the Battery Park City Ferry Terminal Expansion are having a negative impact on local air quality. The proposed testing will encompassed the peak hours of ferry service and park usage.

PANYNJ, Ecological Studies On-Call Agreement for Services in Support of Due Diligence for the Potential Acquisition of Stewart International Airport. Dr. Williams was the contract manager of this project which included an environmental records search and asbestos assessment of onsite buildings in support of potential property transfer. Managed the retrieval and review of information from a data retrieval service to document the presence of registered ASTs and USTs, spills, landfills, RCRA small and large quality generators and other potentially hazardous or petroleum related activities in the area of the airport.

Dredging/Sampling in New York/New Jersey Harbor. Dr. Williams provided analytical laboratory and quality assurance and quality control (QA/QC) oversight for sediment dredging projects in New York, including work at the Howland Hook Marine Terminal, the 59th Street Marine Transfer Station, Arthur Kill, Port Elizabeth, and Port Newark. Contaminants of concern have included PCBs, dioxins, heavy metals, petroleum related volatile organic compounds and polynuclear aromatic hydrocarbons. These projects are being conducted in order to maintain the navigational channels and to assess potential beneficial uses of dredged material at upland remediation sites.

NYSDOT, Term Agreement for Environmental Assessments and Design Services at Stewart Airport, Orange County, NY. Dr. Williams is serving as Project Manager providing environmental services at the Stewart International Airport (SWF). Currently, HDR is conducting a groundwater and soils investigation and evaluation in the area of a former aviation fuel farm which included an aboveground storage tank (AST) facility, the associated fueling area, and a former underground storage tank (UST) farm. HDR is currently performing an environmental investigation of the Southern Landfill Complex (SLC), a portion of which was used for disposal by the U.S. Air Force during their operation of the airport. HDR is currently reviewing available information for an area referred to on the airport property as the former Demolition & Burning Facility (DBF) where ammunitions that were possibly test devices or outdated, off-spec, or excess devices were detonated and/or burned during operation by the U.S. Air force.

USEPA Region 2 Remedial Action Contract. Dr. Williams is the program manager for this 10-year contract providing support to USEPA Region 2 with RI/FS and oversight services at Superfund Sites in NY and NJ. Currently conducting RI/FSs at the Ellenville Scrap Metal site, Fulton Avenue, Peninsula Boulevard, and proposed actions at Gowanus Canal and Lehigh Valley Railroad. The project includes oversight at Solvent Savers and Wallkill Landfill Superfund Sites in NY.

Former Mimi Cleaners, Scarsdale, NY. Dr. Williams directed the investigation, installation and operation of numerous SSDs in commercial buildings in downtown Scarsdale. The mitigations systems were required to address the potential for soil vapor intrusion resulting from PCE-contaminated groundwater. The project began with an investigation, followed by design of a remedial action for this former dry cleaners under a Voluntary Cleanup Agreement entered into with the State. The successfully completed remedial action included soil excavation beneath the building slab and installation and operation of an SVE system.

NYSDEC, Standby State Superfund Contract (D006129), Statewide. Dr. Williams is the Quality Assurance Officer performing assignments for the NYSDEC under a standby contract for hazardous waste consulting services. During the 7-year contract, HDR will perform preliminary site assessments (PSAs), remedial investigation / feasibility studies (RI/FSs), remedial design (RD), construction management (CM), and miscellaneous hazardous waste services.

Thomas Connors, PE

Project Role: Project Manager – Remediation Design / Cost Estimating / Shop Drawings

Education
M.B.A., Finance, 2001 / M.S., Environmental Engineering, 1994 / B.S., Civil Engineering, 1992

Registrations/Certifications
Professional Engineer (NJ, NY, PA); OSHA HAZWOPER 40 hour, Supervisor and 8 hour refresher

Experience
Mr. Connors has 19 years of environmental consulting experience. Mr. Connor's responsibilities include project management, site (soil and groundwater) investigation and remediation, remedial system design including strategic planning to evaluate remedial alternatives, regulatory compliance review, providing technical support and construction oversight, and coordination with regulatory agencies. Mr. Connors' work experience includes preparation of design construction plans, technical specifications, cost estimates, engineering reports, construction bid documents, construction management, shop drawing review and approval, and permit applications. His experience includes groundwater well installation, in-situ groundwater treatment design including enhanced reductive dechlorination and monitored natural attenuation, groundwater pump and treat systems, soil vapor extraction, impacted soil excavation, stream remediation and restoration, soil and geosynthetic caps, and landfill gas flares.

NYSDEC, Former Raeco Products, Standby Engineering Contract (D006129), Rochester, NY. As remedial engineer, Mr. Connors authored a feasibility study for a five-acre industrial facility with VOC, SVOC, and metal contamination in both soil and groundwater. Mr. Connors completed a detailed evaluation of the remedial investigation data, identified and screened remedial technologies and developed and evaluated soil and groundwater remedial alternatives including preparation of detailed cost estimates for each alternative.

NYSDEC, New Cassel Industrial Area, Standby State Superfund Contract (D006129), New Cassel, NY. Mr. Connors is project manager for the remedial design of a pump and treat system to address an off-site groundwater CVOC plume. Mr. Connors is developing and coordinating the implementation of a pre-design investigation (PDI), including installation of seven additional monitoring wells and coordinating a 72-hour pump test and treatability/pilot test. The remedial design includes evaluation of all existing data and PDI results and establishing a site conceptual model to optimize the remedial design. The work will involve characterization of properties within and adjacent to the off-site study to identify potential locations for the groundwater treatment plant and discharge of the treated effluent. The design package will include construction drawings, technical specifications, cost estimates, and bid documents. The project duration is anticipated to be from September through March 2011.

NYSDEC, Pappas Dry Cleaners, Standby Engineering Contract (D006129), Dansville, NY. Mr. Connors is project manager for the design of a remedial excavation of approximately 7,500 tons of CVOC-impacted soil at this 0.4 acre former dry cleaner site. Professional services include conducting a pre-design investigation, preparing a remedial design package, and providing bid

assistance. The pre-design investigation includes a lead-based paint and asbestos survey of the existing one-story building, geo-probe boring program to delineate soil impacts and collect a pre-construction property survey. The selected remedial action includes demolition of the one-story building and excavation and off-site disposal of impacted soil, including perimeter sheet pile. A dewatering system to facilitate excavation and site restoration were part of the project. The remedial design includes preparation of an engineering design report, construction drawings, technical specifications, engineer's cost estimate, and construction bid package.

USACE Kansas City District/USEPA Region 2, NJ. Mr. Connors provides Senior Regulatory Specialist for the Imperial Oil Superfund Site, Monmouth County, NJ, which is currently in the RA phase. The RA consists of removal and off-site disposal of approximately 200,000 tons of LNAPL, PCB, TPH, VOCs, SVOCs, and metal impacted soils. Mr. Connors reviewed and approved the shop drawings for the project. Mr. Connors also provides senior technical support to the Rockaway Borough Superfund Site, Rockaway Borough, NJ including design, installation oversight and operation of a SVE system in the source area and evaluation of the 230-gpm pump and treat system. He completed an aquifer pump test on three extraction wells and monitoring draw down (capture zone) in the surrounding monitored well network via continuous logging pressure transducers. As part of the RD evaluation, he was able to optimize the mass removal of the system by relocating extraction wells and performed a sensitivity analysis on the plant components to demonstrate the adequacy of the design allowing the project to move forward on schedule.

Confidential Client, Ringwood, NJ. Mr. Connors provided senior technical support for $24.6M paint sludge removal project supervising a construction manager and two field staff. The 400 acres site was located on a former iron mine and included a closed landfill. Paint sludge was located within and around two former mine pits and a closed municipal landfill. The sludge was intermixed with drums, industrial plant waste and municipal solid waste. Due to the potential for subsurface voids associated with the former mining operations at the site, geophysical seismic surveys and vibration monitoring were conducted. A comprehensive investigation was completed at the site including excavation of over 100 site wide test pits as well as 30 test trenches. Fourteen groundwater wells were installed using air rotary and rotosonic drilling techniques. Directional borings were advanced into the former mine pits to a depth of 120 and 200 feet bgs. Packer testing/sampling was performed in the open rock bedrock groundwater wells. Design activities completed by Mr. Connors included preparation of GP-4 wetlands permit application, Soil Conservation District permit application, construction plans, technical specifications, detailed cost estimates, budget tracking, financial analysis, and report preparation.

Automobile Assembly Facility, Edison, NJ. Mr. Connors authored a preliminary assessment as part of the ISRA process for this automobile assembly facility. Responsibilities included a site walk, review of historical records, client communications, and interaction with regulatory agencies. Over 130 areas of concern were identified and investigated at this 1.4 million square foot facility. Mr. Connors developed the remedial design strategy and prepared a detailed remedial action cost estimate including a cash flow analysis as part of a GRiPTM proposal. Mr. Connors provided oversight for the installation and operation of a Soil Vapor Extraction/Air Sparge (SVE/AS) system to remediate VOCs impacts in groundwater. The system consisted of 11 air sparge wells, 3 vacuum recovery wells, 12 pressure and vacuum monitoring points, and an activated carbon air treatment system.

Stuart Bassell, PE

Project Role: Project Manager – Compliance Audits

Education
M.S., Urban Planning, 1973 / B.S., Civil Engineering, 1971

Registrations/Certifications
Professional Engineer (NY, NJ); OSHA HAZWOPER 40 hour, Supervisor and 8 hour refresher; New Jersey Department of Environmental Protection Remediation STAR Program; American Red Cross Standard First Aid and Adult CPR

Experience
As a Senior Project Manager, Mr. Bassell's responsibilities include project management, project analyses, development of work programs, report writing, project interviews, information assembly, economic analyses, industrial site environmental surveys, and incorporation of public participation into project activities - including presentations at workshops, meetings, and hearings. Mr. Bassell has coordinated (with subcontractors) over 20 asbestos abatement projects and several projects involving lead-based paint abatement. Assignments completed by Mr. Bassell have been in the following technical areas: RCRA; air permitting and assessment; New York State Pollutant Discharge Elimination System (SPDES); New Jersey Pollutant Discharge Elimination System (NJPDES), National Pollutant Discharge Elimination System (NPDES) permits; oil spills and petroleum bulk storage; spill control and response plans; other hazardous materials assessments for real estate transfers and financing; remedial investigations/feasibility studies/remedial design (RI/FS/RD), including site remediation development (Brownfields); right-to-know; New York State Environmental Quality Review Act (SEQRA); environmental impact assessments; industrial pretreatment programs; and solid waste. Mr. Bassell has substantial experience in petroleum spill response, ranging from discovery to reporting, remedial design, and site assessment. The following are Mr. Bassell's relevant project examples:

PANYNJ, SPCC Plan for LaGuardia Airport. Mr. Bassell managed the initial preparation of the plan for the several PANYNJ facilities at this site. In 2010, he completed the update and recompilation of the plan to comply with the new federal regulations. As part of both efforts, he assessed compliance of the tank systems with New York State and federal PBS regulations. An outgrowth of the compliance work, physical upgrades and additional procedures were specified in the SPCC plan. Mr. Bassell also reviewed and commented on SPCC plans for the bulk fuel farm and public utility-owned transformer facility, prepared by other contractors.

PANYNJ, SPCC Plan for JFK Airport. Mr. Bassell also managed the initial preparation of the plan for the PANYNJ facilities at JFK airport, and in 2010, completed the update and recompilation of the plan. Again, he assessed compliance of the tank systems with New York State and federal PBS regulations, and specified physical upgrades and additional procedures. Updated monthly inspection check lists were prepared to allow PANYNJ staff to complete their own future inspections. Mr. Bassell also reviewed and commented on SPCC plan for the bulk and satellite fuel farms, prepared by other contractors.

PANYNJ, SPCC Plan for Newark Airport. As part of Mr. Bassell management of the preparation of SPCC plan Newark Airport, he assessed facility compliance against New Jersey PBS and federal PBS regulations. He provided recommendations to comply with SPCC regulation and plan requirements, as well as good engineering practices. For the Port Authority's Newark staff, he conducted the initial SPCC training.

U.S. Postal Service, Environmental Term Contract. Mr. Bassell managed the environmental term contract that covered the lower Hudson River multi-county district (referred to as the Westchester District). The term contract entailed 60 assignments during a 10-year period. He provided environmental engineering services and regulatory compliance for the closure of USTs, installation of new ASTs, UST testing, spill cleanup and assessment, SPCC plan preparation, hazardous materials inventories, and feasibility studies for converting heating systems from oil to natural gas. Through a subcontractor, he managed lead-based paint and asbestos sampling and abatement monitoring projects at several district postal facilities.

Phase I Environmental Site Assessments and Due Diligence, Various Locations. Mr. Bassell is responsible for reviewing and signing Phase I due diligence reports issued out of HDR' New York offices. His clients have included PANYNJ, electric utility companies, developers, municipalities, banks, attorneys, colleges, and manufacturers. He has managed or personally completed approximately 100 such efforts, which have included industrial, commercial, residential, and agricultural sites. One such effort included an examination of a hazardous waste site, licensed for the construction of a new 800 MW merchant electric cogeneration facility; this project included not only the standard ASTM elements, but also an audit of the environmental permits, licenses, and approvals issued for the project.

Client Confidential, Due Diligence and Compliance Audit. Mr. Bassell managed the Phase I and Phase due diligence assessments and the environmental compliance audit of a New York manufacturing site. The audit assessed compliance with RCRA, PBS and SPCC regulations, air emission regulations, SPDES requirements, NY Chemical Bulk Storage regulations, EPCRA and right-to-know, pesticides application, and NY Health Department drinking water regulations of the site's self supply. Several deficiencies were identified and resolved with the seller and buyer to allow the transaction to close.

NJDEP, Williams Property Superfund Site. Mr. Bassell prepared the design work plans, Field Sampling and Testing Plan (FSTP), Quality Assurance Project Plan (QAPP), Health and Safety Plan (HASP), and completion of various field programs: soil gas, monitoring well construction and sampling, pump tests, on-site pilot-scale treatability testing (air stripping, activated carbon, filtration) and bench-scale testing (metals removal and biological treatment). He completed the environmental permit and permit-equivalent applications (air, NJPDES-DGW, water diversion, Department of Community Affairs, and road cut). All permits were issued.

Client Confidential, RCRA Part B Application. Mr. Bassell managed and was the primary author for this application at a RCRA TSD facility for a computer manufacturer. As part of this project, he assessed compliance of the facility's current practices against RCRA regulations.

Edward Schwetz, PG

Project Role: Project Manager - UST Assessments & Closures Support

Education
M.S., Management, 1998 / B.S. Geological Engineering, 1986

Registrations/Certifications
Certified Professional Geologist (No. 8650); Professional Geologist, PA (No. 1395); OSHA HAZWOPER 40 hour, Supervisor and 8 hour refresher; First Aid and CPR training; American Institute of Professional Geologists; Certified Subsurface Evaluator (No. 0014098), Natural Groundwater Association, New York State Council of Professional Geologists, Beta Gamma Sigma.

Experience
Mr. Schwetz has 23 years of experience as a project manager, engineer, and geologist in the environmental consulting field. His responsibilities have included site assessments; surface and subsurface geological, hydrological, geochemical, geotechnical, and contaminant investigations; feasibility studies; remedial design; system installation and operation; evaluation of remediation system performance; building decontamination and estimation of quantity removal for demolition and disposal; and health and safety supervision. His management experience includes investigations and corrective actions at several manufacturing, UST, power plant and pipeline leak sites that involved preparation of cost estimates, project schedules, work plans and reports, remedial action plans, progress reports, regulatory compliance, and site closure reports. He also had extensive interaction with Federal, state, and local regulatory agencies and health departments. The following are Mr. Schwetz's relevant project examples:

Consolidated Edison Site Assessments, Various Locations in New York City. As part of a property divestiture of within New York City, three separate properties were simultaneously investigated under the direction of Mr. Schwetz. These investigations included surface geophysical methods, utility clearance, soil boring advancement with temporary well installation for groundwater sampling, hazardous waste inventory, UST/AST assessment, and sump or dry well sampling. Based on the results of these investigations, conceptual remedial alternatives with cost estimates were prepared for potential future remediation at each of the three sites. At one site, litigation support was provided as the sampling results indicated a neighbor's activities had impacted the client's property.

Minisceongo Park, Pomona, NY. Historic fill, a potable water well, and an underground storage tank (UST) were investigated as part of the planned residential development of this property. The fill was placed after NYSDEC Solid Waste regulations were promulgated, so the site was considered an inactive landfill. The historic fill was investigated and beneficial use determinations were prepared to propose leaving the material in place.

City Island Estates, City Island, NY. Mr. Schwetz supervised the investigation and remediation of the property with the planned future use of residential development. The site consisted on

historic fill placed at a property that was previously used as a boat yard. Two 10,000 gallon USTs were investigated and eventually closed with petroleum impacted soil excavated for off site disposal. Remedial activities also included excavation of other areas that were surficially impacted by petroleum or metals. The subsurface investigation also focused on buried barges as part of the historic filling activities.

Investigations for a Major Utility in Allentown, NJ. As project manager, Mr. Schwetz managed hydrogeologic, soils and vapor assessment investigations at a UST site supervised by NJDEP-BUST. Investigation included groundwater modeling in support of a natural remediation compliance program.

Phase II Investigation for Neighborhood Youth and Family Services, Bronx, NY. Mr. Schwetz reviewed a Phase I ESA and coordinated a subsurface investigation of a lot that had been impacted by petroleum from a UST, on-site vehicle storage and potential off-site sources. Remediation alternatives were presented considering the potential purchase and construction of a building for use by children.

United Water Proposed Desalination Plant, West Haverstraw, NY. A Phase I and Phase II investigation of the proposed property for a desalination plant and pilot plant. The Phase II investigation included an assessment of the historic fill in the area of the proposed desalination plant and an UST in the area of the proposed pilot plant.

NYCEDC, St. George Ferry Terminal, Staten Island, NY. As part of the refurbishing of the ferry, Mr. Schwetz supervised field personnel and activities associated with the investigation of subsurface conditions associated with USTs and historic fill. Mr. Schwetz also reviewed environmentally related reports prepared by others that included construction drawings for planned excavation areas and demolition drawings where ACM might be disturbed. Mr. Schwetz evaluated the analytical results with respect to disposal options. Similarly, groundwater sample results were evaluated to assess overall quality and the potential need for pre-treatment before disposal to the sewers. Soil excavation, handling and disposal bid specification were prepared for the potential excavation contractors. Specifications for de-watering were also included.

Residential Soil Remediation under NYSDEC Oversight, West Harrison, NY. Mr. Schwetz recently completed a major assignment in Harrison, NY that involved the sampling and analysis of soils used as backfill in a residential area. Mr. Schwetz supervised field personnel and activities including soil boring advancement, sample collection, UST closures and removal activities. Based on the results of the analyses of the samples, Mr. Schwetz supervised the excavation of selected locations and their subsequent backfilling with new fill as well as assessing excavated material disposal options. Soil classification and disposal decisions were negotiated with NYSDEC and the local health department. A second phase of the project included removal of solid waste from a landfill on a neighboring property that encroached on the site. Under this activity, a consent order and remedial action work plan was negotiated with the regulatory agency.

Patricia Parvis, LSRP

Project Role: Project Manager - Phase I Assessments

Education
M.S., Environmental Studies, 1994 / B.F.A., Fine Arts, 1985

Registrations/Certifications
Licensed Site Remediation Professional (LSRP), NJDEP, June 2010; Subsurface Evaluator and Cleanup Star, New Jersey Dept. of Environmental Protection, 2002 and 2005; New York State Certified Asbestos Inspector, 2001

Experience
Ms. Parvis is a Senior Project Manager with 16 years experience. She is a member of HDR's Phase I Best Practices Team representing the New York Metropolitan Area. Ms. Parvis has worked on projects in the Brownfield and Voluntary Cleanup Programs in both New Jersey and New York, and in Pennsylvania's Act 2 program. Ms. Parvis is proficient in performing permitting, Phase I and Phase II Environmental Site Assessments, petroleum spill investigation/remediation, underground storage tank (UST) closure and removal oversight, and coordination with regulatory agencies (USEPA, NJDEP, NYSDEC, PADEP, and local health departments). The following are Ms. Parvis' relevant project examples:

PANYNJ, Newark Liberty International Airport/JFK International Airport, Newark, NJ. Ms. Parvis completed the Spill Prevention Control and Countermeasure Plans (SPCC) for Newark Liberty International Airport, Newark, New Jersey and John F. Kennedy International Airport, Queens, NY. She performed all of the field work and report preparation, and coordinated with PANYNJ site representatives.

NYCEDC, Brooklyn Piers 7-12 Hazardous Materials Assessment - Environmental Impact Statement, Brooklyn, NY. As part of the preparation of the hazardous materials chapter of an EIS, Ms. Parvis managed the preparation of Phase I and Phase II Environmental Site Assessments for acquisition of 120+ acres of waterfront property by the City of New York. The Phase II included the collection of almost 200 soil, groundwater and soil vapor samples. The work was reviewed by both the NYSDEC and NYCDEP.

New York City Department of Parks and Recreation, Far Rockaway Beach Phase I and Hazardous Materials Section of EAS, Queens, NY. Ms. Parvis was the Task Manager and prepared the Phase I and hazardous materials, land use and community facilities sections of the EAS.

NYCEDC, Leggett Avenue Phase I and Geophysical Survey, Bronx, NY. Ms. Parvis prepared a Phase I ESA and managed a follow-up geophysical survey for a potential purchase of a warehouse property in the Hunt's Point section of the Bronx.

NYCEDC, Willets Point Phase I, Queens, NY. Ms. Parvis prepared three Phase I ESAs for industrial properties to be taken by eminent domain and redeveloped as part of the Willets Point redevelopment initiative.

Phase I and Phase II ESAs, Former Printing Facility, Armonk, NY. Ms. Parvis provided Phase I ESA, supervision of geophysical surveying, and soil sampling at a former printing facility in Armonk, New York for HSBC Bank.

Phase I ESAs, Site Investigations, and Remedial Actions for Commercial Property Transactions, Long Island, Westchester County, and New York City. Ms. Parvis was the Primary Project Manager for a long-term contract with FleetBoston Financial to perform due diligence services for its commercial property lending division. Ms. Parvis was responsible for Phase I and/or Phase II ESAs at over 75 properties; many of which also had remedial actions. In addition, she managed the same activities at Fleet's own branches on Long Island.

PANYNJ, Critical Review and Use Assessment Due Diligence Investigation, Staten Island, NY. Ms. Parvis managed a team of senior technical experts to assist PANYNJ in a potential acquisition of over 600 acres of waterfront property in Staten Island. Ms. Parvis also prepared the real estate/easements section of the report incorporating research of over 100 historic and current utility easements.

PANYNJ, Remedial Action and Report, Former Olympia Trails Bus Depot, Elizabeth, NJ. Ms. Parvis was the Project Manager for engineering services during remedial construction and also prepared the remedial action report being conducted under the purview of NJDEP.

PANYNJ, UST Closure and Report, Newark Airport Building 94, Newark, NJ. Ms. Parvis was the Project Manager for UST closure oversight, post-excavation sampling and reporting for UST removal. Work was conducted under the purview of NJDEP.

PANYNJ, Pier 7 Gasoline Spill Investigation, Brooklyn, NY. Ms. Parvis assisted PANYNJ with a continued investigation of a gasoline spill at Pier 7. As Project Manager, Ms. Parvis wrote the scope of work, supervised field personnel and reviewed the final report on the investigation results.

PANYNJ, Remedial Investigations and Remedial Actions, George Washington Bridge, Lincoln Tunnel and Holland Tunnel Sites, NJ. Ms. Parvis was the Project Manager assisting the PANYNJ in obtaining closure for open remedial cases at these three bridge and tunnel facilities.

PANYNJ, Former Allied Signal Property, Site Investigation, Elizabeth, NJ. Ms. Parvis participated as technical reviewer in the assessment of the former Allied Signal property in Elizabeth, New Jersey for PANYNJ. She reviewed approximately 10 years of remedial investigation work performed by other consultants and incorporated this review into recently obtained sampling data in order to provide a summary overview and recommendations relative to property conditions for PANYNJ.

PANYNJ, Comprehensive Port Improvement Plan Environmental Impact Statement, NY/NJ Harbor. Ms. Parvis participated in the preparation of draft scoping documents, public outreach materials, hazardous materials existing conditions, and coordinated GIS work between the prime consultants for a NEPA Environmental Impact Statement; the Comprehensive Port Improvement Plan, for PANYNJ.

Michael Musso, PE

Project Role: Project Manager - Risk Assessments

Education
M.P.H, Environmental Health Sciences, 2007 / M.S., Environmental Engineering, 1996
B.S., Civil Engineering, 1991

Registrations/Certifications
Professional Engineer (NY); MCACES, 2nd Generation (MII) Basic Training (3-Day course given by Project Time & Cost, Inc.) November 2008; OSHA HAZWOPER 40 hour, Supervisor and 8 hour refresher; NJ UST Subsurface; 5-day Short Course: Hierarchical/Multi-objective Approach in Water Resources Planning and Management

Experience
Mr. Musso is a civil/environmental engineer with over 15 years' experience in environmental engineering, consulting, and regulatory compliance. He has had hands-on experience with chemical and hazardous and solid waste management operations at industrial facilities. He has a working knowledge of toxicological and public health aspects of chemical development and use, along with an understanding of applicable state and Federal regulations. He is experienced in conducting human health risk assessments and exposure analyses. Mr. Musso is very familiar with the development and oversight of health and safety programs, and he has much knowledge in field procedures and environmental monitoring activities.

Mr. Musso performed baseline human health risk assessments and exposure pathway analyses for industrial, landfill, and proposed re-development sites. He reviewed and statistically analyzed data from several environmental media. Mr. Musso researched toxicological profiles (carcinogenic and noncarcinogenic effects) for numerous contaminants, and evaluated exposure scenarios for different environmental medial at various sites (including fish ingestion and contact with surface waters during recreation). He characterized levels of risks for various human receptors in current and future use scenarios. The following are Mr. Musso's relevant project examples:

NYSDEC, New Cassel Industrial Area, Long Island, NY. Mr. Musso prepared qualitative human health exposure pathway analyses under NYSDEC review. These analyses consisted of identifying site-specific contaminants of concern and potential exposure points for human receptors (direct contact, drinking water). He developed remedial investigation/feasibility studies (RI/FSs), including conceptual designs of soil, dry well, and groundwater remediation systems, cost estimates, data analyses, and reports. Remedial alternatives that were identified and assessed (based on feasibility, cost, and other CERCLA parameters) included: Soils- excavation + off-site disposal; soil vapor extraction (SVE); monitored natural attenuation (MNA); Groundwater – air stripping/soil vapor extraction (AS/SVE); In-Well circulation/vapor stripping systems (emerging technology); pump and treat with activated carbon, and MNA.

USEPA Region 2 RAC, Gowanus Canal RI/FS, Brooklyn, NY. Mr. Musso is currently serving as HDR's PM for the Remedial Investigation/Feasibility Study (RI/FS) for the Gowanus Canal Proposed Superfund Site under the Region 2 Remedial Action Contract. The Gowanus Canal is a 1.8 mile controlled waterway that has been the receiving water of centuries of

industrial, stormwater, and combined sewer overflow (CSO) pollution. Mr. Musso will also prepare the human health and ecological risk assessments, draft RI and FS and final RI and FS report documents. HDR will continue to participate in the public outreach activities and stakeholder coordination. This project is on-going and the FS is anticipated to be completed near the end of 2011.

USEPA Region 2 RAC, Peninsula Boulevard RI/FS, Nassau County, NY. Mr. Musso is serving as task leader for USEPA Region 2 RAC assignments, including the Governors Canal proposed Superfund site in Brooklyn and the Peninsula Boulevard Groundwater Plume Superfund Site in Nassau County, NY. Mr. Musso is involved in human health risk assessment, community involvement and review of field activities. For the Governors Canal site, Mr. Musso is involved with developing work plans and costs for various RI activities, including data gap analysis and sediment coring. For the Peninsula Boulevard site, Mr. Musso is reviewing alternate groundwater sampling approaches, such as multilevel wells and continuous multi-tunnel tubing (CMT) wells. Mr. Musso is involved with HHRA and EPA coordination on the RAC assignments.

Site 32 HHRA, Treasure Island, San Francisco, CA. Performed baseline human health risk assessments and exposure pathway analyses for this former U.S. Navy site in compliance with Navy, State (OEPA) and USEPA requirements (RAGS). The work was conducted on behalf of the U.S. Navy for an approximate 4.5 acre parcel ("Site 32") on Treasure Island (former Naval Base located in San Francisco, California). Mr. Musso evaluated exposure scenarios for adult and child residents along with commercial/industrial workers and construction workers for different environmental media. He characterized levels of cancer/non-cancer risks for all identified human receptors in current and future land use scenarios. Dermal, ingestion, and inhalation pathways were evaluated. Inhalation pathway assessments including the implementation of vapor intrusion and open trench volatilization models. Mr. Musso also conducted the overall uncertainty analysis for this HHRA. The TI Site 32 risk assessment work will be used in the ultimate remedy selection process for appropriate risk management at the site.

Town of Salina/NYSDEC, Salina Landfill Risk Assessment, Salina, NY. Mr. Musso performed the baseline human health risk assessment and exposure pathway analyses for this site in compliance with State and USEPA requirements. Tasks included the appropriate exposure/risk assessment scoping with NYSDEC and USEPA case managers at the initiation of the project to determine level-of-effort. Reviewed and statistically analyzed data from several environmental media, while comparing chemical concentrations to project-specific criteria and standards (e.g., soil and shallow sediment values were assessed against NYS RSCOs, EPA Region 3 SSLs/RBCs, and EPA Region 9 PRGs). Researched EPA IRIS and ATSDR toxicological profiles (carcinogenic and noncarcinogenic effects) for all contaminants of concern, identifying the appropriate RfD and CSF for each chemical of interest across different exposure routes (dermal/incidental ingestion vs. inhalation). Mr. Musso evaluated exposure scenarios for adult and children for different environmental media by developing exposure concentrations, frequencies, and durations. He also characterized levels of risks for receptors in current and future land use scenarios. Results of the risk assessment were incorporated into the feasibility study and ultimate remedy selection process for appropriate risk management.

Jennifer L. Curran

Project Role: Project Manager - Environmental Assessments

Education
M.S., Marine Environmental Science, 2001 / B.S., Environmental Science (Natural Resource Concentration), 1996

Experience
Ms. Curran specializes in leading multi-discipline teams conducting environmental assessments and environmental restoration projects. She has spent the majority of her career studying natural systems and processes and their relationship with human influences. She has over nine years' experience in the environmental science field, specifically in environmental assessment and monitoring programs, environmental regulatory compliance, dredged material management, public outreach, wetland delineation, biological surveys, essential fish habitats, technical report production and project management. The following are Ms. Curran's relevant project examples:

PANYNJ, Port Jersey Wind Energy Project Avian Studies. Ms. Curran is serving as the project manager for the assessment of potential impacts to birds and bats that may result from the *construction of eight to twelve 1.5 MW turbines on the Port Jersey peninsula in the city of* Bayonne, NJ. The PANYNJ is soliciting a wind energy developer to construct a wind project in the location of an active container terminal in Bayonne and Jersey City, NJ. The PANYNJ is initiating the permitting process for the project during the solicitation process. Consideration to the project's potential impacts to birds and bats is a requirement of the application process for a New Jersey Department of Environmental Protection (NJDEP) Waterfront Development Permit. HDR is assisting the PANYNJ to negotiate a pre-construction avian monitoring plan for the project with the NJDEP, and conducting wildlife surveys on the site to determine the sites usage by birds for migratory stopover habitat, breeding and foraging habitat, and overwintering habitat.

PANYNJ, Bayonne Bridge Environmental Screening and Alternatives Analysis. In preparation for the potential for post-Panamax vessels to call on the Port of New York & New Jersey, the PANYNJ is evaluating alternative scenarios that would allow these vessels to navigate through the Kill van Kull to reach the container terminals at Port Newark and Port Elizabeth in New Jersey and Howland Hook in New York. The Bayonne Bridge's current navigational clearance would restrict access to these ports by post-Panamax vessels. The environmental, navigational and socioeconomic constraints for each alternative is being evaluated and screened as a first step in the tiered National Environmental Policy Act process for the project. Ms. Curran's responsibilities include assisting with the development of the environmental screening criteria and identifying geospatial data sources to complete the evaluation. She is also responsible for completing the screening and summary report for the potential impacts to natural resources.

PANYNJ, Howland Hook Marine Terminal Eastbound Ramp Configurations Alternatives Analysis. Ms. Curran is assisting the PANYNJ to conduct an Alternatives Analysis for two alternate eastbound ramp configurations for access to the Howland Hook Marine Terminal from the Goethals Bridge. The PANYNJ plans to design and construct a new eastbound ramp from

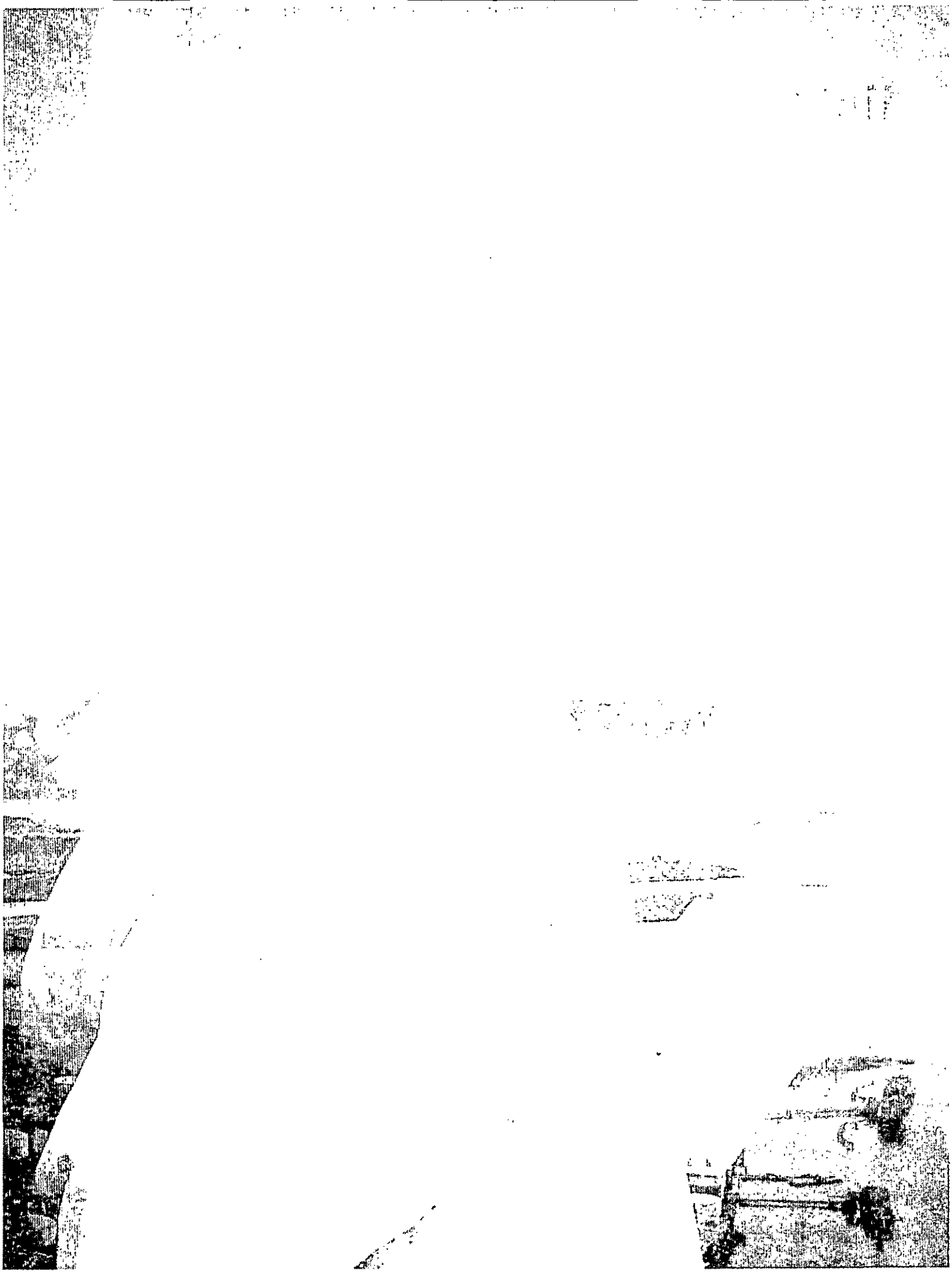
the Goethals Bridge to ease local traffic congestion resulting from trucks entering the New York Container Terminal. To assist with the selection of the preferred alternative, HDR conducted an environmental assessment to compare the alternatives in terms of regulatory, environmental, traffic and socioeconomic constraints, and conducted a cost-benefit analysis for each of the alternatives. HDR is also responsible for developing a permitting strategy to guide the PANYNJ through the permitting process for the project in an efficient manner.

Lafarge Ravena Modernization Program, Ravena, NY. Ms. Curran served as the task leader in the development of the Natural Resources and Surface Water Resources sections of the State Environmental Quality Review Environmental Impact Statement for the modernization of a cement plant in Ravena, NY. The plant improvements called for the installation of a 526-foot tower in Hudson River valley, an area that serves as a migratory corridor for birds. The NYSDEC expressed concerns about the potential for birds to collide with the tower during nocturnal migration, and requested additional information about the migratory movements over the project site. Because birds are at a higher risk of collision during nights with cloud cover because they fly at lower elevations below the clouds, HDR evaluated the weather data to quantify the average number of hours that the birds would be forced to fly below the cloud cover during the fall and spring migration seasons.

United Water New York, Hudson River Water Treatment Plant at Haverstraw Environmental Impact Statement. United Water New York (UWNY) is planning for the construction of a desalination plant on the Hudson River in Haverstraw, New York to provide up to 7.5 million gallons per day of potable water to the residents of Rockland County, New York. HDR assisted UWNY to plan for the project and to develop an Environmental Impact Statement pursuant to the New York State Environmental Quality Review Act. Ms. Curran was the task leader responsible for the technical studies and reporting that were included in the Environmental Impact Assessment. The project team consisted of jr. and sr. environmental scientists, aquatic ecologists, geologists, wildlife biologists, wetland scientists, traffic engineers, water resource engineers, noise and air quality specialists, water quality modelers, planners specializing in land use and environmental justice issues, and quality assurance reviewers.

PANYNJ, Goethals Bridge Replacement Program, Staten Island, NY - Elizabeth, NJ. Ms. Curran is leading the HDR team assisting the PANYNJ to complete the NEPA Environmental Impact Statement for the proposed replacement of the Goethals Bridge that connects northwestern Staten Island, New York to Elizabeth, NJ. Specific responsibilities include the characterization of existing conditions for the natural resources and surface water resources; assessment of impacts associated with the proposed demolition of the existing bridge and construction of a new bridge; ecological community mapping; conducting an essential fish habitat evaluation; assisting with the public outreach and scoping component; and completing the permitting requirements.

PANYNJ, Port Elizabeth Roadway Realignment, Port Elizabeth, NJ. Ms. Curran led the HDR team that assisted the PANYNJ to complete the New Jersey Department of Environmental Protection permitting requirements for the impacts to wetlands associated with the proposed realignment of McLester Street in Port Elizabeth, NJ. Specific responsibilities included wetland delineation, evaluation of wetland functions, ecological community mapping, development of an environmental report to include in an Individual Freshwater Wetlands and Stream Encroachment Permit application.



Guy Apicella, PE

Project Role: Modeling

Education
M.E., Environmental Engineering, Manhattan College, 1972 / B.E., Electrical Engineering, Manhattan College, 1970

Registrations/Certifications
Professional Engineer (NY, Puerto Rico)

Experience
Mr. Apicella is responsible for management of mathematical modeling primarily of surface waters, including the design of field sampling programs, data collection, development, and application of hydrodynamic, water quality, and sediment/ contaminant transport models. He has designed water quality sampling programs of surface waters and managed the collection and analysis of data to validate water quality models. He has applied these water quality models to wasteload allocations that have been used to set discharge permit limits in several states. Mr. Apicella is the author of the chapter on mathematical modeling in the Water Environment Federation's Manual of Practice on Prevention and Control of Sewer System Overflow (2nd Edition, 1999). He manages the modeling of combined sewer systems to evaluate CSO discharges and loadings, as well as the modeling of the receiving waters to evaluate impacts on water quality, particularly dissolved oxygen and bacteria. The following projects represent Mr. Apicella's experience:

PANYNJ, JFK Airport Deicing Effects on Water Quality of Jamaica Bay and Tributaries, NY. Mr. Apicella is leading a modeling study of the effects of glycol discharges from storm water outfalls during and after deicing at JFK Airport on the dissolved oxygen concentrations in Jamaica Bay, Bergen Basin and Thurston Basin.

PANYNJ, Preliminary Toxicity Identification Study, NJ. Mr. Apicella served as Project Manager for the preliminary toxicity identification evaluation of Elizabeth Industrial Park treatment plant.

PANYNJ, Goethals Bridge Replacement Study, NY. Mr. Apicella oversaw the preparation of the water quality section on existing conditions for the EIS which included toxic pollutants in sediment and water as well as conventional constituents. Directed the water quality impact assessment of replacing the Goethals Bridge as part of an EIS under NEPA regulations. Supervised the analysis of alternative bridge designs on the water quality of the Arthur Kill and Old Place Creek.

NYCDEP/USACE, Flushing Bay Ecological Restoration Plan, NY. Mr. Apicella managed the modeling of the hydrodynamics and water quality of Flushing Bay and Creek. HDR performed this work for NYCDEP as their local share in USACE's overall project. The model was applied to evaluate ecological restoration alternatives. Effects of the breakwater in the bay

on water and sediment quality were evaluated. Dredging and other ecosystem restoration plans were recommended to complement the water quality improvement in the creek resulting from the CSO storage facility being constructed by NYCDEP.

NYSDEC, Upper Hudson River Water Quality Model. NY. Mr. Apicella directed application of a steady-state dissolved oxygen model of the upper Hudson River. Model calibration, projections, and technology transfer of model to the NYS Department of Environmental Conservation.

NYSDEC, Hudson River PCB Project, NY. Mr. Apicella performed mathematical modeling of sediment and PCB transport in the Upper Hudson River using HEC-6.

NYCEDC, NYC Stormwater BMP Plan, New York, NY. Mr. Apicella managed a task order under a NYCEDC term contract to provide technical support to the Mayor's Office of Operations, Long Term Planning and Sustainability for the development of a sustainable stormwater management plan as part of PlaNYC. Services provided include conceptual BMP plans, hydrological analysis of BMP effectiveness in reducing stormwater and combined sewer overflow discharges, GIS analysis of BMP penetration and cost analysis.

United Water, Lake DeForest and Oradell Reservoir Studies, NY. Mr. Apicella performs Quality Control reviews of reservoir management modeling studies entailing proposed increases in diversions from Lake DeForest (NY) and associated effects on the safe yield of Oradell Reservoir (NJ).

Orange County (NY), Water Master Plan, NY. Mr. Apicella managed the task which documented the existing water supply capacities of and demands on the county's surface and groundwater systems. Issues affecting the future water supply such as population growth and climate change are being addressed to provide a basis for developing a county-wide water supply master plan.

NYCDEP, Kensico Action Plan Project, NY. Mr. Apicella performed for NYCDEP as a requirement of the EPA's Filtration Avoidance Determination (FAD), stormwater discharges and pollutant loadings from the Kensico watershed were assessed. GIS was used to delineate sub-basins and develop input data for WinSLAMM and SWMM. Models were calibrated and verified using flow measurements and water quality sampling data collected in streams within the Kensico watershed. Models were used to project annual loadings of TSS (turbidity) and fecal coliform bacteria, which are FAD constituents with numerical criteria. Sub-basins were evaluated and ranked based on pollutant loadings and impervious surface area. Four stormwater remedia-tions were recommended by also considering availability of city-owned land and environmental impact. These four designs are: bioengineered stream stabilization, extended detention basin, pipeline and treatment system and road drainage improvement. The Kensico Action Plan report documented the modeling, these stormwater practices as well as ancillary measures (water quality risk assessments and withdrawal channel sediment surveys).

Jacqueline Frizano Beck, PhD, PG

Project Role: Soil & Groundwater Investigations Support

Education
Ph.D., Earth & Environmental Science, 1999 / M.S., Geology, 1996 / B.S., Geology, 1993
B.A., Secondary Education, Earth Science & Mathematics, 1986

Registrations/Certifications
Professional Geologist (PA); OSHA HAZWOPER 40 Hour and 8 Hour Refresher

Experience
Dr. Beck has nine years of experience performing site and remedial investigations, surface and subsurface geological, hydrological, geochemical, geotechnical, geohazard, and contaminant investigations; feasibility studies; remedial design; system operation; designing and conducting vapor intrusion investigations, estuary enhancements, environmental impact statements and project management. The following are Ms. Beck's relevant project examples:

Bethlehem Commerce Center, Bethlehem, PA. Dr. Beck assists with the management of Bethlehem Steel/LVIP property Act 2 clean-up and redevelopment. Duties included preparing the Site-wide Groundwater Plan for closure, preparing Remedial Investigation/Final Report for site-wide groundwater closure, preparing a Technical Impracticability Evaluation for the US EPA for site-wide groundwater closure, writing numerous summary and final reports for soils, and conducting field work.

NYCDEP, The Beneficial Reuse of Dredged Material Pilot Project. Dr. Beck selected dredge sites based on the sedimentology of soil borings from test sites. Evaluated and selected agricultural soil tests and remediation procedures for the dredged materials. Performed field investigations, which included the collection of clams and sighting of clam beds in the waters near Fire Island, NY.

British Petroleum (BP), Remediation and Monitoring Projects, Philadelphia, PA. Dr. Beck managed all remediation and monitoring activities at numerous retail service stations in the Philadelphia, PA area for BP. Designed vapor intrusion investigations for numerous retail sites. Achieved Act II closure at numerous service stations and has assisted in achieving closure for several other service stations.

El Paso Corporation, Remediation and Monitoring Projects, NJ. Dr. Beck managed all remediation and monitoring activities at numerous retail service stations in the southern New Jersey for El Paso Corporation.

Vapor Intrusion Investigations: IBM, Mead, NY; Conoco-Phillips, Philadelphia, PA; US Postal Service, Newark, NJ; Motiva, Delaware City Refinery, DE; Amtrak, Philadelphia, PA. Dr. Beck designed, conducted, and managed vapor intrusion investigations. The projects included designing the field investigation, conducting sampling activities, and preparing work plans and summary report.

Edward V. Brandt

Project Role: UST Assessments & Closures Support

Education
B.A., Concentration: Environmental Law and Policy, Environmental Management, and Geology, 2005

Registrations/Certifications
OSHA HAZWOPER 40 hour and 8 hour refresher

Experience
Mr. Brandt is an Environmental Scientist/Geologist at HDR. He has performed multiple tasks including Phase I and Phase II Environmental Site Assessments (ESA), petroleum spill investigation, underground storage tank (UST) closure and removal oversight, vapor intrusion and soil gas assessments. He has worked extensively on projects in the Voluntary and Brownfield Cleanup Programs in New York. Mr. Brandt is knowledgeable of federal, state, and local environmental regulations and standards. His responsibilities as a Geologist include Client, and Contractor liaison, task management of sub-contractors, operation and maintenance of remediation systems, construction/remediation oversight, passive sub slab venting systems (PSSVS) installation oversight, and the preparation of Phase I ESA, Phase II Remedial Investigative Reports (RI). The following are Mr. Brandt's relevant project examples:

NYSOGS, Hudson River Psychiatric Center, UST Closure and Removal Oversight, Poughkeepsie, NY. Mr. Brandt was involved in the oversight of the tank closure and removal of three underground petroleum storage tanks. During this activity, screening of soils and tank removal activities were noted, and a soil sampling program was conducted.

Harris Corporation, UST and AST Removal, Various Locations, NY. Mr. Brandt provided oversight for the removal of historic UST and AST removals at mountain top radio tower sites, and collected soil samples to verify removal of potentially contaminated soils.

NYSOGS, Valley Stream State Police Barracks Groundwater Monitoring Well Sampling, Valley Stream, NY. Mr. Brandt was involved in quarterly monitoring well sampling events collect petroleum impact data of the surrounding groundwater form a former UST.

NYCEDC, Redevelopment of Multiple Sites across the Hunt's Point Food Distribution Center, Bronx, NY. As a staff geologist, Mr. Brandt was directly involved in the redevelopment Parcel C to accommodate a warehouse and distribution facility. Ed's responsibilities for the redevelopment of the parcel C included site construction observations, residual contaminated waste removal, and observation of the PSSVS installation.

Consolidated Edison of New York, Investigation of Former Manufactured Gas Plant, NY. As a staff geologist, Mr. Brandt has conducted several extensive subsurface (phase II) investigations at different parcels throughout the metro New York Area to delineate the extent of

Former Manufactured Gas Plant by products (coal tar, purifier waste, and to a lesser extent light oils). Mr. Brandt's responsibilities included Client and State Regulatory Agency interaction, subcontractor coordination, contractor oversight, multimedia (soil, air, and water) sampling in an effort to delineate impacts and the completion of Site Characterization Reports of the investigation findings.

Lehigh Valley Industrial Park, Bethlehem Commerce Center, Bethlehem, PA. Mr. Brandt assisted with the groundwater investigation of this Brownfield Cleanup Site in an effort to assess current groundwater conditions with respect to previous sampling events. During this effort, Mr. Brandt implemented the field activities according to the Site specific Work plan and followed the USEPA low-flow groundwater sampling procedures.

NYSOGS, Lincoln Correctional Facility Sub-Surface Investigation, New York, NY. Mr. Brandt was involved in a sub-slab investigation of a petroleum spill. The investigation was performed to determine if a spill impacted the groundwater beneath the building, and if further remediation would be needed to contain any potential contamination.

NYSOGS, Department of Transportation Region 8 Residency, Poughkeepsie, NY. Mr. Brandt was involved in monitoring well sampling events collect petroleum impact data of the surrounding groundwater form a former UST.

NYCEDC, New York City Terminal Produce Co-Operative Market, New York, NY. Mr. Brandt performed a sub-surface investigation to determine if MGP waste impact was present in soils above the water table within the property boundary of the 125 acre site.

NYCEDC, Cofire Industries, College Point, Queens, NY. Mr. Brandt performed a sub-surface investigation to determine if former RECs may have impacted the sub-surface soils and groundwater of the site in order to make recommendations for future development of the site.

NYCEDC, Flag Property, College Point, Queens, NY. Mr. Brandt performed a sub-surface investigation to determine if former RECs may have impacted the sub-surface soils and groundwater of the site in order to make recommendations for future development of the site.

Hudson River Valley Resorts, Rosendale, NY. Mr. Brandt was involved in a surface and Groundwater Level Monitoring program initialization.

Foot of Main, LLC, Nyack, NY. Mr. Brandt performed a sub-surface investigation to determine if former RECs may have impacted the sub-surface soils and groundwater of the site in order to make recommendations for future development of the site.

NYSDEC, Albertson Plume Investigation, Albertson, NY. Mr. Brandt performed a sub-surface investigation to determine potential point source location of PCE/TCE contamination of a nearby municipal drinking water supply using MIP and GeoProbe direct push technologies to collect soil and groundwater samples and data.

Vincent Carbone, PG

Project Role: Phase I Assessments Support

Education
M.S., Geological & Related Sciences / B.S., Geology, 1991

Registrations/Certifications
Professional Geologist (PA); NJ Subsurface Evaluator, Closure License No. 0017903; Associated State Board of Geologists (ASBOG) tested and certified; OSHA HAZWOPER Supervisor 40 hour and 8 hour refresher

Experience
Mr. Carbone is a member of HDR's internal Phase I Best Practices Team. As a member, Mr. Carbone is responsible to QC Phase I Environmental Site Assessments throughout HDR and to advise the company of new information related to Phase I, Phase II and Vapor Intrusion Site Assessments. Mr. Carbone has worked on numerous hazardous waste and petroleum spill site investigations and remediations throughout New York. His experience encompasses Phase I and Phase II assessments, remedial investigations, feasibility studies, interim remedial measures, site management, and operation/maintenance/monitoring. He has conducted work for such public clients as the NYSDEC, NYSDOT, DASNY, NYCDEP, PANYNJ, and USACE. Mr. Carbone has conducted site investigations (including exploratory drilling, test pits, and well installation) using various technologies, involving soil, sediment, air, and well and surface water sampling in locations in New York (including Long Island, New York City, and upstate New York), Pennsylvania and New Jersey. The following are Mr. Carbone's relevant project examples:

City of Allentown, Allentown State Hospital Site Redevelopment, Pennsylvania. Mr. Carbone was responsible for the project management and assessment of environmental conditions on a portion of the Allentown State Hospital Property. The work was being completed by the City of Allentown and Allentown Economic Development Corporation (AEDC) to complete a Phase I Environmental Site Assessment on 30 acres of Allentown State Hospital property. Mr. Carbone is assisting the City of Allentown in developing the property into a mixed use parcel. The intended use of the parcel by the city is for small commercial development and construction of an elderly care facility.

Iberdrola Renewables, Hardscrabble Wind Farm Project, NY. Mr. Carbone was responsible for completing three ASTM 1527-05 Phase I Environmental Site Assessments for a nine square mile wind farm project. The Phase I process includes completing interviews and questionnaires with 25 landowners. HDR completed site reconnaissance of the properties along proposed project infrastructure to identify areas of environmental concern. During the process HDR was able to identify a farm landfill and old tannery dump that required evaluation and ultimately modification of the utility and turbine locations.

VeraSun Energy LLC, Ethanol Plan Construction, Indiana. Mr. Carbon was responsible to complete a Phase I Environmental Site Assessment for several landowners for the construction and development of an ethanol manufacturing facility. Mr. Carbone performed an ASTM 1527-05 Environmental Site Assessment of several agricultural establishments. The Phase I ESA identified buried automobiles within one of the development parcels. Mr. Carbone proposed and

implements Phase II Environmental Assessment services to identify the location of buried automobiles and characterize the are for potential soil impacts.

Castle Oil, Bronx Petroleum Remediation, Various Locations. Mr. Carbone was Project Manager for several Castle Oil facilities located in Westchester, Queens, Kings, and Bronx Counties in New York. Mr. Carbone was responsible for obtaining no further action status from NYSDEC for a release that had occurred in the Queens facility. Mr. Carbone was responsible for the delineation of contamination at several facilities. To obtain a No Further Action status from NYSDEC, Mr. Carbone was responsible for the implementation of remedial measures at facilities and to act as a liaison between the client and NYSDEC. Mr. Carbone was responsible for all field, health and safety and remedial operations at the facilities. Mr. Carbone was responsible for O&M at several facilities that required remedial systems.

NYSDEC, Tuxedo Landfill. Mr. Carbone was project manager for the Operations and Maintenance (O&M) of Tuxedo Landfill. As part of this five year contract, Mr. Carbone was responsible for sampling leachate at site perimeter monitoring wells, assisting in the design and installation of both a passive and active vapor recovery system, and providing general operations and maintenance at the facility. Mr. Carbone successfully acted as a liaison between NYSDEC and surrounding property owners, installed perimeter soil gas points to monitor landfill gas emissions and to help design and install an active gas vapor system on the landfill.

Lehigh Valley Industrial Park, Bethlehem Commerce Center, Bethlehem, PA. Mr. Carbone is a project manager responsible for environmental investigations including design and implementation of soil and groundwater investigations at this site. He provided fate and transport and hazard evaluation on the site. Mr. Carbone is responsible for the preparation of cost estimates, data interpretation, and reporting to both Federal and state agencies.

NYSDEC, New Cassel Industrial Area. Mr. Carbone was a field manager responsible for the collection and analysis of groundwater samples for this site. Mr. Carbone was responsible for locating, collecting and sending for analysis, groundwater samples from the appropriate aquifers of concern. Mr. Carbone was then responsible for reviewing and summarizing the laboratory and field data. For this site he also conducted the groundwater and contaminant plume mapping. Mr. Carbone was responsible for the completion of GIS ArcCad maps of the site and, with the assistance of the GIS data, he was also responsible for locating source areas of contamination.

NYSDEC, Dzus Fasteners. Mr. Carbone was responsible for implementation of the workplan for the DZUS facility. Mr. Carbone was responsible for the collection of soil, probe and groundwater samples, data reduction, summarization and the reporting of results. Mr. Carbone was responsible for implementation of the health and safety plan and for management of the probe rig and soil sampling.

NYSDEC, United Plating. Mr. Carbone was responsible for implementation of the remedial investigation work plan for the United Plating facility. Mr. Carbone was responsible for the collection of soil, probe and groundwater samples, data reduction, summarization and the reporting of results. Mr. Carbone was responsible for implementation of the health and safety plan and for management of the probe rig and soil sampling.

James A. Cook, PE

Project Role: Remediation Design Support

Education
M.S., Civil Engineering, 1982 / B.S. Civil Engineering, 1979

Registrations/Certifications
Professional Engineer (PA); OSHA HAZWOPER Supervisor Training and 8 hour refresher August 2010; OSHA 10 hr. Construction Safety (pending – to be completed September 2010)

Experience
Mr. Cook is a senior project manager at HDR. Mr. Cook has over 25 years of environmental management, regulatory compliance, and consulting experience. He has been involved in CERCLA, RCRA, or state voluntary remediation programs in 14 states. Responsibilities include development of corporate in situ treatment protocols, remedy evaluation, and groundwater treatment system review, regulatory interface, contractor selection and contract administration, budget preparation and cash flow projection, community relations, and corporate strategy formulation.

Macungie Terminal, Macungie, PA. Mr. Cook serves as the project engineer for this project that involves the coordination of a multi-party investigation and remediation at a gasoline terminal in Macungie, Pennsylvania. HDR represents a former owner at a facility with a petroleum-product layer at the groundwater interface. The site is in a karst geologic setting adjacent to another terminal under a USEPA consent order. The contract value is $500K.

Bethlehem Commerce Center, Bethlehem, PA. As project engineer, Mr. Cook prepared a conceptual design for vapor barrier to be constructed underneath a warehouse that was built after the site was remediated. Mr. Cook also assisted in development of documents for demonstrating technical constraints on remediation of coal tar chemicals on the site. Engineering services $3.4M.

Multiple Gasoline Distribution Centers, Insurance Cost-Cap Review, IL. Mr. Cook was a member of an HDR team that served as a third-party environmental cost reviewer of a cost cap and Premises Pollution Liability insurance proposal for 15 gasoline service stations in Illinois. HDR reviewed the site closure cost estimate for each site and provided the proposed insurer with an evaluation of cost drivers.

Multiple Gasoline Distribution Centers, Insurance Cost-Cap Review, Various Locations. Mr. Cook was a member of an HDR team that served as a third- party environmental cost reviewer of a cost-cap insurance proposal for 64 gasoline service stations and 13 former bulk storage facilities in Iowa, North Dakota, South Dakota, Minnesota, and Wisconsin. HDR reviewed the site closure cost estimate for each site and provided the proposed insurer with an evaluation of cost drivers.

Pharmaceutical Company, Insurance Cost-Cap Review, GA. Mr. Cook was a member of an HDR team that served as a third-party environmental cost reviewer of a cost-cap insurance proposal for a former pharmaceutical manufacturing facility in Georgia. The proposed insured was required to provide complete environmental closure for the facility including remediation of chlorinated solvent-impacted groundwater. HDR reviewed the site closure cost estimate for the site and provided the proposed insurer with an evaluation of cost drivers.

Ace Environmental. Mr. Cook reviewed environmental insurance applications for Pollution Legal Liability, which includes third-party claims for bodily injury and property damage and Cleanup Cost-Cap policies, which covers discovery of unidentified pollution, additional amounts of pollution, or changes in regulatory requirements. The sites for which coverage was sought included former chemical sites, operating gasoline service stations, food wholesalers, and former hospital grounds.

Beazer East, Dantzler Lumber, Jacksonville, FL. In situ arsenic precipitation as a ferric arsenate, groundwater monitoring to determine attenuation at operating wood-treating facility. FDEP was the primary regulatory agency.

Beazer East, Dantzler Lumber, Pompano, FL. Mr. Cook proposed *in situ* arsenic stabilization for arsenic-impacted groundwater and an impacted railroad corridor. Remedial action work plan not accepted as of 2005.

Beazer East, Kaydon Ring and Seal, Baltimore, MD. Mr. Cook coordinated the removal of non-operating plating line and *in situ* hexavalent chromium reduction using calcium polysulfide in operating chromium-plating facility with chromium and chlorinated solvent impacts in soil and groundwater. MDE was the primary regulatory agency for this project.

Beazer East, Kopcoat Facility, Westfield, NJ. Mr. Cook proposed limited soils excavation, chemical oxidation of chlorinated compounds, and long-term groundwater monitoring prior to project termination. NJDEP was the lead primary regulatory agency involved with this project.

Beazer East, Kopcoat Facility, Pettit, NJ. Mr. Cook attempted air sparging, vapor extraction with carbon adsorption prior to project termination. NJDEP was the primary regulatory agency for this project.

Beazer East, Kopcoat Facility, Newark, NJ. Mr. Cook completed limited soils excavation, vapor extraction, and eight quarters of groundwater monitoring prior to achieving closure. NJDEP was the primary regulatory agency.

Hanson, Clarendon, NY. Mr. Cook employed the New York Beneficial Use Determination approach to use fly ash for quarry reclamation. Mr. Cook's team attempted to set up a regional operation, but Hanson management decided to pursue other ventures.

Ann Corsetti

Project Role: Compliance Audits Support

Education
M.E., Environmental Engineering, 1987 / B.E, Chemical Engineering, 1986

Registrations/Certifications
OSHA HAZWOPER 40 hour, Supervisor and 8 hour refresher; American Red Cross Standard First Aid and Adult CPR

Experience
Ms. Corsetti is a Project Manager at HDR. Her primary responsibilities include the management and administration of projects and budgets as well as the execution of engineering studies, interpretation of environmental regulations (CWA, CAA, RCRA, SARA) and the preparation of permit applications and reports for industrial, commercial and public utility clients. Projects include managing NPDES permit applications, major permit modifications, permit renewals and participating in permit negotiations; developing best management practices plans and stormwater pollution prevention plans. Additionally, Ms. Corsetti is responsible for the preparation of annual EPA EPCRA TRI reports, management of NYSDEC Title V air permit applications; preparation of NYSDEC Part 373 hazardous waste permit applications for TSDFs, and finalization of multimedia audits. The following are Ms. Corsetti's relevant project examples:

Private Industrial Client Environmental Compliance Programs, Poughkeepsie, NY. Ms. Corsetti is responsible for resource allocation and budgets for the oversight of site's compliance with NYSDEC State Facility Air permit, SPDES permit RCRA Part 373 TSDF permit and onshore major oil storage facility license. Ms. Corsetti is currently assessing the feasibility and cost impacts of optimizing the on-site industrial wastewater treatment operations. Past assignments have included preparing major SPDES permit modification applications; designing and implementing auditing procedures to ensure compliance with Federal, state, and local air regulations.

Private Client, Air Emissions Inventory, Poughkeepsie, NY. Ms. Corsetti designed and implemented auditing procedures to ensure compliance with Federal, state, and local air regulations at a large electronics manufacturer with over 100 permitted emission for comparison to NYSDEC Air Guide limits. Her background in chemical engineering and mathematical modeling is applied to process and impact analyses.

Private Client, RCRA TSDF Permit, Port Ewen, NY. As Project Manager, Ms. Corsetti was responsible for the preparation and review of RCRA TSDF permit application for facility's permitted storage and treatment operations. She developed and conducted RCRA self-auditing programs at such facility to ensure compliance with hazardous waste regulations.

Central Hudson Gas & Electric, SPDES Permit Renewal, Newburgh, NY. As Project Engineer, Ms. Corsetti was responsible for the preparation of State Pollutant Discharge Elimination System (SPDES) permit renewal applications for two Central Hudson Gas &

Electric power plants (Roseton and Danskammer). Tasks included gathering, organizing, and compiling statistical analyses from effluent monitoring data and determining additional sampling requirements.

Tesa Tape Inc., Stormwater Permitting, Various Locations. Ms. Corsetti developed strategies for filing both a group and an individual stormwater permit application for a permitted Resource Conservation and Recovery Act (RCRA) treatment, storage, and disposal facility (TSDF) and for three coating manufacturing facilities. For each permit application she coordinated and executed sampling during wet-weather conditions; gathered and organized the additional information required by each facility's applications, and evaluated the presence of nonstormwater discharges by conducting field investigations.

Private Client, Industrial Site Survey, Poughkeepsie, NY. Ms. Corsetti performed a comprehensive industrial site survey of pipe connections to sanitary and stormwater sewer systems at a large electronics manufacturer. The survey included identification of connections from boilers, cooling towers, process lines, sinks, and lavatories for approximately 30 buildings ranging in age from over 50 years to recent construction. Piping drawings were reviewed and pipeline dye studies were performed. As part of this project, Ms. Corsetti developed a set of protocols and a standard questionnaire to ensure accurate and complete documentation of information collected for each building.

Private Client, Groundwater Investigation, Kingston, NY. Ms. Corsetti served as Project Manager responsible for coordinating and executing a field investigation of solvent-contaminated groundwater at a manufacturing facility. The study entailed preparation of a sampling plan for the site's stormwater sewer system; organization of field personnel, sampling equipment, and the laboratory analyses; and verification of building connections to the stormwater sewer system based on as-built drawings, revised piping drawings, and field verification. Results of the field investigation were used to evaluate remedial measures.

Florida Power and Light Corporation, Evaluation of Wastewater Treatment Options, Miami, FL. As Project Engineer, Ms. Corsetti was responsible for gathering, organizing, and compiling statistical analyses from effluent monitoring data collected from six Florida Power and Light Corporation electric power plants. Based on the data, reviewed, evaluated, and recommended wastewater treatment options to meet Federal and state NPDES requirements.

Lafarge North America, Inc., Ravena Plant Modernization, Ravena, NY. Ms. Corsetti prepared the NYSDEC SPDES permit renewal application for current facility operations and is also assisting the facility in preparing a permit modification for a proposed modernization of Lafarge's cement manufacturing facility located in Ravena, NY. Project responsibilities include preparing a water supply and wastewater discharge engineering assessment and cost analysis. Ms. Corsetti also assisted with State Environmental Quality Review Act (SEQRA) EIS for the modernized plant.

Christopher Cotroneo

Project Role: Environmental Assessments Support

Education
B.A., Environmental Studies, 2008 / A.A., Liberal Arts, 2003

Experience
Mr. Cotroneo is an Environmental Scientist at HDR. He is an ecologist with particular interest in fish communities of freshwater ecosystems. He has conducted research on freshwater fish species-habitat associations in the Hudson River watershed. Chris has participated in environmental surveys associated with habitat restoration projects for PANYNJ, USACE-NYD, NYCDEP, NYSDEC, and private firms. He is currently pursuing a Master of Arts in Biology and Environmental Science at Queens College. The following are Mr. Controneo's relevant project examples:

PANYNJ, Howland Hook Marine Terminal Exit Ramp Alternatives Analysis, Staten Island, NY. Mr. Cotroneo assisted the PANYNJ to conduct an Alternatives Analysis for two alternate eastbound ramp configurations for access to the Howland Hook Marine Terminal from the Goethals Bridge. The PANYNJ plans to design and construct a new eastbound ramp from the Goethals Bridge to ease local traffic congestion resulting from trucks entering the New York Container Terminal. To assist with the selection of the preferred alternative, HDR evaluated the alternatives in terms of regulatory, environmental, traffic and socioeconomic constraints. HDR was also responsible for developing a permitting strategy to guide the PANYNJ through the permitting process for the project in an efficient manner.

PANYNJ, Port Jersey Wind Energy Project Avian Studies, NJ. Mr. Cotroneo conducted field surveys for the assessment of potential impacts to birds and bats that may result from the construction of eight to twelve 1.5 MW turbines on the Port Jersey peninsula in the city of Bayonne, NJ. The PANYNJ is soliciting a wind energy developer to construct a wind project in the location of an active container terminal in Bayonne and Jersey City, NJ. To maintain the schedule requirements to be considered for ARRA funds, the PANYNJ is initiating the permitting process for the project during the solicitation process. Consideration to the project's potential impacts to birds and bats is a requirement of the application process for a New Jersey Department of Environmental Protection (NJDEP) Waterfront Development Permit. HDR is assisting the PANYNJ to negotiate a pre-construction avian monitoring plan for the project with the NJDEP, and conducting wildlife surveys on the site to determine the sites usage by birds for migratory stopover habitat, breeding and foraging habitat, and overwintering habitat. Many threatened and/or endangered species (TES) are known to use the habitats along the shoreline of the peninsula, and eleven TES species have been observed by HDR on the site.

PANYNJ, Stewart Airport Wetland Delineation, Newburgh, NY. Mr. Cotroneo assisted in performing wetland delineations at several sites on secure international airport property.

Jamaica Bay Watershed Protection Plan (PlaNYC). Mr. Cotroneo developed methods for ribbed mussel habitat creation in a Jamaica Bay tributary, and authored the work plan and joint permit applications for the ribbed mussel biofiltration pilot study.

Brookfield Financial Properties. Mr. Cotroneo co-authored the Design and Construction Technology Reviews for Brookfield's One New York Plaza and World Financial Center cooling water intake structures, for submittal to the NYSDEC under 316(b).

Kensico Action Plan. Mr. Cotroneo performed field surveys for invasive plant species, rare plant species, winter tree survey, and assisted with a stream restoration existing conditions study. He co-authored the Kensico Action Plan Invasive Species Removal Management Manual for submittal to NYCDEP, which included GIS analysis.

Brookfield Properties, LLC, One New York Plaza, New York, NY. Mr. Cotroneo authored the Impingement Moratlity Entrainment Characterization Study (IMECS) Report/SPDES Permit Application on behalf of Brookfield Properties, LLC, for submittal to the NYSDEC.

Hopewell Crossing Community Development. Mr. Cotroneo assisted in characterizing ecological communities and verified wetland delineations on a 132 acre parcel, and authored the Final Report to the client.

NYCDEP - Kensico Action Plan Permit Applications. Mr. Cotroneo researched available stream restoration methods for several tributaries to NYCDEP's Kensico Reservoir. He assisted in writing the final permit applications for submittal to the towns of Valhalla and Mount Pleasant, USACE and NYCDEP.

Alley Creek Erosion Monitoring Report. Mr. Cotroneo co-wrote the final erosion monitoring report for a tidal creek/salt marsh restoration and CSO improvement project in Queens, NY.

Battery Park Commercial Center SPDES Permit Application. Mr. Cotroneo assisted in preparing a response to a Request for Information (RFI) in support of a SPDES permit renewal for the Battery Park Commercial Center in lower Manhattan, NY. He co-wrote and reviewed an existing conditions chapter for the final response to NYSDEC.

AES Powerplant Entrainment/Impingement Reports. Mr. Cotroneo assisted in analyzing entrainment and impingement data to support the development of 316(b) reports for several steam electric generating stations in the Finger Lakes region of NY.

New York City Department of Parks and Recreation, Monitoring of Shellfish Restoration Sites, Bronx, NY. Mr. Cotroneo has assisted the Senior Technical Advisor on the review/development of monitoring protocols and finfish characterization studies performed in support of NRG's two created oyster reef s located in the lower Bronx River, NY.

USACE New York District, Hudson–Raritan Estuary Ecosystem Restoration Study. Mr. Cotroneo served as a research coordinator on several project elements, including the assessment of various restoration methods included in the HRE Comprehensive Restoration Implementation Plan.

John Duschang

Project Role: Environmental Assessments Support

Education
B.S., Fisheries Biology, 1991

Experience
Mr. Duschang is a Senior Project Manager and Section Leader at HDR. Mr. Duschang possesses direct knowledge of Federal, state and local environmental programs, laws and regulations in the New York and New Jersey Metropolitan area, and is familiar with the requirements for environmental scoping and public outreach efforts for both State Environmental Quality Review Assessments (SEQRA) and National Environmental Policy Act (NEPA) Environmental Impact Statements (EIS). He has coordinated, implemented, and participated in public hearings and meetings with local Community Board, civil and environmental advocacy groups involving highly-charged environmental issues associated with Federally-sponsored navigation and transportation improvement projects. Mr. Duschang has managed and assisted in the preparation of complex National Environmental Policy Act (NEPA) documents by multidisciplinary teams for U.S. Army Corps of Engineers (USACE), U.S. Coast Guard (USCG) and Federal Highway Administration (FHWA) transportation and infrastructure projects, and successfully prepared environmental documents, consistency statements and permit applications for U.S. Army Corps of Engineers Section 10 (River and Harbors Act) and Section 404 (Clean Water Act) permits.

***U.S. Coast Guard/PANYNJ, Staten Island Bridges Program, Modernization and Capacity* Enhancement Project, NY.** Mr. Duschang was responsible for the assessment of environmental impacts of the proposed expansion of the Staten Island Bridges Program. The project was located in the northwest corner of Staten Island, New York, and involved construction of an alternative crossing of the Arthur Kill between Staten Island and Elizabeth, New Jersey. The project required a NEPA EIS and coordination with state and Federal agencies for water quality certifications (New York State 401 Water Quality Certificate) and freshwater/tidal wetland permits. Mr. Duschang worked with NYSDEC Bureau of Marine Habitat Protection and the National Marine Fisheries Service (NMFS) Habitat and Protected Resources Division in developing seasonal sampling plans for aquatic, avian, and terrestrial resources specific to the project area. Sampling plans were designed to identify potential impacts to threatened and endangered species as well as species dependent on significant coastal habitats in the adjacent areas.

PANYNJ, John F. Kennedy Airport State Pollutant Discharge Elimination System (SPDES) Water Quality Modeling, Queens, NY. In response to Special Condition 1 of the October 1, 2007 New York State Department of Environmental Conservation (NYSDEC) SPDES permit, HDR is assisting the PANYNJ with a Water Quality Monitoring and Modeling study to determine the impacts of stormwater discharge during the deicing season on the dissolved oxygen levels of the receiving waters adjacent to JFK. Mr. Duschang is HDR's project manager assisting the PANYNJ with the development of the Water Quality Modeling and Sampling Plan including discussions with the NYSDEC.

PANYNJ, World Trade Center (WTC) Cooling System Alternatives Evaluation and SPDES Permit Renewal, New York, NY. HDR conducted extensive water quality and hydrodynamic modeling and biological sampling studies in the lower Hudson River in conjunction with cooling system alternative designs and SPDES permit renewal for redevelopment of the World Trade

Center (WTC). Mr. Duschang served as HDR's project manager and coordinated hydrodynamic modeling studies to assess current velocities and direction as related to cooling water discharges and fisheries and water quality surveys to characterize aquatic resources and potential impacts associated with cooling water withdrawals. Mr. Duschang assisted PANYNJ in responding to NYSDEC's request for additional studies and negotiating final SPDES permit conditions.

PANYNJ, John F. Kennedy Airport (JFK) SPDES Permit Renewal and Request for Information, Queens, NY. Mr. Duschang was HDR's project manager assisting PANYNJ in responding to NYSDEC's request for Information (RFI) regarding stormwater monitoring and deicing applications at JFK. The RFI was related to renewal of the JFK SPDES permit covering 23 stormwater outfalls. Mr. Duschang was responsible for developing a stormwater sampling plan and assisting PANYNJ in confirming acceptable sampling and analytical methods. HDR also assisted PANYNJ in responding to draft SPDES permit conditions and preparing for permit negotiations with NYSDEC on monitoring and water quality modeling requirements.

PANYNJ, Howland Hook Marine Terminal, Wharf Extension, Staten Island, NJ. Mr. Duschang assisted the Port Authority of New York/New Jersey Howland Hook Marine Terminal and in preparing an assessment of potential effects of activities related to the extension of the Howland Hook Marine Terminal Wharf on essential fish habitat (EFH). The EFH assessment was prepared in compliance with Section 305(b)(2) of the Mansuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), and included an analysis of the direct, indirect and cumulative effects of in-water construction, including dredging and blasting, on species and lifestages for which EFH was designated near the project area. The EFH assessment addressed sublittoral (depth >6ft MLW), littoral (depth <6ft MLW) and tidal wetland areas involved in dredging and filling activities.

PANYNJ, Battery Park City Ferry Terminal Expansion, New York, NY. Mr. Duschang was HDR's project manager for the Battery Park City Ferry Terminal Expansion. He was responsible for preparing environmental reports to support successful federal and state permit applications related to the terminal expansion and respond to issues raised by the local Community Board regarding impacts to air quality, noise, pedestrian traffic congestion/safety and recreational boating. HDR coordinated on-site monitoring and forecasting of noise levels under existing and proposed terminal operations, as well as, air emission testing and air quality modeling of existing and proposed vessels calling at the terminal. Using data from previous biological sampling and on-site data from a supplemental sampling program, HDR assessed the short- and long-term impacts of the ferry terminal expansion on aquatic resources in the project area, including potential impacts to essential fish habitat (EFH).

USACE, New York District, New York and New Jersey Harbor Navigation Study and EIS. Mr. Duschang assisted with a comprehensive evaluation study of navigation improvements to the New York and New Jersey Harbor; including an evaluation of deepening existing Federal and non-federal navigation channels, berthing areas, and anchorages to meet current and future navigation needs. To assess potential impacts to essential fish habitat (EFH), the team developed a three-dimensional hydrodynamic and water quality model (MIKE3) of the Harbor complex to assess deepening impacts on currents, water levels, salinity, temperature, and other parameters. Existing conditions and five project alternatives were modeled under two flow conditions. Mr. Duschang examined various alternative channel depths up to 55 ft in order to identify thresholds in circulation and water quality parameters that would indicate the onset of significant environmental change in ecological/biological resources. Analysis results were used as input to the EIS.

Scott Englert

Project Role: Soil & Groundwater Investigations Support / Soil, Groundwater, Surface Water Sampling Plans

Education
M.A., Hydrogeology, 1997 / B.A., Geology, 1993

Registrations/Certifications
OSHA HAZWOPER 40 Hour, Supervisor and 8 Hour Refresher

Experience
Mr. Englert is a hydrogeologist with HDR and has worked on numerous subsurface investigations and remedial activities. Mr. Englert has been involved in a number of drilling and subsurface investigation assignments as site geologist on a standby contract with New York State Department of Environmental Conservation (NYSDEC). In addition to the NYSDEC assignment, Mr. Englert has served as project geologist for a number of NYSOGS term contract and NYSDOT projects involving subsurface investigations of petroleum spills, groundwater and soil sampling associated with the spills, and evaluation and implementation of remedial measures. The following are Mr. Englert's relevant project examples:

NYSDOT, Stewart International Airport, Southern Landfill Investigation, Newburgh, NY. Mr. Englert conducted site investigation of landfill along the airport perimeter. Tasks included drilling program oversight for test borings and monitoring well installation as well as soil and groundwater sample collection and screening. He also coordinated test pit excavation and performed soil inspection/logging to characterize a portion of the landfill as well as performed in-situ hydrogeologic tests and interpreted data for several monitoring wells in the landfill area.

NYSDOT, Stewart International Airport, Tank Farm Closure, Newburgh, NY. Mr. Englert assisted in conducting a site investigation of a petroleum spill at a decommissioned jet fuel tank farm and an associated tanker truck-loading area. Tasks included drilling program oversight for test borings and monitoring well installation as well as soil and groundwater sample collection and screening. He also provided oversight for dismantling and closure of the tank and associated piping. In addition, Mr. Englert coordinated test pit excavation and performed soil inspection/logging during removal of fuel farm piping as well as providing oversight during remedial excavation activities.

NYSDEC, Standby Engineering Contract (D006129), Albertson Area Plume, Albertson, NY. Mr. Englert is project manager for the Albertson Area Plume track down site characterization which is being conducted on several properties south of the Albertson Water District supply well field. Professional services consist of work plan and health and safety plan development, providing bid assistance, and acting as technical advisor for field crews conducting various phases of the site characterization, including a geophysical survey, membrane interface probing, soil and groundwater probe sampling, and soil gas sampling. During and after completion of the site characterization field activities, Mr. Englert will conduct analytical quality assurance and quality control activities. He will assist with preparation of a site characterization report detailing the findings of the various sampling programs.

NYSDEC, Standby Engineering Contract (D006129), Former Artco Industrial Laundries, Rochester, NY. Mr. Englert is the project hydrogeologist assigned to this phased off-site RI in the vicinity of this former industrial laundry. Professional services include acting as a project hydrogeologist for a detailed off-site characterization program that consisted of a soil vapor intrusion investigation and pressure field extension testing on an existing depressurization system at surrounding properties, a large-scale overburden and bedrock well drilling program, which included the installation of a network of wells with multi-level screens, and a comprehensive groundwater sampling program. He also provides analytical quality assurance and quality control for sampling data. Mr. Englert assisted in development of the work plan and health and safety plan for the off-site RI and prepared a draft off-site RI report which was submitted to NYSDEC in December 2009.

NYSDEC, Standby Engineering Contract (D006129), Pappas Dry Cleaners, Dansville, NY. Mr. Englert is the project hydrogeologist for a soil boring and sampling program for a pre-design investigation (PDI) as part of a detailed design of comprehensive remedial actions for the former dry cleaner site. Professional services consisted of field coordination for the PDI, including acting as site contact for the lead-based paint and asbestos survey subcontractor and developing the health and safety plan for site activities. Mr. Englert also served as field geologist during the direct push probe sampling phase of the PDI, which was conducted to further delineate the extent of impacted soil and collect pre-excavation confirmatory samples, as well as providing analytical quality assurance and quality control support for data collected during the PDI.

NYSDEC, Standby Engineering Contract (D006129), New Cassel Industrial Area (NCIA), New Cassel, NY. Mr. Englert is a project hydrogeologist assigned to the remedial design project for a pump and treat system to address an off-site groundwater CVOC plume associated with NCIA. Project responsibilities include assisting in work plan and health and safety plan development for the PDI as part of a detailed design of comprehensive remedial actions for the project and preliminary site activities, Mr. Englert acted as technical advisor for field crews assigned to installing a pre-design groundwater level monitoring network at existing wells and assisted in field verification of proposed drilling locations. He provided analytical quality assurance and quality control for data collected during the PDI.

NYSOGS, Rome Maintenance Facility, Rome, NY. Mr. Englert assisted with subsurface investigation, including soil and groundwater sampling, at this petroleum spill site under a Term Contract with NYSOGS. He also supervised in-situ hydrogeologic testing to determine aquifer parameters at the site.

NYSOGS, Former Ogdensburg Barracks. Mr. Englert supervised subsurface characterization and conducted soil and water sampling under a NYSOGS Term Contract related to a petroleum spill at this site. Upon completion of the characterization phase Mr. Englert assisted in evaluating remedial alternatives for further action at the site.

NYSOGS, Catskill Barracks. Mr. Englert continued a subsurface investigation associated with a petroleum spill at this NYSOGS Term Contract site. Specific tasks included monitoring well installation and abandonment along with groundwater sampling from monitoring and supply wells on the site.

Kellyann Few, REM, REP

Project Role: *Compliance Audits Support*

Education
M.S., Civil Engineering/Environmental Management, 2001 / B.E, Engineering Science, 1990

Registrations/Certifications
Registered Environmental Manager; Registered Environmental Property Assessor;
OSHA HAZWOPER 8 hour refresher; Phase I and II ESAs for Commercial Real Estate;
EPAS Training

Experience
Ms. Few has more than 18 years of experience as a Regulatory Specialist and Environmental Engineer; and a regulatory specialist and program manager with knowledge in hazardous material/waste management, water quality, pollution prevention, environmental management system (EMS), and sustainability program development. Prior to joining HDR, Ms. Few was the HQ Army Reserve Command's Environmental Compliance Program Manager and also worked for the USEPA. Ms. Few has served as an EPAS program manager for the Army Reserve; field (water quality) sampling team member supporting Army clients; an Environmental Protection Agency Hazardous Waste Enforcement Officer; Program and Training developer for Hazardous Substance/Material/Waste Lifecycle management and Pollution Prevention; Community Outreach representative addressing air quality concerns related to Superfund site; Budgeting/Planning/Programming/Policy developer for Hazardous Material/Waste, Assessment and Performance; and EMS and overall Sustainability across organizational lines. The following are Ms. Few's relevant project examples:

USACE, KC District, EPAS Assessment for the 81st Regional Sustainment Command (RSC) of the U.S. Army Reserve. Ms. Few serves as the Army Reserve Command Program Manager and Regulator Specialist responsible for development of various EPAS process improvement initiatives. She presented critical program needs in the design of Army-wide environmental funding model; designed, developed, and fielded Hazardous Waste e-plan to address EPAS findings and EMS conformance; and fielded a new HW tracking management system for all hazardous waste-generating activities throughout the Army Reserve. Each of these efforts increased efficiency, enhanced communications, and reduced regulatory liability.

AFCEE, Environmental Impact Statement (EIS) & Spill Prevention Control & Countermeasure (SPCC) Plan Update, Ft. Mead, MD. Regulatory Specialist and Task Manager for the various elements of the EIS and analyses, Ms. Few developed turnkey evaluations of a critical confidential government action. She also led development of the SPCC Plan update, which met all applicable CWA and state requirements. The SPCC Plan was commended by the clients for its practical usability and quality in achieving the time-critical compliance need.

HQ Army Reserve Command, QA/QC Review for Clean Up Action Plans, Various Sites. Regulatory Specialist and Senior QA/QC Reviewer. Ms. Few conducted analysis and final approval for all compliance cleanups, installation restoration, and MMRP entered into Army Environmental Database. She had close coordination with higher HQ and field managers and supported approval of the related planning, funding, and closure requirements.

NEPA/CERCLA Technical Support. Ms. Few was responsible for conducing analysis and final approval for all compliance cleanups, installation restoration, and military munitions response projects entered into Army Environmental Database. Close coordination with higher HQ and field managers supported approval of the related planning, funding, and closure requirements.

Stormwater Assessment and Guidance Studies. Ms. Few, as program manager, established initiatives to review existing storm water permits, assess actual requirements, and determined where No Exposure Exemptions and Notice of Terminations were applicable to Army Reserve facilities. Recommendations resulted in multi-year cost savings and reduced liability.

Thomas W. Fowler, PG, CPG

Project Role: Remediation Design Support

Education
B.S.E., Geological Engineering, 1972

Registrations/Certifications
Professional Geologist (DE, IL, MO, PA); CPG; NJ UST Subsurface; OSHA HAZWOPER 40 hour, Supervisor and 8 hour refresher

Experience
Mr. Fowler has over 25 years of technical and management experience in hydrogeology, geology and geophysics related to investigation and remediation of hazardous waste sites. Primary responsibilities have included field implementation leadership, project planning, site reconnaissance, soil, geologic/hydrogeologic investigations in glacial, coastal plain and bedrock aquifers, evaluation and design of remedial alternatives for soil, groundwater and non-aqueous phase liquids (LNAPLs). He has evaluated project work with state/Federal environmental regulations and management of remedial investigations. The following are Mr. Fowler's relevant project examples:

USEPA Region 2 Remedial Action Contract, Metaltec/Aerosystems Superfund Site, Sussex, NJ. Mr. Fowler was project manager leading implementation and technical evaluation at Metaltec which included a complex remedial design drilling program through glacially-filled karstic dolomite, sandstone/siltstone, granitic gneiss, requiring dual-rotary (casing and air hammer) drilling. Waste solvents were tracked through complex pathways using NQ coring, downhole geophysics, packer testing sampling. Aquifer testing incorporated multi-channel and single-port datalogging with manual confirmation was used to incorporate bioremediation considerations in the design. Sensitive leadership was required to negotiate local issues (horse pasture, flowing wells).

NYSDEC, Standby State Superfund Contract (D006129), New Cassel Industrial Area (NCIA), New Cassel, NY. Mr. Fowler is a senior hydrogeologist who reviewed completed water level monitoring program conducted as part of the Pre-design Investigation (PDI) for the groundwater pump and treat system associated with OU3. The purpose of the water level monitoring program is to determine the influence of the nearby Bowling Green supply wells on groundwater flow patterns in the area. Mr. Fowler also coordinated other PDI tasks, including the drilling program and aquifer testing. The project duration for the NCIA remedial design program is anticipated to span September 2009 through March 2011.

USEPA Region 2 Remedial Action Contract. As lead hydrogeologist/field operations manager at numerous Superfund sites (e.g., Fried Industries, Chemical Insecticide, Cornell-Dubilier, Peninsula Boulevard, Little Valley, GCL & Mattiace sites) involving remedial investigations in glacial, coastal plain and bedrock aquifers, as well as surface water and sediment. At Peninsula,

the solvent plume in the glacial aquifer was screened using membrane interface probe (MIP) sampling deployed with direct-push technology.

United States Navy, Stockton Sandstone Aquifer, Warminster, PA. For the US Navy, Mr. Fowler led the installation, testing, implementation of about 20 solvent capture wells in the Stockton sandstone aquifer at Warminster PA.

USACE, Kansas City District/USEPA Region 2 IDQ, Various Locations. For this Engineering Services Contract with the US Army Corps of Engineers – Kansas City District Hazardous, Toxic and Radioactive Waste (HTRW) Program in EPA Region 2, Mr. Fowler led groundwater, soil and sediment investigations in Vineland, NJ; Stratford, CT; and New Bedford, MA.

PSE&G, MGP Remedial Program, Various Locations, NJ. Mr. Fowler led remedial actions for PSE&G in New Jersey, which involved tracking manufactured gas-plant contaminants in the Brunswick siltstone aquifer. Geophysics, packer testing & multi-port FLUTe liners were deployed.

Water Supply Development. Mr. Fowler led the development of an 800-gpm water supply from a mine pool underlying a cogeneration plant in Mt. Carmel, PA, identified and tested a 50-gpm water supply from a siltstone aquifer for a cogeneration plant in Catskill, NY, and developed a 200-gpm water supply for Metro North in Croton, NY from a tidally-influenced glacial-outwash aquifer. Other projects include water supply development for Suffolk County Water Authority, Jamaica Water Company, United Water (Spring Valley-Hackensack area), and Fair Lawn Boro, NJ.

International. International projects include set-up of background water sampling from the Nile River for Egyptian Electric power-plant construction, oversight of Phase II investigation at manufacturing plant prior to purchase for boiler manufacturing in Sosnowiec Poland, and in 2008 intensive stream sediment and surface water sampling from 4 miles of tributary near Zagreb Croatia. Groundwater issues were also investigated.

James Gibson

Project Role: Compliance Audits Support

Education
MS, Environmental Science; MPA, Regulatory Affairs; BS, Biology

Registrations/Certifications
OSHA HAZWOPER 40 Hour Training, Supervisor and 8 Hour Refresher

Experience
Mr. Gibson is a senior regulatory specialist with 18 years of experience with licensing, permitting, and regulatory activities. Through his environmental compliance experience, Mr. Gibson has assisted numerous clients with establishing and maintaining environmental compliance programs consistent with applicable Federal, State, Local, and FERC regulations and license articles. In particular, Mr. Gibson has developed and overseen storm water management, hazardous waste management, hazardous materials management, wetland and cultural resource management, and spill response programs for multiple clients. Mr. Gibsons permitting experience includes obtaining and amending Section 404 and State Wetland Permits, Section 401 Water Quality Certificates, State and Federal erosion control permits, storage tank management permits, waste water discharge permits, hazardous waste generator permits, and air emission permits. The following are Mr. Gibson's relevant project examples:

NYCDEP, Environmental Compliance Training, Queens, NY. Project Manager for developing and providing environmental compliance training for NYCDEP's Environmental Health and Safety (EHS) audit group. In this role, Mr. Gibson developed training modules addressing the regulatory requirements associated with hazardous waste management, petroleum management, and waste water and storm water management. In addition, Mr. Gibson provided day-long training on these topics.

General Environmental and Public Safety Services, Brookfield Renewable Power, NY. Project Manager for general environmental and public safety services. In this role, Mr. Gibson has overseen the preparation of a variety of compliance plans and the performance of a number of assessments. In addition, Mr. Gibson has provided training in a number of areas, including public safety, hazardous waste management, environmental management systems, and petroleum management activities.

Airport Improvements Project, Manchester Airport, Manchester, NH. Mr. Gibson served as Environmental Project Manager for more than $300 million of airport improvement projects, including various roadway realignments, runway extensions, wetland mitigation, and site development activities. Mr. Gibson developed project-specific environmental management procedures and guidelines for determining compliance of design and construction activities. Mr. Gibson oversaw all environmental compliance activities, including construction monitoring, water quality sampling, National Pollution Discharge Elimination System compliance, natural resource management activities, and the characterization and remediation of multiple hazardous materials sites associated with the project. Mr. Gibson oversaw the review of plans,

specifications, and bid documents; coordinated with construction, design, and agency personnel; and monitored the project for compliance with all applicable regulations and permit conditions. Throughout the course of the project, Mr. Gibson worked closely with Federal, State, and local agency personnel.

Corrective Action Plan Program, Department of Defense, Langley Air Force Base, VA. Mr. Gibson was a Staff Scientist on a team that evaluated solid and hazardous waste management units under the Resource Conservation and Recovery Acts Corrective Action Program at 13 Air Force Bases. Mr. Gibson was responsible for developing remedial action plans and budgets for multiple petroleum-contaminated sites. Mr. Gibson addressed groundwater and soil contamination associated with the sites, and helped develop cost efficient strategies for remediating each site.

Environmental Compliance Audit and Underground Storage Tank Upgrade, Cargex Properties, Manchester, NH. Mr. Gibson served as Project Manager for the multimedia environmental compliance audit of a Cargex Properties facility in Manchester, NH. The facility was evaluated with regard to the applicable State and Federal environmental regulations. Following completion of the audit process, Mr. Gibson oversaw the upgrade of the facilitys underground storage tank system, including the installation of a new leak detection system. Upon completion of the project, the facilitys underground storage tank system was in compliance with the applicable State and Federal regulations.

Environmental Compliance Audit, Massachusetts Military Reservation, Sandwich, MA. Mr. Gibson performed a multimedia environmental compliance audit of a military installation located at the Massachusetts Military Reservation. Evaluated the facility with regard to all applicable Federal and Massachusetts environmental regulations. In particular, Mr. Gibson audited the facility for activities associated with air emissions management, storage tank management, hazardous waste management, hazardous materials management, and natural and cultural resources.

Environmental Compliance Auditing Program, Air Education and Training Command, Randolph Air Force Base, TX. Mr. Gibson served as an Environmental Auditor for the Air Education and Training Commands Environmental Compliance Auditing Program. As an environmental auditor, Mr. Gibson performed environmental audits at 13 Air Force Bases throughout the country. During these audits, Mr. Gibson was responsible for evaluating each installation for compliance with the applicable Federal and State regulations associated with hazardous waste and materials management, storage tank management, and natural and cultural resources management. In addition, Mr. Gibson was responsible for preparing environmental audit reports, corrective action plans, and follow-up audit protocols.

John Guzewich

Project Role: Soil, Groundwater, Surface Water Sampling Plans

Education
B.S., Forest and Environmental Biology, 1980

Registrations/Certifications
OSHA HAZWOPER 40 hour, Supervisor and 8 hour refresher; Permit-Required Confined Space Entry and Rescue Training 29CFR1910.146; American Red Cross Workplace Training First Aid, and Adult CPR

Experience
Mr. Guzewich has over 19 years of experience on hazardous waste soils and groundwater sampling, investigations and remediation. In his capacity as project manager, Mr. Guzewich is responsible for budgeting projects, supervising subcontractors and in-house staff, client interaction, and technical oversight. Mr. Guzewich has worked on a large number of projects involving remedial investigation, PCB contamination projects, and volatile and other organic contamination projects. Mr. Guzewich is responsible for writing and overseeing the implementation of field operations health and safety plans (HASPs) and initiating field investigation activities for hazardous waste work sites. In this capacity he prepares and reviews field sampling plans (FSPs) and schedules and coordinates on-site efforts with HDR management and field staff, regulatory agencies, and subcontractors. He is also responsible for managing and supervising field sampling programs conducted by HDR. The following are Mr. Guzewich's relevant project examples:

PANYNJ, Ecological Studies On-Call Agreement for Services in Support of Due Diligence for the Potential Acquisition of Stewart International Airport. Mr. Guzewich prepared and presented an overview to PANYNJ outlining the results of the historical and current environmental investigations conducted at the airport. Mr. Guzewich obtained and reviewed information from a data retrieval service to document the presence of registered ASTs and USTs, spills, landfills, RCRA small and large quality generators and other potentially hazardous or petroleum related activities in the area of the airport. Mr. Guzewich reviewed and summarized the available asbestos surveys and asbestos abatement projects conducted at the airport and additional available environmental documents on the airport's website setup for prospective buyers of the lease.

NYSDOT, Stewart International Airport Standby Term Contract, Newburgh, NY. Mr. Guzewich is currently managing environmental investigations at Stewart International Airport for NYSDOT. This project has included collection of groundwater, soil, sediment and surface water samples to assess potential impacts of historical operations, including potential UXO/OE materials, at the airport when it was a military base. He is currently managing and conducting investigations to assess and evaluate the potential environmental impact of historical operations at the airport in the area of the Southern Landfill Complex (SLC), a portion of which was used for disposal by the military, and the former Demolition & Burning Facility (DBF) where ammunitions were possibly detonated and/or burned for disposal and solvents and/or fuels were used for fire-fighting training. In addition, Mr. Guzewich is managing a groundwater and soils investigation and assessment in the area of a former aviation fuel farm. He managed the environmental oversight and documentation of the removal of the former AST facility and remediation and removal of

petroleum-contaminated soils from a large portion of the fuel farm. He negotiated a no further action letter from NYSDEC in order to facilitate the construction schedule of a hotel facility at this location.

USACE, KC District/USEPA Region 2 IDC, Rockaway Borough Superfund Site, Rockaway Borough, NJ. Mr. Guzewich is supervising subsurface field investigations activities for this site. He has assisted in the development and implementation of the on-going subsurface Pre-Design Investigation. He has conducted QA/QC audits for the project during on-site field activities to ensure the objectives of the project are being met.

Consolidated Edison, Echo Avenue Site, New Rochelle, NY. Mr. Guzewich has also served as on-site coordinator and HSO for a number of Phase II and IRM investigations at an abandoned electrical substation contaminated with PCBs. During site remediation to remove contaminated soils, sediments and building materials, Mr. Guzewich provided on-site inspection oversite and collected post-remedial samples to ensure the contractor met the remedial objectives required by the client and NYSDEC. He is currently assisting with the negotiations between Con Edison and NYSDEC to declassify or downgrade the site classification to allow the site to be sold to the city of New Rochelle.

NYSDOT, Downstate Hazardous Waste Term Contracts. Mr. Guzewich has assisted in the development and implementation of numerous field sampling plans for projects being conducted for NYSDOT under the Downstate contracts. He has collected groundwater samples at the Farragut Service Station site and performed O&M for the SVE and air-sparging system at the Harrison Sub-Residency site.

Phase II Environmental Site Assessments, Standby State Superfund Contract (D002676) – NYSDEC, Statewide, NY. Mr. Guzewich served as the on-site HSO for many of the twelve Phase II Investigations conducted for the NYSDEC and assisted in the preparation of the site-specific HASPs. Mr. Guzewich also acted as the on-site HSO for a number of the 40 sites investigated conducting air monitoring during intrusive subsurface activities to ensure the safety of the field crews. He also collected samples including groundwater, surface water and sediments, and surface and subsurface soils, and tank contents.

NYSDEC, Multi-Site Preliminary Assessments, Standby State Superfund Contract (D002676), Statewide, NY. Mr. Guzewich also assisted in the development of many field sampling and health and safety plans for NYSDEC Superfund Standby contract sites. He worked at the New Cassel Industrial Area site collecting groundwater samples.

Former Mimi Cleaners, Scarsdale, NY. Mr. Guzewich served as the Task Manager during excavation activities within the building and during installation and O&M activities for an SVE system at a former dry cleaning establishment. Mr. Guzewich is managing vapor intrusion assessments and mitigation system installations in nearby commercial buildings.

Jack Hecht, CWB

Project Role: Environmental Assessments Support

Education
M.S., Vertebrate Biology, 2004 / B.S., Wildlife Biology, 1971

Registrations/Certifications
Certified Wildlife Biologist; USFWS Approved Bog Turtle Surveyor in New York

Experience
As project biologist, Mr. Hecht is responsible for field surveys of vertebrates in conjunction with environmental impact statements (EIS) and environmental assessment statements (EAS) for resource and land use plans, including hydroelectric developments, waterfront developments, right-of-ways, wetlands, aquatic marine resources, and housing and industrial developments. Recent efforts have been directed toward studies on occurrence, distribution, and habitat requirements of endangered and threatened species, including timber rattlesnakes, northern cricket frogs, peregrine falcons, eastern wood rats, Indiana bats, tiger salamanders, bog turtles, and red-shouldered hawks. As project manager and/or biologist he has been responsible for preparing reports, permitting, and impact statements as required by Federal and state environmental laws and regulations (e.g., Endangered Species Act, National Environmental Policy Act [NEPA], State Environmental Quality Review Act [SEQRA]) and Section 7 consultations. Terrestrial, aquatic, and marine survey responsibilities include initial site setup, gear and net designs, sampling methodology, habitat suitability, data collection and analysis, reports, and budgets. The following are Mr. Hecht's relevant project examples:

PANYNJ, Port Jersey Wind Energy Project Avian Studies. Mr. Hecht is the project biologist for the assessment of potential impacts to birds and bats that may result from the construction of eight to twelve 1.5 MW turbines on the Port Jersey peninsula in the city of Bayonne, NJ. Consideration to the project's potential impacts to birds and bats is a requirement of the application process for a New Jersey Department of Environmental Protection (NJDEP) Waterfront Development Permit. HDR is assisting the PANYNJ to negotiate a pre-construction avian monitoring plan for the project with the NJDEP, and conducting wildlife surveys on the site to determine the sites usage by birds for migratory stopover habitat, breeding and foraging habitat, and overwintering habitat. Many threatened and/or endangered species (TES) are known to use the habitats along the shoreline of the peninsula, and eleven TES species have been observed by HDR on the site.

PANYNJ, Bayonne Bridge Environmental Screening and Alternatives Analysis. In preparation for the potential for post-Panamax vessels to call on the Port of New York & New Jersey, the PANYNJ is evaluating alternative scenarios that would allow these vessels to navigate through the Kill van Kull to reach the container terminals at Port Newark and Port Elizabeth in New Jersey and Howland Hook in New York. Mr. Hecht is assessing potential constraints to the project permitting due to existing ecological communities, wetlands, wildlife, and ETS.

PANYNJ, Goethals Bridge Corridor. Mr. Hecht conducted wildlife surveys and reports included wading birds, diamondback terrapins, grassland birds, and ETS (peregrine falcon and northern harrier).

PANYNJ, Howland Hook Marine Terminal Eastbound Ramp Configurations Alternatives Analysis. Mr. Hecht assisted in an Alternatives Analysis for two eastbound ramp configurations for access to the Howland Hook Marine Terminal from the Goethals Bridge.

PANYNJ, Goethals Bridge Replacement Environmental Impact Statement. Mr. Hecht is project biologist for ETS and wildlife studies to complete the NEPA requirements for the replacement of the Goethals Bridge, which connects northwestern Staten Island, NY to Elizabeth, NJ. Evaluating potential project related impacts to the natural resources on the project site, and preparing portions of the natural resources section of the environmental impact statement. Of particular concern for the project is that the bridge spans across an expansive salt marsh which provides habitat for several species of wading birds that nest on nearby islands. The peregrine falcon nested on the Goethals Bridge.

PANYNJ, Comprehensive Port Improvement Project (CPIP). Mr. Hecht conducted surveys for ETS and other wildlife at seven port facilities. Results of site surveys were included in the existing environmental inventory report.

PANYNJ, Staten Island Bridges. Mr. Hecht was Project Biologist for wildlife studies for the assessment of environmental impacts of the proposed Staten Island Bridge Project expansion (a parallel crossing of the Arthur Kill between Staten Island, New York, and Elizabeth, New Jersey), which was done for the Port Authority of New York and New Jersey; Brookhaven National Laboratory (sitewide wildlife inventory of the 5000-acre site); and Sterling Forest Corporation (draft EIS preparation and threatened and endangered species surveys on 18,000 acres). He was project biologist for New York State Department of Environmental Conservation (NYSDEC) striped bass collections in the lower Hudson River and for Brayton Point entrainment survival studies. He was also project biologist for the Thruway Authority Ferry Project linking Rockland County with Manhattan that included Section 7 consultations and permitting. Mr. Hecht was on the NYSDEC Threatened and Endangered Species working group.

NYSDOT, Former Military Defense Site Environmental Assessment & Design Services, Stewart Int'l Airport, Newburgh, NY (Ongoing). Mr. Hecht conducted a subsurface soil delineation investigation at a former military fuel farm as part of an ongoing remedial investigation at this portion of the project site. Soil samples were collected and examined & screened with field instrumentation in the field to determine the vertical and horizontal extent of smear-zone contamination in this area. Samples were also processed and submitted to a contract laboratory for analysis of the contaminants of concern to provide confirmatory data. Based on the results of this investigation a remedial excavation work plan was prepared and potential "hot spot" or source areas of contaminated soils were removed.

Jiss Joseph, EIT

Project Role: Remediation Design Support

Education
M.E., Environmental Engineering, Expected May 2009 / B.S., Environemtnal Engineering, Manhattan College, 2007

Registrations/Certifications
Registered Engineer in Training; OSHA HAZWOPER 40 hour; OSHA 10 hour Occupational Safety and Health Training Course in Construction Safety and Health

Experience
Ms. Joseph is an Engineering designer at HDR. Ms. Joseph has experience in remedial investigation, feasibility studies, remedial design, AutoCAD construction drawings, specifications, cost estimates, pump station designs, and shop drawing review. Ms. Joseph has prepared groundwater contour maps, contaminant isoconcentration drawings, chemical box figures summarizing analytical data, and hydraulic calculations. The following are Ms. Joseph's relevant project examples:

NYSDEC, New Cassel Industrial Area, NYSDEC Standby State Superfund Contract (D006129), New Cassel, NY. Ms. Joseph is a scientist for the remedial design of a pump and treat system to address the off-site groundwater CVOC plume. HDR is developing and coordinating the implementation of a pre-design investigation (PDI) including installation of additional monitoring well, 72-hour pump test and treatability/pilot test. The remedial design will include evaluation of all existing data and PDI results, establishing a site conceptual model to optimize the remedial design. The design package will include construction drawings, technical specifications, cost estimate, and bid documents. The project duration is anticipated to be from September through March 2011.

NYSDEC, Pappas Dry Cleaners, NYSDEC Standby Engineering Contract (D006129), Dansville, NY. Scientist for the design of a remedial excavation of approximately 7,500 tons of CVOC impacted soil at the 0.4 acre former dry cleaner site. Professional services include conducting a pre-design investigation, preparing remedial design package, and providing bid assistance. The pre-design investigation includes a lead based paint and asbestos survey of the existing one-story building, geo-probe boring program to complete soil impact delineation and collect pre-excavation confirmatory samples and a pre-construction property survey. The remedial design includes preparation of an engineering design report, construction drawings, technical specifications, engineer's cost estimate, and construction bid package. The project duration is anticipated to be from July 2009 through June 2010.

USACE Kansas City District/USEPA Region 2, Imperial Oil Superfund Site, Monmouth County, NJ. Ms. Joseph provides environmental engineering support for the Imperial Oil Superfund Site, Monmouth County, NJ, which is currently in the RA phase. The RA consists of removal and off-site disposal of approximately 200,000 tons of LNAPL, PCB, TPH, VOCs, SVOCs, and metal

impacted soils. The RD includes installation of over 2,000 linear feet of slurry wall and 500 feet of which is a I-beam/Portland cement structural retaining wall to provide side slope stability during excavation. Ms. Joseph assisted with peer review of the contractor shop drawing submittals and preparing response to RFIs.

USACE Kansas City District/USEPA Region 2, Rockaway Borough Superfund Site, Rockaway Borough, NJ. Ms. Joseph provides environmental engineering support to the Rockaway Borough Superfund Site, Rockaway Borough, NJ. The remedial investigation, design and actions include a 100 cfm SVE system in the source area and a 230 gpm pump and treat system. Ms. Joseph assisted with the data reduction and analysis of a 72-hour aquifer pump test including preparation of groundwater contour maps under pumping and non-pumping conditions, isoconcentration map of the contaminant plume, and capture flow path analysis. As part of the RD evaluation, Ms. Joseph assisted with identifying the treatment plant components and completing a sensitivity analysis to assess the capacity of the existing design to accommodate variations in the influent flow rate and contaminant concentrations. Ms. Joseph prepared an AutoCAD figure showing the revised extraction well locations and predicted capture flow paths.

USEPA Region 2, Remedial Action Contract, Ellenville Scrap Iron and Metal Site, Ulster County, NY. Ms. Joseph provides environmental engineering support for the Ellenville Scrap Metal Superfund Site which includes the preparation of a remedial investigation report and feasibility study. Ms. Joseph assisted in the compilation of the investigation data onto AutoCAD figures including summary of sampling analytical results, groundwater contour maps, geologic cross-sections, groundwater contaminant plume isoconcentration maps, site location map, and investigation sample location map. Investigation samples included, soil gas, surface soil, geoprobe subsurface soil, test pits, post excavation, hydropunch, groundwater, surface water, sediment an leachate. Ms. Joseph assisted in the completion of a feasibility study including three groundwater alternatives and four soil remedial alternatives. The FS deliveries consisted of a remedial alternative selection and remedial alternative evaluation technical memorandum as well as the combined FS. Ms. Joseph prepared detailed screening tables outlining the remedial technology identification and screening for soil, groundwater and solid waste, alternative identification and screening for groundwater, soil and solid waste, and alternative individual and comparative evaluations. Ms. Joseph completed detailed cost estimated for each alternative as part of the evaluation process including quantity take offs for the major cost items. Ms. Joseph prepared a conceptual final grading plan for two 6 NYCRR Part 360 cap alternatives. Ms. Joseph coordinated the QC review of the three FS deliverables, incorporating the comments from multiple reviewers and assembling the final documents.

NYCDEP, Wastewater Pump Station Design, Queens County, NY. Ms. Joseph is assisting in the upgrade design of four New York City Sanitary Pump Stations. Responsibilities include preparation of monthly reports, design calculations and assisting in the preparation of presentations for the client; preparing specifications; and coordinating with subcontractors and subconsultant, serve as liaison between project management and sub contracted engineering firms, and collecting information from various manufacturers and their regional representatives to aid in the design process. The reconstruction design includes structural, mechanical, electrical and instrumentation and controls.

Shannon M. Kling, EIT

Project Role: Compliance Audits Support

Education
B.S., *Environmental Engineering, Rensselaer Polytechnic Insitute, 2003*

Registrations/Certifications
Registered Engineer in Training; OSHA HAZWOPER 40 hour and 8 hour refresher

Experience
Ms. Kling is an Engineer In Training and has also taken the 4-hour ESC training. Ms. Kling has prepared air permits, TRI Reports for EPA EPCRA, Environmental Site Assessments, completed sampling, and provides regulatory compliance services for air emissions and water discharges. Ms. Kling has prepared plans including Storm Water Pollution Preventions Plans, updates to Spill Prevention Reports, Spill Prevention, Countermeasures, and Control Plans, and Facility Response Plans. Ms. Kling has also provided construction oversight for construction projects including the installation of a water booster pump station and a sanitary sewer evaluation survey.

Former Mimi Cleaners, Scarsdale, NY. Ms. Kling completed an ambient air quality impact screening analysis in accordance with 6NYCRR Part 212 for the sub-slab depressurization systems installed at the site. Ms. Kling also prepared the required air registrations and local air permits required for the systems.

Major Manufacturing Corp., Environmental Compliance Programs, Poughkeepsie, NY. Ms. Kling provides technical assistance to the facility in complying with the required environmental regulations that the site is subject to. Ms. Kling assists in managing the facility's State Air Facility permit and completes ambient impact screening analyses on existing emission points to ensure compliance with the state air toxic program (DAR-1). Ms. Kling also assists with managing the facility's industrial SPDES permit and prepares the facility's Toxic Release Inventory report for EPA EPCRA. Ms. Kling also prepares Storm Water Pollution Prevention Plans (SWPPP) and provides erosion control inspections for compliance with the SPDES General Permit (GP-0-10-001) for storm water discharges associated with construction activities. Ms. Kling is also assisting in investigating the feasibility of using alternative treatment systems for managing the sites industrial wastewater discharges and has assisted in completing and executing a sampling plan for the feasibility study.

Major Manufacturing Corp., Environmental Site Assessment, Poughkeepsie, NY. Ms. Kling completed an environmental site assessment using the ASTM E 1528-06 standard. Ms. Kling compiled information on the site using a site visit, government records and historical sources to make a determination of the environmental conditions of the site.

Major Manufacturing Corp., Chemical Bulk Storage Environmental Compliance, East Fishkill, NY. Ms. Kling assisted in completing annual inspections of the facility's chemical bulk storage tanks, required by 6NYCRR Part 598.7(c). As part of the annual inspections the

facility's Spill Prevention Report was reviewed and updated. The inspections also included reviewing the facility's compliance with Parts 598 and 599.

Mirant Bowline, LLC, Chemical and Petroleum Bulk Storage Environmental Compliance, W. Haverstraw, NY. Ms. Kling assisted in completing annual inspections of the facility's chemical bulk storage tanks, required by 6NYCRR Part 598.7(c). As part of the annual inspections the facility's Spill Prevention Report was reviewed and updated. The inspections also included reviewing the facility's compliance with Parts 598 and 599. Ms. Kling also assisted in completing compliance inspections of the facility's petroleum bulk storage tanks. The facility is regulated locally by Rockland County, which has been authorized by DEC to administer the Petroleum Bulk Storage program. The facility is also required to meet the federal requirements of 40 CFR Part 112 (SPCC and FRP Rules).

Castle Oil, Environmental Compliance Programs, Bronx, NY. Ms. Kling prepares the Port Morris and Tarrytown Terminals Toxic Release Inventory reports for EPA EPCRA.

Engineering Consultant Assistant to the Town of Montgomery Planning Board, Orange County, NY. Ms. Kling conducts technical reviews of submittals made by applicants for commercial site plans and residential development projects. Her reviews are focused on technical issues related to existing and proposed water, sewer and stormwater management infrastructure, roadway designs, site grading plans and sediment and erosion control measures, and cost estimates for public infrastructure. She also is involved in ensuring that all conditions of approvals (where applicable) have been met prior to the Planning Board Chairman signing the final version of the drawing. There are also other concerns that are handled during these reviews, such as: consistency with the zoning, applicability to the Town Code, and the Town's Master Plan.

Engineering Consultant Assistant to the Village of Warwick, Orange County, NY. Ms. Kling assists the Village Engineer with municipal infrastructure projects within the Village of Warwick. These projects include improvements to existing parks, design of water and sewer upgrades, existing drainage analysis and upgrades, and field observations/site inspections for ongoing construction projects.

Village of Warwick Sanitary Sewer Evaluation Survey and Rehabilitation Program, Warwick, NY. Ms. Kling assisted the Village Engineer in developing a sanitary sewer evaluation survey to help determine causes of sanitary sewer overflows within the Village of Warwick. The survey was conducted for approximately 10 miles of sewer mains and over 1,000 service connections. The survey included the development of plans for the portion of the sewage collection system to be studied, coordination with field crews, compilation and analyses of field data collected, and development of a rehabilitation program to be used for resolving the problem of the sanitary sewer overflows. In addition, Ms. Kling developed plans for the entire sewage collection system for the Village of Warwick using Orange County Water Authority mapping data and as-built plans provided by the village to help study the entire sewage collection system for weaknesses and areas in need of improvements.

Melissa LaMacchia

Project Role: Phase I Assessments Support / Report Preparation

Education
M.S., Environmental Science, 2004 / B.S., Environmental Science, 2000

Registrations/Certifications
OSHA HAZWOPER 40 Hour Training; Adult CPR and First Aid; HAZCOM; Confined Space Training

Experience
Ms. LaMacchia is a Project Manager at HDR. Her responsibilities include preparation of scopes of work and budget estimates, technical report writing, various field sampling during environmental surveys, data compilation and analysis, and project management for hazardous and non-hazardous study sites. She has conducted Phase I Environmental Site Assessments (ESAs) according to the most recent ASTM guidelines and makes recommendations for Phase II Environmental Site Investigations (ESIs). As part of Phase II ESIs, she prepares the necessary scopes of work outlining field sampling procedures that include sampling techniques and methodology, analyses, and proper protocol. She also outlines the costing and budgets necessary to complete assignments which include projecting time and materials, labor, and coordinating sub-contractors. She has extensive experience in sampling surface waters, groundwater, soils, sediments, oil, and air as well as logging soils encountered in the field and using various water and air quality instrumentation. As part of the production of a final report, she makes conclusions and recommendations by interpreting the analytical results obtained. Ms. LaMacchia has also conducted oversight and provided technical skills for remedial design and in support of remedial action including remediation of a former fuel farm, operation and maintenance of a soil vapor extraction system for a former dry cleaners, and remediation of superfund sites. The following are Ms. LaMacchia's relevant project examples:

PANYNJ, *Ecological Studies Call-In Agreement for Services in Support of Due Diligence* for the Potential Acquisition of Stewart International Airport. Ms. LaMacchia was Project Manager of this project which included an environmental records search and asbestos assessment of onsite buildings in support of potential property transfer. Managed the retrieval and review of information from a data retrieval service to document the presence of registered ASTs and USTs, spills, landfills, RCRA small and large quality generators and other potentially hazardous or petroleum related activities in the area of the airport. Ms. LaMacchia also managed, reviewed and summarized the available asbestos surveys and asbestos abatement projects conducted at the airport.

Town of Woodbury, Route 32 Corridor Study, NY. Ms. LaMacchia was Project Manager for a corridor study that included future rehabilitation to roads and drainage. The main objective was to assess the possibility of the existence of hazardous, non-hazardous, and/or petroleum contamination within the corridor and conduct necessary confirmatory sampling, which is also necessary for future disposal. Her responsibilities included coordinating staff and subcontractors in conducting a Phase I ESA and Phase II ESI: completing the costing, budget, developing a scope of work, supervising field work (geophysical survey and Geoprobe borings), compiling and interpreting data received, and the production of a final report.

NYSDOT, West Shore Expressway. Ms. LaMacchia was Project Manager of this project. She conducted a site visit with NYSDOT personnel and completed a Phase I ESA; the recommendations of which were to be incorporated into the NYSDOT's plans for a future park and ride facility.

NYSDOT - Village of Chatham. Ms. LaMacchia was project manager on this project which was a corridor study for future rehabilitation to roads and sidewalks. The main objective was to assess the possibility of the existence of hazardous, non-hazardous, and/or petroleum contamination within the corridor and conduct necessary confirmatory sampling, which is also necessary for future disposal. Her responsibilities included conducting a Phase I ESA, completing the costing, budget, and coordinating a sub-contractor, developing a scope of work, supervising field work (geophysical survey and Geoprobe borings), collecting soil samples in the field, compiling and interpreting data received, and the production of a final report.

NYCDEP, Combined Sewer Outfalls. Ms. LaMacchia assisted in project management and also supervised field activities for a number of CSO projects including Alley Creek, Hutchinson River, Bronx River, Westchester Creek, Newtown Creek and the East River. Her responsibilities include conducting 50 year histories of the site locations and producing a final report. Next, she would generate a scope of work necessary to classify soils and groundwater in each area for disposal purposes in connection with future excavations. Ms. LaMacchia installed and sampled soil borings and monitoring wells, coordinated and managed subcontractors including surveying and geophysical crews, drillers, and the analytical laboratory. She processed data that came in and wrote up the final reports along with constructing groundwater contour diagrams and producing cross sectional diagrams.

NYSDOT, Bronx River Greenway. As part of the Bronx River project, Ms. LaMacchia's responsibilities included assisting in production of scopes of work and collecting surface soil samples along the proposed Greenway corridor as well as collecting PCB samples from various structures along the corridor. She processed data that came in and wrote the respective sections of the final report.

NYCDEP, Alley Park Environmental Restoration. As part of the Alley Creek project, Ms. LaMacchia's responsibilities included collecting surface water and groundwater samples in order to obtain water quality data necessary to determine the types of vegetation that could be used there. She also processed data and wrote the final report for fieldwork conducted to classify soils in this area.

USACE, Kansas City District, Superfund Sites. Ms. LaMacchia is a Project Scientist on the project team for three superfund sites in New Jersey under the USACE – Kansas City District and in coordination with USEPA and NJDEP. Ms. LaMacchia's responsibilities include assisting with workscopes, budget estimates, and the project schedule, coordinating subcontractors, preparation of project plans and specifications, and participation in monthly meetings in support of the respective remedial designs and remedial action support. Ms. LaMacchia is knowledgeable in the relevant policies, procedures, and specifications of the USACE – Kansas City District.

NYSDOT, Stewart International Airport Contract, Southwest Fuel Farm. Ms. LaMacchia's responsibilities include assisting in the preparation of field sampling plans (FSPs) for soil and groundwater sample collection, executing these FSPs in the field, and assisting in execution of the final report. The groundwater program involved routine monitoring of a number of wells on site, compilation and interpretation of results, production of groundwater flow diagrams, and writing the final report based on findings.

Michael Lehtinen, PG

Project Role: Soil & Groundwater Investigations Support / Modeling

Education
M.S., Hydrogeology, 1991 / B.S., Environmental Sciences, 1987

Registrations/Certifications
Professional Geologist (PA); Environmental Professional (CT); American Red Cross Workplace Training First Aid and CPR; OSHA HAZWOPER 40 hour, Supervisor and 8 hour refresher

Experience
Mr. Lehtinen is a Senior Hydrogeologist responsible for project management and technical oversight of various projects for government and private clients. Specific areas of technical expertise include spill site investigations, tank closures, subsurface investigations, groundwater flow modeling, evaluation of remedial options, and remedial design/construction, and operation, maintenance and monitoring (OM&M) at hazardous waste and petroleum spills sites. The following are Mr. Lehtinen's relevant project examples:

NYSOGS, *Environmental Remediation Term Contract (S9488 & S2447)*, Various Sites, Statewide, NY. Mr. Lehtinen was the Program Manager for two recently completed NYSOGS environmental remediation and project management term contracts to provide New York State with cost-effective environmental cleanup and professional services related to petroleum bulk storage and petroleum spills. The contracts included work orders for a variety of NYSOGS client agencies, including NYSDEC, NYSDOT, OMH, DSP, SUNY, and DCS at various State-owned facilities. The work included: tank closures/installations, petroleum spill investigations and reporting, environmental sampling/analysis, evaluation of remedial options, preparation of corrective action plans, remedial design, OM&M, SPCC plans, and negotiations with various regulatory agencies on behalf of NYSOGS clients. Mr. Lehtinen built and executed effective systems for program management, scoping, planning, technical quality control, project costing, reporting, deliverable review, invoicing, and contract compliance.

USACE, KC District/USEPA Region 2 IDC, Imperial Oil Superfund Site, Monmouth County, NJ. Support for the Remedial Design and Remedial Action for Operable Unit 3 at the Imperial Oil/Champion Chemical Superfund Site – specific tasks assigned and completed by Mr. Lehtinen include evaluation of existing remedial design and groundwater flow model, estimating dewatering requirements, evaluation of remedial options for floating product, development of the scope and costs to complete the geotechnical investigation to aid in the evaluation of the most appropriate excavation support and hydraulic barrier design. Mr. Lehtinen also oversaw the project field personnel and subcontractors, reviewed the DQCRs, and completed a FQCA during the geotechnical investigation field activities. The geotechnical investigation included a subsurface exploration consisting of 10 deep soil borings with associated soils testing and analysis for the hydraulic barrier design.

Standby State Superfund Contract (D006129), Various Work Assignments, NYSDEC, Statewide, NY. Under the direction of the Contract Manager, Mr. Lehtinen serves as the Program Manager for the current HDR Standby Engineering Contract. In this role, Mr. Lehtinen

provides hands-on, day-to-day project monitoring, program management, and project manager mentoring for all work assignments. He is also the project manager for the first assignment, Artco Industrial Laundries RI in Rochester, NY. Mr. Lehtinen directed the development of the Field Activities Plan (FAP), Quality Assurance Plan (QAP), and Health and Safety Plan (HASP). The work includes preparation of the 2.11 Schedule, project scoping, subcontractor procurement, and M/WBE utilization plans for each assignment. Mr. Lehtinen continuously monitors the scope of work to ensure it is in accordance with the approved scope and contract terms. He monitors approved work assignment budgets and expenditures, and directs the preparation of a monthly report to the NYSDEC, preparation of monthly Consultant Application for Payment (CAPs), and M/WBE utilization reports.

Lehigh Valley Industrial Park, Bethlehem Steel Brownfields Redevelopment, Bethlehem, PA. Mr. Lehtinen serves in an advisory role in the assessment of contaminant fate and transport at this site. Specific tasks include review of the previous groundwater and contaminant transport modeling conducted at the site and assisting the team in assembling a comprehensive site database including subsurface/lithological data for future fate and transport modeling.

NYSDOT, Term Agreement Assignments. Mr. Lehtinen has also worked on various NYSDOT term agreement assignments primarily serving as project manager on a number of small assignments and as project hydrogeologist where detailed or complex groundwater assessments were needed. Specific projects include the Farragut Service Station where Mr. Lehtinen assisted in the design and installation of the groundwater recovery trench, the Taconic State Parkway Bryant Pond Road site investigation (on-going) and the Route 27 Drainage Improvement Project in Babylon, New York. This project included issues associated with contaminated soils at the site and a study of the interactions of the basin with the groundwater under various seasonal and storm conditions.

NYSDOT, Harrison Sub-Residency Remediation, Harrison, NY. Mr. Lehtinen assisted in the development and oversight of the subsurface and hydrogeologic investigation. He also examined contaminant fate and transport at the site, specifically the potential that the sites groundwater contamination might impact the nearby Kensico Reservoir.

NYSDEC, Mohonk Road Industrial Plant, Standby State Superfund Contract (D002676), High Falls, NY. Mr. Lehtinen served as project manager for the Preliminary Site Assessment (PSA) and task manager for the RI/FS at the Mohonk Road Industrial Plant site. The PSA included sampling various environmental media to locate the source of contamination. An accelerated site assessment with on-site analysis located several source areas that were subsequently characterized during the RI. The RI included installation and sampling of bedrock monitoring wells, sampling of residential wells, and sampling of surface water bodies in the area. A detailed groundwater investigation was conducted during the RI and included a geophysical study, two long-term aquifer tests, and a groundwater flow model. A large number of private residents were impacted by this chlorinated solvent contamination, resulting in the site being added to the National Priorities List (NPL) and the U.S. Environmental Protection Agency (EPA) assuming the primary role in addressing this site.

Scott Lowe, PhD, PE

Project Role: Modeling

Education
Ph.D., University of Wollongong, 1990/ B.E., Civil Engineering University of Wollongong, 1986

Registrations/Certifications
Professional Engineer (NY)

Experience
Dr. Lowe is a senior project manager at HDR. His areas of expertise include hydrodynamic/hydraulic modeling, water quality modeling, watershed modeling, air quality modeling and treatment plant process modeling. Dr. Lowe has taught a two day course on Water Quality Modeling for the American Society of Civil Engineers throughout the country. Additionally Dr. Lowe is an Associate Professor in the Civil & Environmental Engineering Department at Manhattan College where he teaches courses at the Graduate and Undergraduate level. The following are Dr. Lowe's relevant project examples:

PANYNJ, SPDES Permit Modification, JFK Airport. Dr. Lowe is working on the SPDES renewal for JFK Airport in Queens, NY. This project includes extensive analysis of the JFK stormwater collection system, storm event sampling and receiving water quality monitoring in Jamaica Bay. Additionally a three dimensional hydrodynamic and water quality model of Jamaica Bay will be developed using the MIKE FM model. This model will be used to predict water quality impacts under projected worst case scenarios.

PANYNJ, Jamaica Bay Hydrodynamic and Water Quality Model. Dr. Lowe is currently leading a team that developed a three dimensional hydrodynamic and water quality model of Jamaica Bay, NY. The model was developed using the unstructured, flexible mesh (FM) version of the DHI MIKE modeling platform. The model is being used to examine the effect of storm water discharges from JFK Airport.

Hudson River Hydrodynamic Model, United Water NY/NJ. Dr. Lowe helped develop a three dimensional hydrodynamic model of the Hudson River in NY. The model used was MIKE FM. The model was developed to assist in the siting of the intake and discharge locations for a desalination plant. The model extended from the Battery near the tip of Manhattan, to the Federal Dam at Troy, just past Albany.

PANYNJ, Newark Bay Sediment Balance. Dr. Lowe was the Project Manager of a study to determine a sediment balance of Newark Bay. This work included determining the amount of additional sediment accumulation that would occur in the navigation channels and berth areas after dredging operations had increased the channel depths to 53'. Both external and internal sediment balances were completed. The three-dimensional model of the Harbor developed by HDR for the U.S. Corps of Engineers was also utilized.

New York Power Authority, Poletti Power Project Thermal Discharge Analysis. Dr. Lowe was the Project Manager of a study to determine whether the thermal discharge from the Charles Poletti Power Project would meet the SPDES requirements. The study used the flexible mesh version of the MIKE 3 hydrodynamic model. The model was calibrated to field data and then run for worst case conditions to show permit compliance.

PANYNJ, CFD World Trade Center Cooling Water Intake and Discharge Analysis. Detailed three dimensional hydrodynamic and thermal CFD modeling was done to assess the design of the cooling water intake and discharge system for the new World Trade Center Complex. The model was calibrated using HDR|LMS field survey data. The model domain extended 2000 feet North and South of the entrance to North Cove and approximately 500 feet out into the Hudson River.

USACE NY District, NY-NJ Harbor Navigation Study. Dr. Lowe was the technical lead on the development on the water quality sections of a three-dimensional hydrodynamic and water quality/sediment transport model of New York Harbor. This model includes over 225,000 computational cells with a domain extending up the Hudson River to the Federal dam at Troy in the North, down to Atlantic City in the South, and the end of Long Island Sound in the East. This model has since been used on various projects, including evaluating the water quality effects of dredging operations, navigational channel deepening and evaluating sediment and turbidity plumes from marine cable laying operations.

USACE, Kill Van Kull Hydrodynamic Analysis. Dr. Lowe used the existing MIKE 3 hydrodynamic model of NY-NJ Harbor to develop particle tracking of particles released in the vicinity of Kill Van Kull. The particles were used to represent sensitive organisms that spawn in the shallows adjacent to KVK. The model showed how the organisms would move over several tidal cycles in the vicinity of KVK and the Narrows.

United Water, Lake DeForest Reservoir, Hackensack River SWMM Model. Dr. Lowe developed a SWMM model of the upper portion of the Hackensack River from the Lake DeForest Reservoir to the USGS gauging station in Rockland County. The model was used to determine travel times of releases from the reservoir to the USGS gage.

NYCDEP, Sediment Transport Modeling in Flushing Bay. Dr. Lowe was part of a team that conducted sediment deposition and transport modeling of Flushing Bay, Queens, for NYCDEP as part of Flushing Bay CSO study. Dr. Lowe evaluated the HDR|LMS three-dimensional finite element model results to determine areas of potential deposition or scour. These areas were mapped temporally and spatially through numerous tidal cycles. This information was used to determine projected impacts of dredging portions of the inner bay.

NYCEDC, CFD Modeling of Lower East River Shoreline and Piers. Dr. Lowe was responsible for the development and application of a CFD model of the Lower East River. As part of plans for the redevelopment of Lower Eastside of Manhattan, comprehensive hydrodynamic and sediment transport analysis was completed to evaluate the effect of alternative piling and caisson arrangement on the local marine environment. Computational fluid dynamics (CFD) models were made of a two mile section of the East River. These models included over 6000 piles in the existing piers and contained 400,000 computational cells.

Kevin McCarty, PG

Project Role: Soil & Groundwater Investigations Support

Education
B.A., Geology/Earth Science, 1985

Registrations/Certifications
Professional Geologist (PA); OSHA HAZWOPER 40 hour, Supervisor and 8 hour refresher; American Red Cross Workplace Training First Aid and Adult CPR

Experience
Mr. McCarty is a Vice President at HDR. His duties include providing investigative and remediation technical advice to project managers, preparing and commenting on work plans and progress, providing guidance for protocols/equipment/specialty contractors in the performance of investigation, remediation, and redevelopment projects. Mr. McCarty has had over 20 years of experience with New York State Department of Environmental Conservation (NYSDEC) hazardous waste and spill project sites, is very knowledgeable about both current and prior regulations, and has had much personal experience and interaction with both Albany and Regional NYSDEC staff. The following are Mr. McCarty's relevant project examples:

NYCEDC, Environmental Hazardous Investigation Contract. Mr. McCarty has been the program manager for the NYCEDC environmental hazardous investigation contract since 1999. He is responsible for coordination and management of projects including investigations for redevelopment on various types of property owned by the City of New York, as well as reviewing information, reports and documents prepared by others for Industrial Development Agency projects. The work relies heavily on coordination with city and state agencies for review and approval of documents that are related and required for various programs including Voluntary Cleanup Program, Brownfields Cleanup Program, and Environmental Restoration Program. He has been responsible for management, coordination and completion of numerous investigations and remediation projects involving contaminated media, historic fill, including groundwater, soils, drums, and miscellaneous debris from sites throughout New York City. Currently he is responsible for ten Voluntary Cleanup Agreements between NYCEDC and the NYSDEC that include the former Hunts Point manufactured gas plant site. Several projects have been recognized as being extraordinary engineering and environmental accomplishments by the United States Environmental Protection Agency and the American Council of Consulting Engineers. One project is the location of the Fulton Fish Market. The building is nearly 10 acres and is situated over a vast area that was used to dispose of coal tar. The material required special handling and the overall goal was for the most efficient method of beneficial reuse to be utilized. The project included an evaluation of several different reuse methods with the final choice being incineration in a NYSDEC permitted waste to energy facility. The waste had a very high BTU content which made it an optimal choice for use as a fuel. Over 36,000 tons of waste were handled and destroyed during the 2.5-month long project. Complete testing and evaluation of material was performed throughout in order to maintain the proper QA/QC and ensure that compliance of the material with the facility permit was being maintained. In the end, the waste

produced a total of 7.6 megawatts of electricity that was placed into the local electrical grid. A significant amount of steam energy was also supplied via underground piping to local industrial facilities. The electrical generation equivalent was enough to supply 10,000 homes with power for 3.5 months.

USACE Kansas City District/U.S. Environmental Protection Agency, Chemical Insecticide Corporation Superfund Site, Edison, NJ. As part of an Indefinite Delivery Contract, Mr. McCarty is providing technical support on all aspects of field investigations related to subsurface soil and groundwater sampling for the Chemical Insecticide Corporation Long-Term Monitoring remedial design. Completed thus far are the UFP-QAPP, well inventory, and Groundwater Investigation. Analyzing compliance with State and Federal regulations and in writing an NJDEP Classification Exception Area (CEA) for institutional controls of the site groundwater.

Castle Oil, Bronx Petroleum Remediation, Bronx, NY. Mr. McCarty was the project manager for this site's investigation and subsequent remediation. Mr. McCarty oversaw the several phased activities related to prior spills, including investigation, delineation design approval and construction oversight associated with the first product recovery/bioremediation project in NYSDEC Region 2. HDR completed a remedial program for a truck storage and maintenance garage in Eastchester, New York. Various petroleum-related VOCs and SVOCs had been released to the site soils and groundwater (two NYSDEC spill case files). The project included a full site investigation, remedial alternatives evaluation/pilot testing, remedial design, remedial construction, and OM&M. HDR provided oversight during the installation of the hybrid remedial system at the same time the site was being redeveloped for use as a shopping center. The system remediation system included: air and biosparging, groundwater extraction/treatment, soil vapor extraction, bioremediation, vapor intrusion evaluation, and dual-phase groundwater extraction. The system was completely automated and cleaned the site such that NYSDEC issued a No Further Action letter immediately following the request for closure.

Standby State Superfund Contract (D002676), NYSDEC, Statewide NY. Mr. McCarty has served as Project Manager for over 20 Site Characterizations on listed Superfund Sites and the following evaluation using TRIAD versions of field analysis and data collection. Numerous sites were able to be immediately expanded to cover a full source area delineation. He has also prepared and managed numerous Phased Remedial Investigations to identify the full nature and extent of contamination and to make recommendations for long-term remedial actions. His efforts also included Site Response activities, including short-term removal of waste identified during field activities. Other actions and efforts included review and development of both Health and Safety Plans, as well as Citizen Participation actions for both active and inactive sites in rural and urban industrialized areas. He has also been involved in the remedial construction aspects of managing contractor-related issues during remedy implementation, and has managed contractors and their subcontractors during each of these activities.

Colin Mills

Project Role: Risk Assessments Support

Education
B.S., Environmental Geoscience, State University of New York at New Paltz, 2008
Bachelor of Liberal Arts, Geography, State University of New York at New Paltz, 2008

Registrations/Certifications
OSHA HAZWOPER 40 hour

Experience
Mr. Mills is a Geologist at HDR. He has performed multiple tasks including Human Health Risk Assessment (HHRA), Sub-slab Depressurization System inspections and sampling, underground storage tank (UST) closure and removal oversight, as well as installation and sampling of monitoring wells. Mr. Mills is knowledgeable about federal, state, and local environmental regulations and standards. His responsibilities as a Geologist include client, regulatory agency, and contractor liaison, management/coordination of sub-contractors, construction/remediation oversight, and the preparation of Phase I ESA, Phase II Remedial Investigative Reports (RI), Remedial Action Work Plans (RAP), and Final Engineering Reports (FER). The following are Mr. Mill's relevant project examples:

USEPA Region 2, Remedial Action Contract (RAC) (EP-W-09-009), Ellenville Scrap Iron and Metal Site, Ellenville, NY. Mr. Mills participated in the development of the Pathway Analysis Report (PAR) and the Human Health Risk Assessment (HHRA) deliverables for this USEPA National Priorities Listed site. His responsibilities included generation and analysis of the series of Remedial Action Guidance for Superfund (RAGS) tables used for the following purposes in the HHRA: inventory of potential exposure pathways; screening of chemical data to identify chemicals of potential concern (COPCs) in six on-site and off-site media; development of exposure point concentrations (EPCs) for various COPCs and media, including directly working with statisticians to refine the database; developing exposure factors relevant to human health (for reasonable maximum and central tendency exposure scenarios); and creating link among several RAGS tables files to calculate cancer risks and non-cancer hazard estimates for the receptors and pathways of concern at the site. Mr. Mills also developed data tables (for several on-site and off-site media), reviewed and interpreted historic site data, and contributed to the development of the Remedial Investigation (RI) report for the site.

USEPA Region 2, Remedial Action Contract (RAC) (EP-W-09-009), Gowanus Canal Site, Brooklyn, NY. Mr. Mills performed low flow groundwater sampling at numerous monitoring wells following EPA Region 2 protocol. These wells were located all along the Gowanus Canal in various settings from commercial to industrial to residential land uses. Mr. Mills' other responsibilities included performing decontamination of equipment following a six-step process, preparation of sampling materials, calibration of equipment, as well as keeping proper documentation of the sampling events including daily field logs and accurate reporting of

chemistry data on field purge logs. On many occasions he also worked with the public to attain access to the wells and to help direct their questions to the appropriate people or agencies.

NYCEDC, Development of Greenway Park at Hunts Point Site C OU-2, Bronx, NY. As a staff geologist, Mr. Mills oversaw excavation activities at the park construction site to insure that historical urban fill materials remained below geo-textile stabilization fabric and topsoil.

NYCEDC/NYCDPR, Yankee Stadium Parking Lots 5 and 6, Bronx, NY. Mr. Mills participated in the oversight of underground storage tank (UST) removal, post-excavation soil sampling, implementation of the community air monitoring program, and oversight of construction work.

NYSDEC, Standby State Superfund Contract (D006129), Inspection and Monitoring (I&M) of Subslab Depressurization (SSD) Systems, Statewide, NY. Mr. Mills coordinated inspection of subslab depressurization systems in cities around New York State including Binghamton and New York City. Part of his responsibilities also included the inspection and performance of minor maintenance of SSD systems as well as working with DEC officials. The contract covers over 370 systems state-wide.

Former Mimi Cleaners, Scarsdale, NY. Mr. Mills has performed field assignments related to vapor intrusion assessment and minor subslab vapor depressurization system maintenance. Engineering services $650K.

NYSDOT, Stewart Airport Remedial Investigation, Newburgh, NY. Mr. Mills performed field assignments at Stewart Airport as part of an on-going remedial investigation. He directly participated in the installation of several monitoring wells in the former demolition and burning facility from when the facility served as a military Air Force base. Unexploded ordnance (UXO) clearance was performed during advancement of the borings by a UXO clearance specialist.

Random Farms Homeowner Association Wastewater Treatment Plant, Town of New Castle, NY. As a staff geologist, Mr. Mills was responsible for characterizing soil for the installation of a subsurface wastewater collection and dispersal system that included a collection trench and approximately two dozen dispersal wells to mitigate post-treatment overland runoff from treatment facility's absorption field. He also maintained daily reports, performed contractor oversight, and reviewed the contractor's as-built drawings for an HDR engineer. Mr. Mills served as a liaison during the field work portion of this project.

Mirant, Lovett Power Generating Facility Decommissioning Project, Stony Point, NY. Mr. Mills was involved in the soil, and groundwater characterization of the decommissioned Mirant Lovett Power Generation Plant site. The on-site investigation involved logging and sampling soils, the installation of temporary and permanent wells, low-flow groundwater sampling, slug tests, installation of transducers, and rock coring.

Brian Montroy, CPG

Project Role: Field Inspections/Environmental Data Collection & Analysis

Education
B.A., Geological Science, 1998 / A.S., Math and Science, 1994

Registrations/Certifications
Certified Professional Geologist, CPG-11206; OSHA HAZWOPER 40 hour and 8 hour refresher

Experience
Mr. Montroy is a Project Geologist in the Environmental and Resource Management Group with 9 years experience. He has preformed a multitude of duties, including field inspections, geotechnical drilling and evaluation, Phase I and Phase II Environmental Site Assessments (ESA), petroleum spill investigation/ remediation, underground storage tank (UST) closure and removal oversight, vapor intrusion and soil gas assessments, and solid waste landfill investigations and capping. He has worked extensively on projects in the Voluntary and Brownfield Cleanup Programs in both New Jersey and New York. The following are Mr. Montroy's relevant project examples:

USACE Kansas City District/USEPA Region 2, Rockaway Borough Well Field, Rockaway, NJ. Mr. Montroy was field inspector and managed a RI that included installation of eight additional shallow and deep monitoring wells and 20 transducers/data loggers, 72 hour pump test and sampling of 30 groundwater monitoring wells around the Borough of Rockaway, NJ to support the RD.

NYSDEC, Albertson Area Plume, Standby Engineering Contract (D006129), Albertson, NY. Mr. Montroy prepared a Site Characterization Work Plan (SCWP) to investigate site subsurface conditions in areas adjacent to the Albertson Water District Supply Well N-03732 and N-03733. This SCWP includes a geophysical investigation, and subsurface investigation utilizing membrane interface probe technologies to collect discrete continuous subsurface soil, groundwater and soil gas samples.

Former Mimi Cleaners, Scarsdale, NY. As geologist and field inspector, Mr. Montroy participated in monitoring and field inspection of passive and active remediation systems to remove contamination from soils and groundwater. He sampled monitoring wells and conducted indoor air sampling in adjoining businesses and conducted sub-slab communication test to aid in the design of sub-slab depressurization systems.

NYCEDC, Redevelopment of Multiple Sites Across 5 Boroughs of New York City. Mr. Montroy managed several projects for NYCEDC, including subsurface investigations, construction management and redevelopment of several vacant parcels. He managed field crews during site characterization and investigation activities, collected soil, groundwater, and soil gas samples for characterization and delineation.

Consolidated Edison of New York, Former Manufactured Gas Plant (MGP) Sites, New York, NY and Westchester, NY. Mr. Montroy was responsible for the management, field

inspection and oversight of field staff for extensive subsurface (phase II) and RIs at several former Con Edison MGP sites in Westchester County and the five boroughs of NY City.

Neptune Regional Transmission Systems, LLC, Fairfield, Connecticut, Hallen Construction Company, Wantaugh Parkway, North Hempstead, NY. To aid in the design of the electrical connection between a load centers in Sayreville, New Jersey with one in North Hempstead, New York, Mr. Montroy conducted a geotechnical investigation to assessed subsurface conditions for construction of the land portion of the AC/DC cable. He installed forty (40) borings to varying depths, over an eleven (11) mile stretch of the Wantagh Parkway to obtain information of the subsurface conditions and electrical properties. Results from his investigation were used for the installation of underground electric distribution cable via conventional trenching and horizontal directional drilling. His responsibilities also included data collection and analysis, writing work completion reports, client interaction, subcontractor coordination, and geotechnical investigation of subsurface conditions.

First Energy Power Station (Sayreville Converter Station), Sayreville, NJ. Mr. Montroy conducted a geotechnical investigation to assessed subsurface conditions for construction of the land portion of an AC/DC cable connecting a load center to a DC converter station. Seven (7) borings to varying depths were advanced to obtain information of the subsurface conditions. Results from his investigation were used for the installation of underground electric distribution cable via conventional trenching and horizontal directional drilling. His responsibilities also included data collection and analysis, writing work completion reports, client interaction, subcontractor coordination, and geotechnical investigation of subsurface conditions.

Duffy Avenue Landfill (Duffy Avenue Converter Station), North Hempstead, NY. Mr. Montroy's responsibilities included Client interaction, subcontractor coordination, contractor oversight, multimedium (soil, air water) sampling in an effort to delineate impacts (if any) to the sub surface caused by former landfill operations. This former construction and road debris landfill in North Hempstead, New York was chosen for the construction of an AC to DC power converter station to supply Long Island power grid with additional power. Twenty Six (26) borings were installed to varying depth in order to classify subsurface material to facilitate the construction. During construction of the converter station the closed landfill was reopened, the contents were redistributed and excess material sent of site to an NYSDEC approved disposal facility (regulated under the current NYSDEC Regulation Sub-Part 360 Solid Waste Regulations). Once pile caps, grade beams and foundations were completed the landfill was re-closed.

NYCEDC, Redevelopment of Multiple Sites across the Hunts Point Food Distribution Center, Bronx, NY. As Project Geologist Mr. Montroy has conducted several extensive subsurface (phase II) investigations at different parcels located with in the Hunts Point Food Distribution Center. The subsurface investigations were implemented to delineate the extent of Former Manufacture Gas Plant byproducts (coal tar and purifier waste) to facilitate the redevelopment of these areas. Brian was also directly involved in the redevelopment and rehabilitation of several parcels of land, which include the rehabilitation of the Bulkhead and Shoreline to build a portion of the South Bronx Greenway, The redevelopment of Parcel C to accommodate a warehouse and distribution facility, and the rehabilitation of parcel.

Michael Pantliano

Project Role: UST Assessments & Closures Support

Education
B.S., Environmental Chemistry, 2000 / A.S., Environmental Control and Hazardous Waste, 1996

Registrations/Certifications
OSHA HAZWOPER 40 hour and Supervisor; American Red Cross Basic First Aid and Adult CPR; Confined Space Entry Training

Experience
Mr. Pantliano is a Project Scientist at HDR. He has conducted field investigations for projects involving both the public and private sectors, including work for the New York State Office of General Services (NYSOGS), New York State Department of Transportation (NYSDOT), the New York City Department of Environmental Protection (NYCDEP), the New York State Department of Environmental Conservation (NYSDEC), New York City Economic Development Corporation (NYCEDC), and private industry.

Mr. Pantliano has conducted multiple site investigations consisting of exploratory drilling and soil sampling; monitoring well installation, development and sampling; soil gas monitoring; and trench and test pit excavation and sampling. He is experienced in sampling and chain-of-custody protocols and in the use of field measurement meters. He is one of the principal operators of HDR' direct-push probe and auger drill equipment. Mr. Pantliano is responsible for overseeing the installation, monitoring, management and maintenance of several remediation systems for private manufacturing facilities and municipally owned properties. These remediation systems are addressing petroleum and solvent contamination in the soil and groundwater. Mr. Pantliano is responsible for ensuring the equipment is properly maintained and operating normally. Mr. Pantliano collects monthly system samples and prepares reports to the client and State Agencies regarding the progress of the remediation. The following are Mr. Pantliano's relevant project examples:

NYSOGS, Air Sparge/Soil Vapor Extraction (AS/SVE) at NYS Police Barracks at Valley Stream, NY. Mr. Pantliano is responsible for operating and maintaining the AS/SVE system designed to remediate a gasoline spill caused by a leaking underground storage tank (LUST). His duties include administrative duties, operation and monitoring of the remedial system, maintenance, system and groundwater sampling.

Castle Oil, Pump and Treat Bioremediation at Eastchester, NY. Mr. Pantliano was responsible for the operation, maintenance, and management of a bioremediation system. The system was designed to remediate two spills at the Site. One spill was caused by a leaking underground storage tank (LUST) and the other spill resulted from activities associated with a maintenance garage. The system was completely automated, operated for over one year, and cleaned the site effectively such that NYSDEC submitted a No Further Action letter immediately upon request. During this project, his responsibilities included sampling of the system and a series of perimeter wells. He also maintained the system so that bioremediation treatment tank's

environment remained healthy and suitable for the degradation of organic compounds. He was also responsible for reporting the system status on a quarterly basis to the regulatory agency that was overseeing the project.

Site Investigation with Vapor Intrusion for Proposed Residential Development, Brooklyn, NY. For this assignment, Mr. Pantliano was responsible for coordinating site activities associated with the subsurface investigation following an underground storage tank removal and implementing a work scope to satisfy the requirements set forth by New York City Department of Environmental Protection as part of their e-designation process. Soil gas samples were collected in accordance with New York State Department of Health's Draft vapor intrusion guidance to assess the potential impact of site contaminants for the future site residents.

Various Tank Closures throughout New York State. As project manager under the NYSOGS contract, Michael has managed dozens of tank removal projects for the various clients of NYSOGS including Department of Transportation; Office of Mental Health; Department of Correctional Services; State Police; and others. Mr. Pantliano is responsible for all phase of tank removal from start to finish including preparation of project work plans, health and safety plans, project staffing and set up, client and agency correspondence and documentation of closure. In cases where releases have been noted, impacted soils were successfully excavated and results of endpoint samples indicated clean-up goals have been met. In these cases, Michael and his team have successfully closed the majority of open spills with NYSDEC.

Site Delineation and Remediation in Plattsburg, NY. During the removal of a waste oil UST, petroleum impacted soils were noted. A NYSDEC spill number was assigned to the site. Subsequent soil and groundwater investigations identified that both soil and groundwater had been adversely impacted by the spill. Additionally, excavated soils from the tank removal contained chlorinated solvents. Mr. Pantliano negotiated with the NYSDEC to have the material approved for disposal at an incineration and recycling facility. Currently, Mr. Pantliano is negotiating with the State to have an IRM Workplan approved to remove additional soils and shallow overburden groundwater. Mr. Pantliano has also usefully arranged to have the groundwater treated and discharged into municipal sewers during the IRM work. Following source removal, the work plan calls for the investigation of sub slab vapor under the new NYSDOH vapor guidelines to determine if vapors from the spill are present beneath the slab that could pose a health risk to the facility employees.

NYCEDC, Former Manufactured Gas Plant (MGP) Site, Bronx, NY. Mr. Pantliano has been a project geologist for a NYCEDC Redevelopment of a former Manufactured Gas Plant (MGP) Site in the Hunts Point section of the Bronx, New York, under a NYSDEC Voluntary Cleanup Agreement. His responsibilities during the initial removal phase of the Project included the oversight and coordination of the excavation and disposal of over 20,000 cubic yards of coal tar and purifier waste contaminated soil. Mr. Pantliano was responsible for performing a Community Air Monitoring Program (CAMP) as well as monitoring for personnel in the work zones. He was also responsible for the sampling of soil stockpiles for disposal characterization, oversight of the decontamination of construction vehicles and approving soil disposal manifests as an Agent for NYCEDC.

Amita Patel, PE

Project Role: Remediation Design Support

Education
M.S., Environmental Engineering / B.S., Civil Engineering

Registrations/Certifications
Professional Engineer (NJ)

Experience
Ms. Patel is a Licensed Professional Environmental Engineer with solid academic and 10+ years of diversified experience in preliminary site assessments, remedial investigations of contaminated soils and groundwater, feasibility studies, and engineering analysis. Possesses technical expertise in engineering data analyses and interpretation, project management and organization skills, and understanding of teamwork and project deliverables. The following projects represent Ms. Patel's experience:

Welsbach/GGM Superfund Project, Fair Lawn, NJ. Ms. Patel led engineering data analyst for one of the largest Superfund Sites; a major (> $10 million) U. S. Army Corps of Eng./EPA radiologically contaminated sites with contaminated manufacturing facilities, schools, private residences and a Port facility. She provided engineering support and data evaluation of technical information collected in the field such as boring logs and measurements in conjunction with review of historical aerial photographs and sanborn maps to assist in remediation design process and in determining the data gaps. Ms. Patel actively provided innovative graphical presentation of data and historical information to project team using GIS data collection and management system.

ARNG NDNODS Inventory Project, Fair Lawn, NJ. Ms. Patel conducted preliminary site assessments at Non-Department of Defense Owned Non-Operational Defense Site (NDNODS) for ARNG for northeast region including New Jersey, Massachusetts, Connecticut, and New York. She managed the preliminary site assessment tasks that included planning and scheduling site visits, and coordinating with NGB, USACE, USAEC, and UXO Technicians. She also managed the subtasks including reviewing archive documents, communicating with local historical societies/libraries, locating historical ranges based on the available maps and description, coordinating with National Guard Museums for data collection, and participating in NDNODS Team calls. Ms. Patel conducted site visits, archive searches, and preparation of deliverables including Read Ahead Package, In-Brief Presentation, Trip Report, Draft NDNODS Inventory Report and Final NDNOD Inventory Report. Ms. Patel also participated in developing web-based Report Generation Tool (RGT) that was used to generate standardize project reports for all the States.

Welsbach/GGM, Fair Lawn, NJ. Ms. Patel performed field sampling using various methods, devices, and measurements including soil and groundwater sampling, drinking water sampling, air sampling and soil/gas sampling. She provided a geotechnical engineering support for the

Design Investigation work of a Welsbach/GGM project and was recognized for an excellent soil classification skill and presentation. Ms. Patel prepared sample management, QA/QC plan, work plans, health and safety plans, and technical reports detailing findings and recommendations from field assessments. She provided field inspection services and reviewed design drawings for implementing jet grouting operation. She conducted routine O & M site visits, organized different remedial tasks and services, and coordinated work with contractors/subcontractors related to the remedial operations, and prepared reports/documents/ correspondences for the client and the NJDEP. Ms. Patel also conducted analytical data evaluation for the purposes of characterizing sources and establishing data quality for the Picatinny Arsenal project while utilizing various ACCESS database functions.

Air Permitting, Sediment and Erosion Control Plan, Charlotte, NC. Ms. Patel prepared PSD Air Permits based on North Carolina Air Regulations for furniture industry which involved engineering emission calculations and interpretation of engineering drawings of the manufacturing plants to evaluate the air pollution emission sources. She prepared Sediment and Erosion Control Plan for the construction of gas pipeline in the State of Virginia that involved evaluation of engineering design specifications for pipeline construction, interpretation of design specification for each control measures and preparation of engineering report. Ms. Patel also conducted phase I and II site assessments that involved implementation of engineering investigation program, interpretation of historical engineering documents/drawings, supervision of site investigation activities, evaluation of possible remedial alternatives by performing soil/groundwater data analysis and cost analysis, and preparation of engineering reports.

Welsbach/GGM Superfund Project, GIS Based Data Collection and Management System, Fair Lawn, NJ. Ms. Patel possesses deep understanding of the ACCESS database and EPA region II EDD submittal requirements for the Superfund projects. She provided technical support to project team members and field crew with database applications, data analysis and various website applications. She developed standards and guidelines for using field application and different web based application. Ms. Patel also coordinated multiple chemical laboratories regarding electronic data deliverable upload module of the project website.

Michael W. Pucci, PE

Project Role: Contract Documents

Education
B.S., Civil Engineering, Lehigh University, 1992

Registrations/Certifications
Registered Professional Engineer (CT, GA, NJ, NY)

Experience
Mr. Pucci has more than 16 years of experience in civil engineering specializing in projects related to civil design, water resources, planning, transportation, and construction administration. His experience includes project management, preparation of contract documents, quality assurance/control, project scheduling, and all aspects of engineering design, permitting and construction support services for various federal and municipal projects. His computer skills include HEC-RAS; HEC-HMS; AutoCAD R2005i; Land Development Desktop (LDD) and *Civil Design Modules; Hydraflow Hydrographs and Hydraflow Storm Sewers. The following* represent Mr. Pucci's relevant project experience:

Town/Village of Harrison, Municipal Complex, NY. Mr. Pucci serves as the Project Manager in helping the Town/Village of Harrison to develop the Proposed Municipal Complex to be built on an existing town owned 35-acre site (formerly a Nike Missile base) which includes a 2,500-ton salt dome, deicing tank, sand storage area, fueling station, fire training center, vehicle canopy, fueling station and a recreational component which features a baseball field and a playground, all with respective parking. Mr. Pucci's responsibilities, in addition to providing civil design, and coordinating with the town, include managing all design disciplines including architectural, structural, mechanical and electrical as well as survey and geotechnical subconstultants in preparing contract documents for construction. Mr. Pucci also managed the Needs Allocation Study for the Gleason Ave Garage to determine space and program requirements based on DPW needs necessary for possible expansion and renovation.

USACE, KC District/USEPA Region 2 IDC, Imperial Oil Superfund Site, Monmouth County, NJ. Mr. Pucci is managing civil design for the Imperial Oil/Champion Chemical Superfund Site in Morganville, NJ which includes demolition, decontamination, and disposal of below ground and above ground structures; removal and off-site disposal of floating product and excavation and off-site disposal of impacted soil and other secondary waste streams.

PANYNJ, Holland Tunnel Granite Rehabilitation, NY. Mr. Pucci provided civil engineering design to the Port Authority of New York and New Jersey for storm drain and grading modifications necessary to correct drainage problems at the Holland Tunnel entrances and exits as part of granite rehabilitation to portal walls. Mr. Pucci has been responsible for civil design including site modifications; re-grading and redesign of storm drain systems.

National Park Service (NPS) Val-Kill Pond Restoration Design and Construction Report, Eleanor Roosevelt National Historic Site, Hyde Park, NY. Mr. Pucci assisted the NPS in determining the accuracy of the government estimate prepared for the restoration of the Val-Kill Pond, helped determine if the methodology of construction is feasible, and presented alternative potential construction methods for achieving the Pond Restoration Project. The study evaluated potential sediment dredging and dewatering methods. In addition, HDR performed additional sediment sampling of the Pond and recommended hydraulic dredging and rapid on-site mechanical dewatering as the preferred construction alternative for the Pond Restoration Project. HDR also prepared a cost estimate for the recommended preferred construction alternative.

USACE New York District, Guthrie Medical Clinic Expansion, Fort Drum, Watertown, NY. Mr. Pucci is the Senior Civil Engineer for all utility and civil design for the Fort Drum Guthrie Medical Clinic Expansion estimated at $26M. The project included design of all site and utilities to support the 50,000 SF building expansion and renovation. Civil work entailed grading of 25 acre site, relocation of major utilities and creation of over 800 parking spaces while meeting NYSDEC stormwater requirements.

USACE New York District, Flood Control and Water Resources IDC, Blind Brook Watershed Management Plan, Westchester County, New York and Jackson Brook Flood Damage Reduction Project, Morris County, NJ. Mr. Pucci is managing the development of the Blind Brook Watershed Management Plan and the Jackson Brook Flood Damage Reduction Project. The Blind Brook Watershed Management Plan consists of review of existing available project models, developing a comprehensive flood mitigation plan for the Blind Brook Watershed including flood hazard assessments, mapping, flood mitigation analysis, watershed plan development and formulation. The Jackson Brook Flood Damage Reduction Project includes preparation of a decision document, recommended alternatives, supporting documentation and design of flood damage reduction improvements.

USACE New York District, PHS&T Center, Picatinny Arsenal, NJ. Mr. Pucci is managing all aspects of civil design for the development of the Packaging, Handling, Storage and Transportation (PHS&T) Center at Picatinny Arsenal. The project entails design of a new weapons laboratory which is being relocated from Earle Naval Station to Picatinny Arsenal. Civil design includes special emphasis on building siting, relocation of major utilities, permitting with NJDEP and environmental remediation.

Brookhaven National Laboratory Center for Functional Nanomaterials & National Synchrotron Light Source II, Upton, NY. Mr. Pucci was the senior civil engineer for all utility and civil design on the Center for Functional Nanomaterials project which was recently awarded Silver LEED Certification by the USGBC. Work included environmental review, storm drainage, sanitary sewer, water, chilled water, compressed air and steam. Mr. Pucci is also the senior civil engineer for all utility and civil design on the National Synchrotron Light Source II (NSLS II) Facility. Work included design of tunnel, utility corridor within the 400,000 SF particle accelerator, stormwater and sanitary sewer pump stations, and earthwork analysis. The combined construction costs are $241.7M.

Sean Quarry

Project Role: UST Assessments & Closures Support

Education
M.S. Candidate, Environmental Health Science, Anticpated 2011 / M.S., Environmental Engineering, 2007 / B.S., Environmental Technology, 2005

Registrations/Certifications
OSHA HAZWOPER 40 hour and 8 hour refresher

Experience
Mr. Quarry is an Environmental Scientist at HDR. He has preformed a multitude of duties, including environmental/geotechnical drilling and evaluation, Phase I and Phase II Environmental Site Assessments (ESA), petroleum spill investigation/remediation, underground storage tank (UST) closure and removal oversight, vapor intrusion/soil gas assessments, and solid waste landfill investigations. He is knowledgeable of federal, state, and local environmental regulations and standards. His responsibilities as an Environmental Scientist include client, regulatory agency, and contractor liaison, project management/coordination, task management/coordination of subcontractors, operation and maintenance of remediation systems, construction/ remediation oversight, and the assistance with the preparation of Phase I ESA, Phase II Remedial Investigative Reports (RI), and Remedial Action Work Plans (RAP).

USEPA/USACE New York District, Town of Rockaway, Rockaway, NJ. Mr. Quarry was involved with in a vapor intrusion assessment and mitigation at a former dry cleaning establishment as well as the delineation of groundwater due to multiple source locations by means of a town wide pump test. Activities include sub-slab, indoor air, and ambient air quality sampling, well development, pressure transducers monitoring for groundwater contours and flow direction.

NYSOGS, Valley Stream Underground Storage Tank, Valley Stream, NY. Mr. Quarry is responsible for operating and maintaining the Air Sparge/Soil Vapor Extraction (AS/SVE) system at a NYS Police Barracks designed to remediate a gasoline spill caused by a leaking underground storage tank (LUST). His duties include administrative duties, operation and monitoring of the remedial system, maintenance, system and groundwater sampling.

NYSOGS, Wallkill Correctional Facility, Wallkill, NY. Mr. Quarry first was onsite for underground storage tank (UST) closure and removal oversight. This consisted of a number of tanks being removed and endpoint sampling due to preventative measures at the facility. Secondly, he was called in on an emergency spill clean up from the discovery of historic fuel found during excavation activities for new sewer lines to the dairy barn and manager's quarters. His responsibilities included construction management and environmental professional tasks directly related to the clean up of contaminated material, endpoint sampling, and backfilling activities.

NYSOGS and NYSDOT, Region 8 -Poughkeepsie, NY. Mr. Quarry completed extensive soil and groundwater sampling through the use of Geoprobe boring and installation of temporary peizometers throughout the DOT garage facility and adjacent Office of Mental Health compounds. The extent of contamination of the gasoline spill caused by a leaking underground storage tank (LUST) was necessary for further remediation.

USACE, Picatinny Arsenal, NJ. Mr. Quarry was involved in the soil, groundwater and infrastructure characterization of the new packing and storage facility at the Picatinny Arsenal Base. The on-site investigation involved logging and sampling soils, the installation of temporary peizometers, perc testing, and assistance with recording all sampling locations.

National Park Service (NPS), Floyd Bennett Field, Brooklyn, NY. Mr. Quarry was involved in the soil, groundwater and infrastructure characterization of the Floyd Bennett Field area. The on-site investigation involved logging and sampling soils, the recording groundwater levels, and assistance with recording all sampling locations. He coordinated with local authorities and agencies for access and procedural assignments as well as other engineers.

New York City Department of Parks & Recreation (NYCDPR), Rockaway Beach, NY. Mr. Quarry was involved in the soil, groundwater and infrastructure characterization of the Rockaway Beach Park area. The on-site investigation involved logging and sampling soils, the installation of temporary peizometers, perc tests, and assistance with recording all sampling locations.

NYCEDC, Redevelopment of Multiple Sites across the Hunts Point Food Distribution Center, Bronx, NY. As environmental scientist Mr. Quarry has assisted and been involved with several extensive subsurface investigations at different parcels located with in the Hunts Point Food Distribution Center. The subsurface investigations were implemented to delineate the extent of Former Manufacture Gas Plant byproducts (coal tar and purifier waste) to facilitate the redevelopment of these areas. Sean was also directly involved in the redevelopment and rehabilitation of several parcels of land, which include the rehabilitation of the Bulkhead and Shoreline to build a portion of the South Bronx Greenway, the redevelopment of Parcel B and C to accommodate a warehouse and distribution facility, and the rehabilitation of other surrounding parcels.

NYCEDC, Willets Point, NY. Mr. Quarry was involved in the redevelopment of multiple sites across the Willets Point section of Queens, New York. The on-site investigation involved soil, groundwater, and infrastructure characterization, logging and sampling soils, the installation of temporary peizometers, and assistance with recording all sampling locations.

NYCDPR, Ocean Breeze Park, Staten Island, NY. Mr. Quarry was involved in the soil, groundwater and infrastructure characterization of the Ocean Breeze Park area. The on-site investigation involved logging and sampling soils, the recording groundwater levels, and assistance with recording all sampling locations.

Christina M. Quiroz, PE

Project Role: Cost Estimating

Education
B.S., Civil Engineering, Manhattan College, 2003

Registrations/Certifications
Professional Engineer, NY; MCACES, 2nd Generation (MII) Basic Training

Experience
Ms. Quiroz is a project engineer and has experience in civil engineering specializing in projects related to land development civil design, water resources, transportation, and construction administration. Her experience includes civil engineering design, design improvements for a wastewater treatment facility, cost estimation, permitting and construction support services for commercial, residential, recreational, industrial and public works type projects. Ms. Quiroz's experience ranges from preparing preliminary planning plans and reports to developing civil engineering construction cost estimates, construction documents and hydrology studies. Her engineering design experience has consisted of road, site, storm drainage, sanitary sewer, waterline, site grading, earthwork calculations, erosion and sediment control, and detention pond design. Her computer skills include MCACES MII Cost Estimating System, SpecsIntact, AutoCAD 2005; Land Development Desktop Module; Hydraflow Hydrographs; Hydraflow Storm Sewers; Microsoft Word, Microsoft Excel and Microsoft PowerPoint. The following projects represent Mrs. Quiroz's experience:

C-44 Reservoir and Stormwater Treatment Area Project, South Florida Water Management District. Mrs. Quiroz prepared the cost estimation of the C-44 project. The C-44 Project is one component of the Indian River Lagoon South Project which will attenuate flows and improve the quality of the Southern Indian River Lagoon. HDR's role, which began in late 2004, has included developing the project from site evaluation to the basis of design, as well as the detailed design and specifications (1,000 plan sheets and 2,000 pages of specifications). Mrs. Quiroz converted the project cost estimate from Microsoft Excel format to the MCACES MII format utilizing the Department of Army Standards for Civil Works projects.

USACE Kansas City District/USEPA Region 2 IDC, Imperial Oil Superfund Site, Monmouth County, NJ. Ms. Quiroz is providing civil engineering assistance in support of the Remedial Design and Remedial Action for Operable Unit 3 (OU3) at the Imperial Oil/Champion Chemical (Imperial Oil) Superfund Site in Morganville, New Jersey. USEPA issued a ROD for OU3 in September 1999 which includes demolition, decontamination, and disposal of below ground and above ground structures; the removal and off-site disposal of floating product and the excavation and off-site disposal of impacted soil and other secondary waste streams at the site. In addition the remedy will include shoring, excavation dewatering, water treatment, and restoration of the site and impacted wetlands, as well as other areas disturbed during the course of the remediation. Tasks under this assignment include conducting a comprehensive review of historical data and the 95% complete submission prepared by a consultant to the State of New

Jersey, conducting a Value Engineering (VE) screening of the 95% design which included an independent cost estimation to compare and assess the potential for cost savings, and completion of a detailed design for the implementation of the requirements specified in the September 30 1999 OU3 ROD.

USACE Kansas City District, Rockaway Borough Well Field Superfund Site, Morris County, NJ. Ms. Quiroz provided support with the remedial design services as part of Operable Unit (OU) 3 at the Rockaway Borough Well Field (RBWF) Superfund Site in Rockaway Borough, Morris County, New Jersey. She participated in completing design submittals including writing sections of the design report, compiling USACE specifications, and preparing preliminary cost estimates.

USACE Jacksonville District/South Florida Water Management District, C-44 Reservoir and Stormwater Treatment Area Project, Cost Estimator. Mrs. Quiroz prepared the cost estimation report for the C-44 project, one component of the Indian River Lagoon South Project, which will attenuate flows and improve the quality of the Southern Indian River Lagoon. HDR's role, which began in late 2004, has included developing the project from site evaluation to the basis of design, as well as the detailed design and specifications (1,000 plan sheets and 2,000 pages of specifications), which was completed in 2007. Ms. Quiroz converted the project cost estimate from Microsoft Excel format to the MCACES MII format utilizing the Department of Army Standards for Civil Works projects. The estimate for the project is approximately $29 million dollars.

UASCE *Picatinny PHS&T Parametric Design- Picatinny Arsenal, NJ- Landscape Architect.* Mrs. Quiroz is providing civil engineering services as a member of the Military Planning Team for the development and preparation of the Civil and Landscape Design of the Packaging, Handling, Shipping and Transport Facility at Picatinny Arsenal. Her responsibilities included site layout, grading, drainage, hydrologic and hydraulic analysis, and cost estimation. All site design and other engineering services for the design, including Design Analysis and Construction Cost Estimates for the PHS&T Facility at Picatinny Arsenal are in accordance with UFC3-710-01.

Middlesex County, New Brunswick Landing Park Improvement Project, New Brunswick, NJ. Mrs. Quiroz provided civil engineering services as a project engineer for the development of the dock, park, and navigational aids. The project includes a 24 slip floating dock for recreational boats along the Delaware and Raritan Canal Towpath which borders the Raritan River. The dock will provide direct pedestrian access into downtown New Brunswick. Additionally, park improvements will include hardscape features, landscaping, lighting and interpretive signs to be installed from the dock connection on the canal towpath to the New Jersey Department of Transportation (NJDOT) New Street overpass. Ms. Quiroz was also responsible for renewing and revising all permits necessary for the docks, park, and navigational aids.

Beaver Swamp Brook Wetland Monitoring, Town/Village of Harrison, NY. Mrs. Quiroz is the project manager for ongoing Wetland Monitoring being conducted to restore the Beaver Swamp Brook. The project is being conducted through the NYSDEC Brownfield's Program as part of the NYSDEC Environmental Restoration Program (ERP). Per the United States Army Corps of Engineers (USACE) Permit for the project, the wetlands must be monitored for five years. Primary objectives of this project include the monitoring of the groundwater and vegetation to ensure the methods employed by the Town meet NYSDEC requirements for restoration on the site.

Kenneth G. Robbins, PE

Project Role: Remediation Design Support

Education
Bachelor of Science, New Jersey Institute of Tech, 1996

Registrations/Certifications
Professional Engineer – (NJ, NY, PA); OSHA HAZWOPER 40 hour and 8 hour refresher

Experience
Mr. Robbins is a project manager with HDR. Mr. Robbins has over 13 years of experience in environmental investigation and remediation at a number of diverse sites nationwide. The following are Mr. Robbins relevant project examples:

Bethlehem Commerce Center, Bethlehem, PA. Mr. Robbins has provided oversight of the environmental investigation, cleanup, and permitting for the former Bethlehem Steel redevelopment project. Primary responsibilities include preparing work plans for soil and groundwater investigations, coordinating remedial activities, and managing budgets and staff. He is the lead contact with regulatory agencies and coordinates submission of permit applications, plans and reports.

Novak Sanitary Landfill, South Whitehall, PA. *Mr. Robbins assisted in evaluating land fill gas* migration at the facility along geologic fractures and assisted in the design of remedial measures to manage soil gas at the perimeter of the landfill.

Greystone & Company, Interstate Distribution Center at Pittston, Pittston, PA. As Project Manager, Mr. Robbins is responsible for developing an investigation and remedial strategy to redevelop this former glass manufacturing facility under Pennsylvania's Brownfields Recycling Act. Mr. Robbins was responsible for reviewing historical environmental reports and developing sampling plans to satisfy regulatory requirements.

BJ Alan Company, Phantom Fireworks, Portland, PA. Mr. Robbins was responsible for obtaining a Beneficial Use Determination for the reuse of approximately 6,000 cubic yards of fly ash, which ultimately resulted in a significant cost savings to the client.

New Jersey Transit Hudson-Bergen Light Rail Transit System, NJ. Mr. Robbins served as Project Manager for the Minimal Operational System – 2 (MOS-2) phase of the H-BLRTS. Mr. Robbins provided environmental construction support in the form of preparing reports for submittal to the New Jersey Department of Environmental Protection (NJDEP), cost estimating and developing construction specifications and provisions. As Project Manager, Mr. Robbins coordinated staffing, managed the budget, and maintained regular contact with the client regarding project issues. Mr. Robbins' field activities for this project have included environmental construction oversight, air, soil and groundwater sampling and delineating soil contamination.

New Jersey Transit, Weehawken Tunnel Expansion Project, NJ. As Project Manager for the Weehawken Tunnel Expansion Project, Mr. Robbins developed project Environmental Specifications, reviewed contractor environmental submittals and coordinated field personnel to ensure continuous environmental oversight during construction. Mr. Robbins coordinated with the Design, Build, Operate

and Maintain (DBOM) contractor to ensure that regulated materials generated during construction activities for this project were managed in accordance with federal, state, and local regulations.

New Jersey Department of Treasury, Division of Property Management and Construction, Underground Storage Tank Removal and Replacement, Statewide, NJ. As a Senior Engineer for this project, Mr. Robbins performed the design development of engineering specifications and plans for the removal and replacement of approximately 120 heating oil Underground Storage Tanks at 45 State owned facilities throughout New Jersey.

New Jersey Transit Secaucus Road Separation Project, NJ. Mr. Robbins provided construction oversight and regulatory compliance support. Prepared Remedial Investigation Work Plan (RIWP) and Remedial Investigation / Remedial Action Selection (RI/RAS) Report.

New Jersey Transit Rehabilitation and Redevelopment of Hoboken Yard, NJ. Mr. Robbins identified hazardous materials in the Hoboken Rail Yard during preliminary engineering. Developed project Decontamination and Demolition Specifications. Coordinated environmental compliance for several design firms.

US Coast Guard Oil Burns, Little Sand Island, AL. A joint US EPA / Environment Canada study to measure the environmental impact of burning spilled oil as a cleanup technique had Mr. Robbins assisting in designing, building and implementing remote data acquisition system to collect environmental data during pilot scale testing of oil burns.

USEPA ERTC, Libby Asbestos, Libby, MT. As Task Manager, Mr. Robbins provided support to the U.S. Environmental Protection Agency (U.S. EPA) Environmental Response Team Center (ERTC) during initial emergency response and long-term air monitoring in response to local concern and news articles about asbestos-contaminated vermiculite. Performed indoor and ambient air and bulk sampling to determine the potential for risk to public health from the asbestos-contaminated vermiculite. Mr. Robbins worked closely with local, state and other federal agencies, including: the City of Libby, Lincoln County Commissioners and the Department of Environmental Health; the Montana Department of Environmental Quality (DEQ); the Montana Department of Public Health and Human Services (DPHHS); and the federal Agency for Toxic Substances and Disease Registry (ATSDR) during sampling activities for this project.

USEPA, ERTC, J-field Phytoremediation Study, Aberdeen Proving Grounds, Edgewater MD. Mr. Robbins assisted in performing the J-field phytoremediation pilot scale testing at Aberdeen Proving Grounds. Responsibilities included installation of groundwater sampling wells and soil borings and performing soil, groundwater, soil gas and ambient air sampling. The project cost was $500K.

USEPA ERTC, Chemical/Biological Incident Response. In response to a growing national concern over the threat of weapons of mass destruction, the U.S. EPA ERTC tasked the Response Engineering and Analytics Contract (REAC) with providing chemical/biological incident response readiness during high profile events. Between 1996 and 2000, Mr. Robbins supported the U.S. EPA's chemical/biological response capabilities during the G-8 Conference (Denver, CO), World Trade Organization Summit (Seattle, WA), NATO 50th Anniversary (Washington, D.C.), and the Democratic National Convention (Los Angeles, CA). In addition to the response readiness, Mr. Robbins assisted in training the U.S. Marine Corps Chemical Biological Incident Response Force (CBIRF), United States Army Corps of Engineers, and local Hazardous Materials Teams in state of the art air sampling and monitoring techniques and equipment.

Noemi Santiago, PE

Project Role: Environmental Assessments Support

Education
M.S., Environmental Engineering, 2004 / B.S., Environmental Engineering, 2000

Registrations/Certifications
Professional Engineer (NY); OSHA HAZWOPER 40 hour and 8 hour refresher; OSHA, Certified 10-hour Construction Training

Experience
Ms. Santiago is a senior project engineer at HDR. She has diverse experience, including noise monitoring and noise analysis, permitting, site assessment, site sampling, site remediation, dredging, procurement, cost estimating, and telecommunications. The following are Ms. Santiago's relevant project examples:

NYCDEP, New York. Ms. Santiago provided assistance conducting technical reviews of noise analyses included in Environmental Impact Statements/Environmental Assessment Statements (EISs/EASs) submitted to the NYCDEP's Office of Environmental Planning and Assessment (OEPA) for review under State Environmental Quality Review Act/City Environmental Quality Review (SEQRA/CEQR). The analyses reviewed were based on on-site stationary equipment analyses and the Federal Highway Administration's Traffic Noise Model (FHWA's TNM) version 2.0/2.5 for off-site mobile analyses.

NYCEDC, South Brooklyn Marine Terminal (SBMT). Ms. Santiago is the project manager on the SBMT project to provide environmental services, including permitting, for the development of the SBMT. Ms. Santiago is responsible for the technical oversight and administration for implementation of a sediment sampling plan for proposed dredging, the preparation of a Joint Application for Permit to the USACE and the New York State Environmental Conservation (NYSDEC), and a mitigation plan for impacts to tidal wetlands.

New York City Department of Sanitation (DSNY), NY. Ms. Santiago is the task leader for all noise analyses being conducted for an Environmental Impact Statement and Commercial Waste Study for the NYCDOS. This information will be used for the new New York City Solid Waste Management Plan (SWMP). She is responsible for conducting noise screening, noise monitoring and noise analyses in accordance with the New York City Environmental Quality Review (CEQR) Technical Manual, as well as the New York City Administrative Noise Code and Zoning Performance Code. Ms. Santiago is responsible for managing all other noise work performed by subcontractors. She also participates in meeting's that are with held with the Client and/or the NYCDEP for approval of the noise protocol. In addition, Ms. Santiago was also involved in the preparation of Site Investigation Work Plans for three of the New York City Incinerator sites.

NYSDOT, Bus Rapid Transit System, NY. Ms. Santiago is the task leader for the noise and vibration assessment being conducted in accordance with the New York City Environmental Quality Review (CEQR) Technical Manual and the Federal Transit Administration (FTA) Transit Noise and Vibration Impact and Assessment. The noise and vibration assessment is being conducted to fulfill the requirements of the Categorical Exclusion with documentation (CE(d)) in conformance with the National Environmental Policy Act (NEPA) guidance for the

implementation of a Bus Rapid Transit System (BRT) along the Nostrand Avenue and Rogers Avenue corridor in Brooklyn, New York. In addition, Ms. Santiago is responsible for coordinating the air quality analyses being conducted in accordance with CEQR and federal conformity standards.

New Brunswick Landing Waterfront Development Project, Middlesex County, NJ. Ms. Santiago was the task leader for the preparation of the New Jersey Department of Environmental Protection (NJDEP) Waterfront Development Permit and the United States Army Corps of Engineers (USACE) Permit for the New Brunswick Landing Waterfront Development Project in the Raritan River in New Brunswick, New Jersey. She was involved in the preparation of the Strategy Plan for the Raritan River from the Raritan Bay to the Albany St. Bridge in New Brunswick, which included participating in numerous meetings with the Stakeholders of the Raritan River. Ms. Santiago was also responsible for obtaining a NJDEP Sampling Plan and for sampling activities, including the procurement of contractors, to perform a Sediment Characterization of the material to be dredged. Ms. Santiago is responsible for managing the tasks related to performing mitigation for the disturbance of intertidal/subtidal shallows resulting from the dredging.

NYCDEP, Bronx CSO Storage Facility, NY. Ms. Santiago was the task leader for the noise assessment conducted for the construction and post-construction phases of a proposed Combined Sewer Overflow Storage Facility in Bronx, New York. This information was used by the prime consultant to support an Environmental Assessment Statement for the project. She was responsible for conducting noise screening, noise monitoring and noise analyses in accordance with the New York City Environmental Quality Review (CEQR) Technical Manual.

Westchester County Airport, NY. Ms. Santiago was involved in conducting a Phase II Site Investigation at a former New York Air National Guard (NYANG) Site, which is a New York State Department of Environmental Conservation (NYSDEC) Voluntary Cleanup Program Site. Her responsibilities included procurement of the necessary Subcontractors and preparation of the Phase II Site Investigation Work Plan, which was reviewed by the NYSDEC. In addition, she was involved in the on-site management of field activities and the preparation of the Phase II Site Investigation Report.

City of Yonkers, ATI Site, Yonkers, NY. Ms. Santiago assisted in conducting a Phase I Site Assessment for an Above-Ground Storage Tank (AST) fuel farm and for the preparation of the Phase I Site Assessment Report. She was responsible for the preparation of the Work Plan for the Phase II Site Investigation that is to be performed at the site.

Yonkers Parking Authority, Yonkers, NY. Ms. Santiago is the Project Manager for the site, which is an approved New York State Department of Environmental Conservation (NYSDEC) Brownfield Site. She is the primary contact for both the Client and the NYSDEC. She is responsible for the preparation of a Site Investigation Report and Remedial Action Plan for the Site. She was responsible for conducting an On-site and Off-site Investigation, including the procurement of drilling and laboratory services in accordance with NYSDEC requirements. The On-site and Off-site investigation included soil sampling, groundwater sampling, sub-slab soil gas sampling and indoor air sampling. Ms. Santiago was responsible for the day-to-day field operations during the removal of USTs, hydraulic lifts and tanks, petroleum contaminated soil and groundwater from the Site. Ms. Santiago was responsible for the preparation of the bid package for procurement of the remedial contractor, as well as managing all other procurement activities. She was responsible for the preparation of the Site Investigation Work Plan approved by the NYSDEC. She was responsible for providing additional preliminary cost estimates to the NYSDEC for completion of the Brownfields Program Application for the site.

Kovid Saxena, AICP, LEEP AP

Project Role: Environmental Assessments Support

Education
M.S., Urban Planning, Columbia University, 2004
Bachelor of Architecture (with honors), University of Mumbai, 1999

Registrations/Certifications
American Institute of Certified Planners, No. 022351; LEED Accredited Professional

Experience
Mr. Saxena is a Planner in HDR's New York offices, with 11 years of experience in environmental-land use-transportation planning, public policy, and development in complex urban environments. His broad expertise includes preparation of environmental documentation conforming to the National Environmental Policy Act (NEPA), New York State Environmental Quality Review Act (SEQRA) and the New York City Environmental Quality Review (CEQR); analysis of environmental impact categories including greenhouse gas emissions, land use, and socioeconomic conditions; economic development; real estate market analysis; community planning; public outreach; and application of Geographic Information Systems for transportation planning and environmental constraints analysis. Mr. Saxena has worked on projects in New York and internationally. The following projects represent Mr. Saxena's experience:

New York City Department of Transportation, Bus Rapid Transit on First and Second Avenues, Brooklyn, NY. As deputy project manager for environmental tasks, Mr. Saxena is responsible for preparing environmental documentation (Categorical Exclusion (d)) conforming to NEPA and CEQR for the construction and operation of a 9.3-mile Bus Rapid Transit system in Brooklyn. Specific areas of analysis include cumulative impacts, environmental justice, socioeconomic impacts, land use, zoning and public policy. The Federal Transit Administration is the federal lead agency for the project.

New York City Department of Transportation, Bus Rapid Transit on Nostrand and Rogers Avenues, Manhattan, NY. As deputy project manager for environmental tasks, Mr. Saxena is responsible for preparing environmental documentation (Categorical Exclusion (d)), conforming to the NEPA and CEQR for the construction and operation of an 8.5-mile Bus Rapid Transit system in Manhattan. Specific areas of analysis include cumulative impacts, environmental justice, socioeconomic impacts, land use, zoning and public policy. The Federal Transit Administration is the federal lead agency for the project.

Canadian Pacific Railway, Canadian Pacific Ballston Spa-Saratoga Springs Double Track, Saratoga, NY. Mr. Saxena lead the preparation of environmental documentation (Categorical Exclusion (d)) for the construction of a 2-mile long railroad track funded by the American Reinvestment and Recovery Act of 2009 (ARRA) in conformance with NEPA and SEQRA. The Federal Railroad Administration and the New York State Department of Transportation were lead agencies for the project.

NYSDOT, Brooklyn-Queens Expressway Project Scoping Report, Brooklyn, NY. Mr. Saxena is responsible for preparing environmental documentation (Tiered Environmental Impact Statement) in conformance to NEPA and SEQRA, and agency and public outreach in conformance to Section 6002 of the Safe Accountable Flexible Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU) for the proposed rehabilitation, reconstruction or replacement of a 1.5-mile segment of the Brooklyn-Queens Expressway (Interstate 278). The project includes evaluation of transit alternatives and strategies. The Federal Highway Administration is the federal lead agency for the project.

Lafarge North America, Inc., Ravena Plant Modernization, Albany County, NY. Mr. Saxena is responsible for the analysis of greenhouse gas emissions in conformance with policy guidance issued by the New York State Department of Environmental Conservation (NYSDEC). Mr. Saxena also analyzed environmental impact categories including socioeconomic conditions and cultural resources as part of an Environmental Impact Statement (EIS) for the modernization of Lafarge's Portland cement manufacturing facility, under SEQRA. The NYSDEC is the lead agency for the project. HDR fees: $1.5million.

NYSDOT, Interstate 81 between I-481/81 Interchanges 16A and 29, Syracuse, NY. Mr. Saxena is responsible for analyzing environmental constraints—using GIS applications—related to the rehabilitation or reconstruction of Interstate 81 in Syracuse, NY. The project includes the evaluation of alternative roadway alignments for this segment of Interstate 81. The Federal Highway Administration is the federal lead agency for the environmental review.

NYSDOT, Patroon Island Bridge, Albany and Rensselaer Counties, NY. Mr. Saxena is responsible for analyzing and documenting environmental constraints—using GIS applications—related to the rehabilitation or reconstruction of the Patroon Island Bridge, which connects the cities of Albany and Rensselaer over the Hudson River. The Federal Highway Administration is the federal lead agency for the environmental review.

Canadian Pacific Railway, Ethanol Transfer Facility, Albany, NY. Mr. Saxena prepared Categorical Exclusion documentation for an ethanol transfer facility-related railroad improvements funded by the American Reinvestment and Recovery Act of 2009 (ARRA) in conformance with the NEPA. The Federal Railroad Administration was the federal lead agency for the environmental review.

State University of New York at Stony Brook, ABSL3 Laboratory Environmental Assessment, Long Island, NY. Mr. Saxena is responsible for the preparation of environmental documentation conforming to NEPA (Environmental Assessment) and SEQRA (Environmental Assessment Form) related to the construction of a new Animal Biosafety Level 3 facility funded by the National Institutes of Health to support infectious disease research.

Stephen Seymour, PWS

Project Role: Risk Assessments Support

Education
M.S., Public Administration, 1996 / B.S., Fishery Biology, 1989 / A.A.S., Fish & Wildlife Tech, 1978

Registrations/Certifications
Certified Professional Wetland Scientist (Society of Wetland Scientists, 1999); OSHA HAZWOPER 40 hour, Supervisor and 8 hour refresher; American Red Cross Standard First Aid and Adult CPR

Experience
Mr. Seymour is a Certified Professional Wetland Scientist and a Senior Project Manager at HDR. Mr. Seymour is responsible for wetland delineation and wetland and waterfront permitting in southern New York, New York Harbor, and northern New Jersey. He has been involved in New York Harbor environmental studies and permitting for the past 20 years. Mr. Seymour is responsible for data collection, interpretation, report writing, and preparation of environmental impact statements. He has conducted ecological risk assessments, food chain and bioaccumulation studies, and field surveys to develop and support Remedial Investigation/Feasibility Studies. Mr. Seymour has extensive experience working with the technical, regulatory, and enforcement staffs of the U. S. Army Corps of Engineers and the NYS Department of Environmental Conservation. He attends scoping sessions, public hearings, and agency meetings associated with the National Environmental Policy Act (NEPA), New York State Environmental Quality Review (SEQR) and the New York City Environmental Quality Review (CEQR) processes. The following are Mr. Seymour's relevant project examples:

Shenandoah Road Ecological Risk Assessment, East Fishkill, NY. HDR was retained by Groundwater Sciences Corporation to conduct surface water and sediment sampling and provide ecological characterization as part of an ERA in Dutchess County, NY. Mr. Seymour prepared the ERA work plan and oversaw the field media and environmental sampling. He also collected field information for the contaminant pathway analysis and coordinated file search requests with the USFWS and NYSDEC Natural Heritage Program.

Grove Cleaners, Risk Assessments, Hewlett, NY. HDR was retained by USEPA to conduct human health and ecological risk assessment work for a site in Nassau Co., NY. Mr. Seymour reviewed background data, assembled database files on wildlife, and conducted site surveys to identify vegetation and wildlife and potential contaminant pathways.

PANYNJ, Stewart International Airport Wetland Delineation, New Windsor, NY. HDR was retained by PANYNJ to delineate state and federally-regulated wetlands on two parcels on the Stewart International Airport campus in New Windsor, Orange County, NY. He prepared Jurisdictional Determination request packages (using the post-Rapanos guidance) and accompanying functional assessments for submittal to USACE.

PANYNJ, Howland Hook Marine Terminal. Mr. Seymour prepared the Joint Application for Permit forms, CZM (NYSDOS and NYCDCP) and Coastal Zone Consistency narratives for remediation of an access bridge to the Howland Hook Marine Terminal on Staten Island and for waterborne delivery of construction materials for the JFK International Airport (Bergen Basin).

PANYNJ, Allied Signal Site, Newark Bay, Elizabeth, NJ. Mr. Seymour supervised and participated in the delineation of freshwater and tidally-influenced wetlands on a parcel bordering Newark Bay in Elizabeth, New Jersey. The wetlands were mapped using GPS and wildlife observations were recorded as part of the delineation effort. He also oversaw the preparation and submittal of a Letter of Interpretation request package to NJDEP and General Permit #4 for the removal of contaminated surficial soils from a portion of the site.

USACE, New York District and PANYNJ, Liberty State Park, Jersey City, NJ. Mr. Seymour participated in the ecological assessment and habitat mapping of a 45-acre site in Jersey City, New Jersey. He mapped upland and wetland vegetation communities, identified wildlife, and evaluated shoreline areas for restoration potential as part of an Environmental Resource Inventory. He participated in the wetland functional assessment and preparation of habitat creation (grasslands, freshwater and tidal wetlands) plans for the site.

U.S. Coast Guard/PANYNJ, Staten Island Bridges Program, NY. HDR performed the ecological assessment of environmental impacts of the expansion proposed by PANY/NJ. Mr. Seymour conducted field surveys for wildlife, vegetation, and wetlands; prepared a wetlands functional assessment (Highway Methodology) to assess existing wetlands values and to set goals for wetland mitigation and restoration efforts. Wetland field studies included verification (based on the NYSDEC tidal wetlands maps) of wetland types and boundaries and identification of impacts (wave/wake damage, invasive vegetation, and debris stranding) to the wetlands.

New Jersey Transit, Access to the Region's Core. Mr. Seymour is the Project Manager for the research and preparation of Affected Environment, Potential Impacts, and Mitigation sections of the Floodplain, Navigable Waters, Coastal Zone Consistency, and Water Quality chapters of a NEPA EIS for the proposed construction of a new rail tunnel beneath the Hudson River.

USACE, New York District/NYCDEP, Flushing Bay and Creek Restoration Project. Mr. Seymour conducted site surveys of Flushing Creek and Upper Flushing Bay and wrote a wetland restoration program for the area. He also wrote portions of the CEQR EA for the project and conducted numerous water and sediment quality studies, as well as a year-long avian census of the bay.

Dzus Fastener Site, Islip, NY. Mr. Seymour conducted the field studies and pathways analyses to document contaminant migration under the (1994) NYSDEC protocol for Inactive Hazardous Waste Sites. The work triggered a NYSDOH advisory (cadmium) for a downstream waterbody. Scientific collector's permits were obtained from NYSDEC for surveys of a watercourse (Sampawams Creek), a downstream impoundment (Lake Capri) and adjacent coastal waters.

Grove Cleaners, Hewlett, NY. HDR was retained by USEPA to conduct human health and ecological risk assessment work for a site in Nassau Co., NY. Mr. Seymour reviewed background data, assembled database files on wildlife, and conducted site surveys to identify vegetation and wildlife and potential contaminant pathways.

Christoph Stannik

Project Role: Phase I Assessments

Education
M.S., Physical Geography, Soil Science & Limnology
B.S., Geography, Limnology & Zoology

Registrations/Certifications
ASTM E 1527-05 Standard Practice for Environmental Site Assessments, EPA PA/SI Training; OSHA HAZWOPER 40 hour, Supervisor and 8 hour refresher

Experience
Mr. Stannik has 16 years of experience in the environmental field, mostly in the Northeastern United States, including extensive experience in Phase I ESAs, Phase II site investigations, and removal and remedial actions at hazardous waste sites; including more than 10 years on EPA Superfund technical support contracts (emergency response, site investigation, domestic preparedness, removal actions and remediation). Mr. Stannik conducted, managed and supported more than 100 Phase I ESA and over 200 Phase II assessments at hazardous waste sites, as well as general site characterization, soil remediation, storage tank closure, and emergency response/spill actions. He has extensive experience conducting surface and subsurface soil sampling, groundwater sampling, air sampling, soil-gas sampling, waste sampling, waste testing, and monitoring well installation. His recent clients have included USEPA, USACE, and commercial clients. The following are Mr. Stannik's relevant project examples:

Office Of Border Patrol, U.S. Department Of Homeland Security; DACA63-03-D-0009, Task Order: DS02, Preparation of Environmental Due Diligence Assessments for the Proposed Construction of Tactical Infrastructure. Mr. Stannik prepared comprehensive Environmental Due Diligence Assessments (renamed Phase I Environmental Site Assessments [ESAs]) in support of the Fort Worth and Tulsa Districts and CBP under the PF225 program for the construction, operation, and maintenance of TI. The Phase I ESAs assessed 150-foot wide corridors in 72 proposed border fence sections in eight USBP sectors (San Diego, El Centro, Marfa, Del Rio, Yuma, Tucson, El Paso, and Rio Grande Valley) totaling approximately 270 miles, as well as several dozen associated proposed construction staging areas and access roads. The Phase I ESAs required site reconnaissance visits, property owner and governmental agency interviews, and the review of environmental database summary reports. The Phase I ESAs were prepared in compliance with ASTM International (ASTM) standard practice E1527-05 and identified all "recognized environmental conditions", "historical recognized conditions", select client-defined "business environmental risks", and other significant environmental findings related to hazardous substances and petroleum products. The Phase I ESAs also addressed several items beyond the regular recommended scope of ASTM standard practice E1527-05, including the compilation of information on wetlands, cultural resources, archeological and historic resources, ecological resources, and endangered species within the Site.

Mr. Stannik repeatedly discovered significant site location changes and additional areas that required assessment during the site visits. By observing and documenting these previously unidentified areas, HDR was able to eliminate the need for repeat mobilizations, resulting in significant cost savings to the client and avoiding impacts on the project schedule

Preparation of Phase I Environmental Assessments for PF-225 Access Roads and Staging Areas; Office Of Border Patrol, U.S. Department Of Homeland Security; W912BV-06-D-2016, Task Order 05. Mr. Stannik prepared comprehensive Phase I Environmental Site Assessments (ESAs) in support of the Fort Worth and Tulsa Districts and CBP under the PF225 program for the construction, operation, and maintenance of TI. The Phase I ESAs were generated for proposed construction staging areas and proposed access roads for 44 proposed border fence sections in five USBP sectors (El Centro, Tucson, El Paso, Marfa, and Rio Grande Valley).

The Phase I ESAs required site reconnaissance visits, property owner and governmental agency interviews, and the review of environmental database summary reports. The Phase I ESAs were prepared in compliance with ASTM International (ASTM) standard practice E1527-05 and identified all "recognized environmental conditions" and "historical recognized conditions" related to hazardous substances and petroleum products. Mr. Stannik repeatedly discovered significant site location changes and additional areas that required assessment during the site visits. By observing and documenting these previously unidentified areas, HDR was able to eliminate the need for repeat mobilizations, resulting in significant cost savings to the client. HDR was a subcontractor to ALL Consulting for this project.

PANYNJ, Bayonne Bridge Environmental Screening and Alternatives Analysis. Mr. Stannik was the Task Manager and preparer of the hazardous materials screening (HMS) document for the evaluation of the Bayonne Bridge alternatives. The HMS included a visual reconnaissance of the study areas in both states, review and evaluation of historical aerial photography, Sanborn Fire Insurance maps, and topographic maps; and environmental database searches. The findings addressed potential environmental impacts from contaminated properties associated with each of the alternatives.

USEPA Region 2, Remedial Action Contract, NJ, NY. Mr. Stannik is providing support for the USEPA Region 2 Remedial Action Contract by reviewing responsible peer review work plans and other submittals, conducting oversight of responsible party consultants for remedial investigations, conducting soil and groundwater sampling, data evaluation and drafting of Remedial Investigation reports. To date, Mr. Stannik has conducted field oversight at the Sherwin-Williams sites in Gibbsboro, NJ, drafted the RI report for the Ellenville Scrap Iron and Metal site in Ellenville, NY, and supported soil boring, well installation, well development and groundwater sampling at the Peninsula Boulevard Site in Hewlett, NY.

Livingston TCE Site, Wrightstown, PA. Field Task Manager for delineation of groundwater TCE plume and free-product source area, installation and sampling of monitoring wells, pump and aquifer testing and data interpretation. Managed groundwater sampling program, soil vapor sampling and operation and maintenance of pump-and-treat system and subcontracted and performed field oversight for geophysical borehole investigation and well installations.

Angela Stowe

Project Role: Field Inspections/Environmental Data Collection & Analysis

Education
B.S., Geological Engineering, 2003

Registrations/Certifications
Engineer in Training, 2003; OSHA HAZWOPER 40 hour and 8 hour refresher

Experience
Ms. Stowe joined HDR staff as a geologist in the Environmental and Resource Management Group. Since joining HDR, Ms. Stowe has been involved in multiple field inspection activities including well installation, groundwater, soil, and soil gas sampling. She has also performed report writing and environmental data collection and analysis. The following are Ms. Stowe's relevant project examples:

NYCEDC, Voluntary Cleanup Program Sites, New York, NY. Ms. Stowe has been the project manager and project geologist for the characterization and remediation of multiple sites under the NYSDEC Voluntary Cleanup Program. She has managed site investigations and field crews during site characterization activities including the collection of soil, groundwater, and soil gas samples for characterization and disposal, the installation of monitoring wells, and the completion of test pits and geotechnical borings. She has been responsible for the field activities related to the remediation and redevelopment of a former manufactured gas plant site in the Hunts Point Area and was responsible for the preparation of multiple site investigation and final closure reports.

NYSDEC, Standby Engineering Contract (D006129), Albertson Area Plume, Albertson, NY. Ms. Stowe is a geologist and project manager who has provided the quality control review for the geophysical survey at the Alberston Area Plume track down site characterization—conducted on several properties located south of the Albertson Water District supply well field. In addition to the geophysical survey, the site characterization includes membrane interface probing, soil and groundwater probe sampling, and soil gas sampling.

NYCEDC, Redevelopment of Multiple Sites across the Hunts Point Food Distribution Center, Bronx, NY. Ms. Stowe is involved in multiple investigations for redevelopment. She has managed site characterization and investigation activities including the collection of soil, groundwater, and soil gas samples for characterization and disposal, the installation of monitoring wells, and the completion of test pits and geotechnical borings. Ms. Stowe was responsible for field activities related to the redevelopment of a former manufactured gas plant site in the Hunts Point Area. She observed geotechnical borings, waste removal, waste disposal, and construction activities to ensure environmental compliance with New York State Department of Environmental Conservation (NYSDEC) approved work and management plans. She also oversaw the importation of approximately 80,000 cubic yards of soil under a Beneficial Use Determination from NYSDEC. Ms. Stowe was directly involved in the redevelopment and rehabilitation of several Bulkhead and Shoreline parcels to build a portion of the South Bronx

Greenway. Ms. Stowe's recent work in Hunts Point has included managing Phase II investigations in order to identify historic contaminants and characterize site fill materials prior to redevelopment.

NYCEDC, Redevelopment of Willets Point, Queens, NY. Ms. Stowe was involved in the soil, groundwater and infrastructure characterization of the Willets Point area. The on-site investigation involved historic site assessment and review of available databases, logging and sampling soils, the installation of temporary peizometers and the recording of all sampling locations with a Trimble® DGPS system. She also assisted in data collection, analysis and report preparation including mapping with ARC GIS. Ms. Stowe was responsible for the organization and submission of the Opinion of Probable Cost for the demolition, remediation, infrastructure, construction, and building foundations for proposed worst case development scenarios. She compiled multiple estimates from multidisciplinary teams of engineers and scientists to produce one comprehensive document.

NYCEDC/NYCDPR, Yankee Stadium Parking Lots 5 and 6, Bronx, NY. Ms. Stowe was the project manager for the investigation, data collection and analysis, and remediation of the petroleum spill located in the area of the former Yankee Stadium parking lots 5 and 6. Activities included the preparation and implementation of a Remedial Investigation Work Plan and the subsequent Remedial Action Work Plan. The remedy includes the installation of an AS/SVE system and bioremedial wells to be integrated into the final redevelopment of the site as a skate plaza and playground.

USACE Kansas City District/USEPA Region 2 - Chemical Insecticide Corporation Superfund Site, Edison, NJ. Construction & Field Inspector. Ms. Stowe was involved in the field quality control audits in support of Long Term Response Action (LTRA) and assessment as part of the Remedial Design of OU4 – the former Chemical Insecticide Corporation (CIC) Superfund site in Edison, NJ.

Solar One Inc. Subsurface Geotechnical, Environmental, and Geothermal Investigation, New York, NY. Ms. Stowe is the project manager for the subsurface investigation that is being completed to address geotechnical, environmental, and geothermal conditions at the Manhattan site. The redevelopment of the site and construction of the first "carbon net-zero" building in New York City is complicated by the presence of historic fill and contaminants, remnants of a former manufactured gas plant. She has managed site characterization and investigation activities including the collection of soil, groundwater, and soil gas samples for characterization and disposal, the completion of geotechnical borings required for building construction and the installation of two geothermal test wells.

Nyack Ice House, Nyack, NY. Ms. Stowe has been responsible for oversight of all on-site investigations as well as sampling activities. These activities have included monitoring well installation, UST removal, post excavation sampling, soil sampling, ground water sampling, surface water sampling, soil gas point installation, sub slab gas sampling, and soil gas sampling. She has also assisted in data analysis and in report preparations.

Kevin VerWeire

Project Role: Environmental Assessments Support

Education
M.S., Watershed Management, University of Arizona, 2005
Masters Thesis: The Relationship between Runoff Curve Numbers and NRCS Hydrologic Soil Groups for Agricultural Research Service Watersheds.
B.S. Environmental and Forest Biology, State University of New York College of Environmental Science and Forestry, 2000

Registrations/Certifications
Wetland Delineation Certification, Rutgers University, 2006

Experience
Mr. VerWeire is an Environmental Scientist at HDR. His activities include a wide range of duties from environmental mapping projects using GIS and GPS technologies to water quality monitoring and modeling. Mr. VerWeire has applied his experience in Watershed Management to perform broad scale watershed assessments and in developing water quality monitoring plans for small drainage areas in both urban and wildland settings. Mr. VerWeire has extensive experience using GIS to analyze the impacts of land use, soils, and topography on the hydrology of watersheds across the country. Additionally, Mr. VerWeire routinely performs threatened and endangered species habitat assessments, wetland delineations for Section 404 permitting, statistical analysis, and database development. Example assignments include:

PANYNJ, John F. Kennedy Airport State Pollutant Discharge Elimination System (SPDES) Water Quality Modeling. In response to Special Condition 1 of the October 1, 2007 New York State Department of Environmental Conservation (NYSDEC) SPDES permit, HDR is assisting the PANYNJ with a Water Quality Monitoring and Modeling study to determine the impacts of stormwater discharge during the deicing season on the dissolved oxygen levels of the receiving waters adjacent to JFK. Mr. VerWeire assisted the PANYNJ with development of the Water Quality Modeling Plan including discussions with the NYSDEC. In addition, Mr. VerWeire was responsible for coordination with the PANY/NJ to collect stormwater samples in support of modeling efforts.

PANYNJ, John F. Kennedy Airport State Pollutant Discharge Elimination System (SPDES) Permit Modification. As part of the SPDES permit modification process for JFK airport, the NYSDEC submitted a Request for Information (RFI) to the PANYNJ to examine the potential pollutants being discharged from airport stormwater into adjacent receiving waters during deicing events. Mr. VerWeire assisted the PANYNJ in development of a NYSDEC approved water quality monitoring plan to characterize the pollutant loads from all airport outfalls and was responsible for coordination of sampling events with PANYNJ Environmental Services branch. In addition, Mr. VerWeire was responsible for reduction and analysis of laboratory results and production of the Sampling Summary Report for the 2006-07 deicing season. Mr. VerWeire has also assisted in developing response comments to NYSDEC permit

revision, including guidance on representative airport outfalls and Whole Effluent Toxicity (WET) testing requirements.

PANYNJ, Goethals Bridge Replacement Environmental Impact Statement (2006) – Mr. VerWeire assisted with the Environmental Consequences portion of the EIS for the replacement of the Goethals Bridge, which connects northwestern Staten Island, NY to Elizabeth, NJ. Mr. VerWeire was responsible for assessing impacts to the wildlife and vegetation communities surrounding the Goethals Bridge for each design alternative using historic population/distribution data. ArcGIS 9.2 geoprocessing tools were used to overlay bridge designs on existing habitat and calculate acreage of potential impacts for the existing wildlife and vegetation communities. Additionally, Mr. VerWeire was responsible for writing the wildlife, threatened and endangered species sections of the Environmental Consequences portion of the EIS.

USACE New York District, Hudson Raritan Estuary (HRE) Comprehensive Restoration Plan. As the lead member of the NY/NJ Environmental Restoration Consultants, HDR is assisting the U.S. Army Corps of Engineers (USACE), New York District with preparation of the Comprehensive Restoration Plan (CRP). Working closely with representatives from the USACE and Hudson River Foundation (HRF), Mr. VerWeire is leading the effort to map potential restoration opportunities for HRE Target Ecosystem Characteristics (TEC) including oyster reefs and eelgrass beds. Responsibilities have included meetings with the USACE and HRF to develop the conceptual mapping plan, and assisting with the design and development of final cartographic products.

USACE, Hudson Raritan Estuary (HRE) Coastal Wetland Suitability Modeling. In support of the HRE Comprehensive Restoration Plan, Mr. VerWeire developed a pilot project to determine suitable locations for Coastal Wetland restoration in the HRE, using ArcGIS 9.2, Spatial Analyst extension, and the ModelBuilder interface. Responsibilities included model conceptual design, data collection (vector, raster, and aerial photography), cartographic production, metadata creation, and coordination with the USACE New York District.

Schuylkill River Greenway Association – Philadelphia In-river Swimming Facilities Feasibility Study – HDR performed a detailed feasibility study for the construction of an in-river swimming facility at multiple locations around the city of Philadelphia. Mr. VerWeire was responsible for GIS data collection, creation of site screening and assessment criteria, and communication of results to the client team through meetings and a Final report. Mr. VerWeire assisted with the conceptual designs of six facilities at two potential sites on the Schuylkill and Delaware Rivers.

NJDOT Office of Maritime Resources - Characterization of Dredged Materials in New Jersey's Confined Disposal Facilities – Under the New Jersey Department of Transportation Office of Maritime Resources "I Boat NJ" Program, HDR characterized the physical and chemical properties of dredged material in several confined disposal facilities (CDFs) in New Jersey to determine potential beneficial use applications for the material. Mr. VerWeire was responsible for data analysis and mapping the distribution of physical and chemical sediment characteristics using ArcGIS 9.2.

Lisa Voyce

Project Role: Risk Assessments Support

Education
M.S., Env. Eng., Hazardous Waste Engineering and Toxicology, 1984 / B.S., Environmental Science and Biology, 1978

Experience
Ms. Voyce is a Project Manager and senior scientist at HDR supporting various projects. Specific areas of technical expertise include human health risk assessment, toxicology, hazardous waste site assessment and remedial investigation, water resource protection and regulatory compliance. The following are Ms. Voyce's relevant project examples:

USEPA Region 2 Remedial Action Contract (RAC) (EP-W-09-009), Woodbrook Road and Peninsula Boulevard Sites. Ms. Voyce serves as a Project Manager and senior scientist for the current HDR RAC. She provides expert risk assessment and remedial investigation support, including exposure pathway analysis and technical comments on screening level ecological risk assessments, DNAPL and vapor intrusion issues. She is also involved in HDR's technical and regulatory program development for both ecological and human health risk assessment.

New Jersey Highlands Council, Chester, NJ. Ms. Voyce served as Principal Scientist in developing the Highlands Regional Master Plan. Responsible for $2 million in contracts related to water and wastewater utility capacity, ground water quality and the identification and mapping of natural resources. In a related capacity, served as Water Resource Project Director for the Association of NJ Environmental Commissions, performing research for the USDA Forest Service as part of the NY-NJ Highlands Regional Update. Completed 250-page technical report *"Setting the Standards for Water Quality Protection in the Highlands"*.

USEPA Region 2 ARCS Contract, Sites Throughout New York and New Jersey. Ms. Voyce was the Senior Risk Management Specialist at her previous firm, responsible for scope, budget and planning USEPA, DOD, DOE and industrial client human health risk assessments. These included Genzale Plating, Endicott Wellfield, Hooker/Ruco, GCL Tie and Treating and Olean, NY Wellfield NPL Sites. Involved quantitative and qualitative examination of health and ecological risks, analysis of uncertainties and exposure analysis for human and ecological populations.

UST/Risk Based Corrective Action, Development of Several State and National Programs: Assisted in finalizing state policy and training technical staff to implement North Carolina's risk-based corrective action (RBCA) program for underground storage tanks. Provided technical support to Washington State in implementing RBCA policy for Port of Seattle-Duwamish Coalition Brownfields Project and to New York State Department of Environmental Conservation in developing statewide RBCA policy.

Hazardous Waste Remediation, Environmental Corporate Risk Manager, Nationwide: Reviewed hazardous waste remediation proposals and project plans to identify contract, regulatory, health & safety, ecological and technological risks. Worked with proposal/project managers to mitigate concerns in a cost-effective and responsive manner. "Lessons learned" information source for remediation project managers. EPA Pre-remedial Program Team Leader responsible for providing technical support and training to staff performing preliminary assessments/site investigations for USEPA Region II. Managed budgets, tracked LOE and task progress. Developed site investigation plans, health and safety plans and provided day-to-day guidance on Superfund Pre-remedial policy and program implementation.

Agency for Toxic Substances and Disease Registry, sites throughout EPA Region II, Public Health Advisor: Ms. Voyce provided technical support to the public, USEPA, state and local agencies on potential health effects of hazardous waste at more than 50 sites, including Federal facilities, landfills, chemical plants, drum dumps, and other remedial or emergency response operations. Reviewed all EPA Region II Superfund remedial program documents, including PA/SI, RI/FS, and risk assessments, providing recommendations on appropriate action. Sites included the Fresh Kills Landfill, Pelham Bay Landfill, GM Central Foundry, Love Canal, Marathon Battery, Kodak Park, Seneca Army Depot and Ramapo Landfill. Representative health and remedial issues included incinerator trial burn emissions, lead and mercury long-term exposure impacts, determining cleanup levels, landfill feasibility studies, asbestos/lead abatement and bioremediation. Served as liaison between Public Health Service expert medical and allied health staff and culturally diverse communities. Advised regulatory agencies during emergency response on need for evacuation, access restrictions, clean-up and further study at Superfund, RCRA and other sites.

USACE, Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP/FUDS), Nationwide, National Program Coordinator. While at USACE, Ms. Voyce was responsible for remedial action decision documents for more than 75 formerly DOD-owned waste site hazardous waste remediation or ordnance clearance projects. Sites included Nike missile silos, target ranges, ordnance works, air bases, maneuver areas, depots and communication facilities, among others. Assured Army DERP/FUDS compliance with CERCLA, RCRA, UST and other environmental statutes nationwide. Hazard Assessment Instructor for national DERP/FUDS training.

USEPA Region II, Superfund Program Support Management/Water Division, Program Coordinator, sites throughout Region II: Managed EPA Water Division technical, regulatory and policy support to Superfund program. Worked with Superfund and Water Division managers to iron out areas of disagreement and meet special needs to avoid adverse impacts on the environment and the Record of Decision process. Represented Water Division Director in Regional Administrator level decision briefings, involving ground water reclamation, POTW treatment of hazardous waste site discharges, evaluation of NPDES limits for remedial actions, protection of public water supplies and wetlands restoration. Assisted in developing first Superfund program ARARs manual for Region 2, including all Federal and state environmental regulations, focusing on water resource protection. Reviewed more than 150 Superfund site and Federal facility remedial actions for technical adequacy, protection of water resources (water supplies, freshwater, marine and wetlands), risk assessment and compliance with the Clean Water Act, Safe Drinking Water Act, and other federal and state statutes.

Andrew Wadden

Project Role: Phase I Assessments Support

Education
M.S., Environmental Studies, University of Massachusetts-Lowell, 2008 / B.S., Chemistry, Fairfield University, 2005

Registrations/Certifications
Asbestos Inspector, State of New York Department of Labor, 2008; OSHA HAZWOPER 40 hour and 8 hour refresher

Experience
Mr. Wadden is an Environmental Scientist with 2 years' experience. Mr. Wadden has performed a multitude of duties, including environmental site assessments, environmental impact statements, site investigations, environmental/geotechnical drilling and evaluation, petroleum spill investigation/remediation, vapor intrusion and soil gas assessments, and flood hazard area permitting. Mr. Wadden is knowledgeable of federal, state, and local environmental regulations and standards. The following projects reflect Mr. Wadden's experience:

PANYNJ, Remedial Action and Report, Former Olympia Trails Bus Depot, Elizabeth, NJ. Mr. Wadden helped prepare the remedial action report being conducted under the purview of NJDEP and the NJDEP HazSite laboratory deliverable package.

PANYNJ, Remedial Investigations and Remedial Actions, George Washington Bridge, Lincoln Tunnel and Holland Tunnel Sites, NJ. Mr. Wadden performed a file review at NJDEP to aid PANYNJ in obtaining closure for open remedial cases at these three bridge and tunnel facilities.

National Park Service, Floyd Bennett Field, Brooklyn, NY. Mr. Wadden has worked on two projects at Floyd Bennett Field including rehabilitation of the Ryan Center and an electrical cable replacement project. Mr. Wadden performed a Phase 1 Environmental Site Assessment for the electrical project cable route and also coordinated field activities for the geophysical survey and geotechnical borings with NPS staff and FBF tenants.

NYCEDC, Willet's Point Phase I, Queens, NY. Mr. Wadden prepared three Phase I ESAs for industrial properties to be taken by eminent domain and redeveloped as part of the Willets Point redevelopment initiative.

NYCEDC, Hunt's Point Development District, Bronx, NY. Mr. Wadden performed the field work portions of Phase II Due Diligence Environmental Site Assessments. These included coordinating boring locations with drill team, logging soil borings, soil sampling, and ground water sampling.

New York City Department of Parks and Recreation, Far Rockaway Beach Phase I and Hazardous Materials Section of EAS, Queens, NY. Mr. Wadden assisted in the preparation of the Phase I and hazardous materials, land use and community facilities sections of the EAS.

USACE NY District, Site Investigation for Building Design and Engineering at Picatinny Arsenal, Rockaway Township, NJ. Mr. Wadden performed field services and oversight for the pre-construction site characterization subsurface investigation at Picatinny Arsenal, a Federal Superfund Site. Mr. Wadden was also involved in the Flood Hazard Area permitting, NJDEP HazSite laboratory deliverable package, and preparation of the Site Investigation Report. This work is being conducted as part of a new building design by HDR.

USEPA Region 2 Remedial Action Contract, Sherwin-Williams Sites RI/FS Oversight, Gibbsboro, NJ. Mr. Wadden is currently performing field oversight on behalf of the EPA of Remedial Investigations being conducted by the PRP on three Superfund Sites in Gibbsboro, New Jersey.

NYSDOT, Stewart Airport Remedial Investigation, Newburgh, NY. Mr. Wadden performed field assignments at Stewart Airport as part of an on-going remedial investigation including soil sampling and well installation.

Private Client, Fuel Oil Spill Groundwater Remediation, Bloomingdale, NJ. Mr. Wadden prepared Discharge-to-Groundwater Permit-by-Rule Quarterly Reports for a groundwater remediation system that is removing free product (heating oil) from the water table at a restaurant in Bloomingdale, NJ.

Harrison Sub-Residency, Westchester, NY. Mr. Wadden has performed field assignments at this facility including ground water sampling, surface water sampling, and landfill gas monitoring.

Former Mimi Cleaners, Scarsdale, NY. Mr. Wadden has performed field assignments related to vapor intrusion assessment.

Private Client, Voluntary Cleanup Program Remedial Investigation and Remedial Action, Bloomingdale, NJ. Mr. Wadden filed the NJDEP approved Deed Notice with the Passaic County Clerk.

Evergreen Environmental, LLC, Potential Contamination Evaluation, Hackensack River Mitigation Bank, Ridgefield, NJ. Mr. Wadden performed an environmental site assessment and field sampling assignments to determine the feasibility of a potential development of a mitigation bank at this site.

Lehigh Valley Industrial Park, Bethlehem Commerce Center Redevelopment, Bethlehem, PA. At Lehigh Valley Industrial Park, Mr. Wadden supported various environmental investigations, including field assignments at the former Bethlehem Steel plant for LVIP, including well sampling, surface water seep sampling, soil boring advancement, and well abandonment.

Karen Wright

Project Role: Risk Assessments Support

Education
M.S., Environmental Engineering, 1974 / B.S., Biology, 1971

Registrations/Certifications
Master Occupational Safety Professional; OSHA HAZWOPER 40 hour, Supervisor and 8 hour refresher; American Red Cross Workplace First Aid and CPR Instructor; Certified Open-Water and Advanced Open-Water PADI Scuba Diver

Experience
Ms. Wright is a Project Manager at HDR and is an Office Health and Safety Officer (HSO). She has over 20 years of experience on hazardous waste investigations and remediation. In her capacity as project manager, Ms. Wright is responsible for budgeting projects, supervising subcontractors and in-house staff, client interaction, and technical oversight. Ms. Wright has worked on a large number of projects involving landfill remedial investigation, PCB contamination projects, and volatile and other organic contamination projects. The following are Ms. Wright's relevant project examples:

New York State Department of Environmental Conservation (NYSDEC), Mohonk Road Industrial Plant site RI/FS in High Falls, NY. Ms. Wright has also worked extensively with the New York State Department of Environmental Conservation (NYSDEC), having managed several projects under HDR' standby contract with NYSDEC. Ms. Wright served as project manager of the Mohonk Road Industrial Plant site RI/FS in High Falls, NY. The site's groundwater was contaminated with chlorinated volatile organic compounds (VOCs), which subsequently contaminated the residential wells downgradient of the site. The RI delineated the extent of groundwater and soil contamination. A human exposure assessment was prepared at part of the RI that determined significant exposure to VOCs existed from inhalation, ingestion, and contact routes. An interim remedial measures (IRM) was designed and constructed as part of the RI to remove the source of the contamination (an underground tank). HDR also prepared the design of a second IRM to pump and treat the nearfield contaminated groundwater. The FS focused on alternative water supplies for the downgradient residences and possible remediation of the contaminated groundwater and soil.

DASNY, Hudson River Psychiatric Center, Remedial Investigation/Feasibility Study, Poughkeepsie, NY. Ms. Wright served as project manager of a remedial investigation/feasibility study (RI/FS) conducted at the Hudson River Psychiatric Center (HRPC) in Poughkeepsie, NY. During an earlier investigation stream sediments located on the property were found to be contaminated with high levels of PCBs. The source was determined to be a storm drain which discharged from a vault room that at one time had housed PCB transformers. Prior to determining the extent of PCB contamination in the stream, HDR conducted an interim remedial measure (IRM) to remove the source of the PCB contamination. The IRM removed the contaminated sediment from the storm drain, replaced the floor drain in the vault room, and replaced a section of broken pipe from the floor drain to the next manhole. Contaminated soil

beneath the pipe was also excavated. The RI/FS consisted of the delineation of the PCB contamination in the streambed with samples collected in transects and with depth.

DASNY, RI/FS at the Hudson River Psychiatric Center (HRPC), Poughkeepsie, NY. The project determined the extent of lead contamination in soil and debris from lead-based paint contained in the demolished building. The FS included a risk assessment to evaluate the potential risk posed to human health by the existing lead contamination.

PANYNJ, Red Garage Project at JFK Airport. Ms. Wright prepared the New York State Department of Environmental Conservation (NYSDEC) phase II stormwater permit (GP-02-01) for the construction of the Red Garage project at JFK Airport.

PANYNJ, JFK Airport Bulk Fuel Farm West End Remediation Treatability Study. Ms. Wright served as the Project Manager for the JFK Airport bulk fuel farm west end remediation treatability study for the PANYNJ. The project consisted of testing of various chemical coagulants followed by dissolved air flotation to remove the residual iron in the wastewater. Ms. Wright developed the work plan, collected the wastewater for the treatability testing, supervised the laboratory work, and prepared the final report.

PANYNJ, JFK Airport Bulk Fuel Farm East End Chemical Purchase Project. Ms. Wright was the Project Manager on the JFK Airport bulk fuel farm east end chemical purchase project. This project involved the purchasing of the chemical coagulant and filter bags used at the facility for PANYNJ.

PANYNJ, *Effluent for Irrigation Project at JFK Airport.* Ms. Wright served as Project Manager of the effluent for irrigation project at JFK Airport. She was responsible for evaluating the results of the literature review, interpreting the wastewater treatment plant data, developing and conducting the bench-scale treatability study, preparing the report, and developing the conceptual design and cost estimate. She also was project manager for a project that evaluated the Holland and Lincoln Tunnels washing procedures and any treatment that may be required to meet New York City discharge limits. She acted as project engineer for the Elizabeth Industrial Wastewater Treatment Plant evaluation in which historical data were evaluated to determine whether the residual ammonia in the effluent was toxic. At JFK Airport, she conducted bench-scale jar tests on the wastewater to determine the correct dosage of potassium permanganate to remove iron and manganese. Ms. Wright reviewed the historical data collected at the A&A Landfill on Staten Island to determine whether the landfill could be used for storage after it was properly capped.

NYSDEC, United Plating RI/FS in Schenectady, NY. Ms. Wright served as Project Manager of the United Plating RI/FS in Schenectady, New York, conducted for NYSDEC. The project delineated the extent of groundwater and soil contamination outside a closed industrial facility, assessed the degree of contaminated debris inside the building, and developed an IRM for cleanup of the contaminated debris. A human health risk assessment was prepared as part of the RI and determined significant risk from heavy metals and cyanide exist at the site. The alternatives for cleanup of the rest of the site were also developed. A remedial design to remove the contaminated debris and demolish the building was completed and the demolition completed.

Carol Zurlo

Project Role: Report Preparation

Education
B.S., Environmental Science, 1991

Registrations/Certifications
OSHA HAZWOPER 40 hour, Supervisor and 8 hour refresher; NJDEP Certification for Tank Closure and Subsurface Evaluator; Hazardous Waste Manifest, Confined Space, and Trenching/ Shoring

Experience
Ms. Zurlo is an environmental scientist with over eight years of experience in regulatory compliance, site remediation and environmental consulting. She has conducted environmental compliance audits and environmental risk assessments of commercial, industrial and manufacturing facilities throughout the U.S. HDR projects include groundwater sampling, due diligence, report writing describing methodology and results, and insurance claim investigations/project management. The following are Ms. Zurlo's relevant project examples:

PANYNJ, Remedial Action and Report, Former Olympia Trails Bus Depot, Elizabeth, NJ. Ms. Zurlo conducted on-site subsurface evaluator and tank closure tasks associated with a tank abandonment and site remediation project at a former bus terminal in Elizabeth, New Jersey. A Tank Closure and Remedial Action Report were also prepared.

PANYNJ, Tank Removal / Remedial Action and Report, Newark Liberty Airport, Newark, NJ. Ms. Zurlo conducted on-site subsurface evaluator and tank closure tasks associated with a tank removal project at a Newark Liberty Airport switchhouse in Newark, New Jersey. She prepared the Tank Closure and Remedial Action Report.

ACE, Getty Claim Reviews, NY, NJ, ME, MA, MD, and FL. Ms. Zurlo has completed contractor invoice reviews, completed claim reviews (historic conditions, age of release, applicability to Policy conditions, reasonableness of work performed, review agency directives), managed job-to-date and projected costs, manage and organize information received from insured, technical review of information and prepared client updates for insurance claims generated from gasoline service stations in New York, New Jersey, Maine, Massachusetts, Maryland, and Florida.

Dynegy Northeast Generation, Inc., Newburgh, NY. Ms. Zurlo prepared portions of the effluent toxicity sampling program; provided coordination of third quarter sampling, preparation of interim reports, evaluation of data and plant operation/conditions.

Kensico Action Plan, NY. Ms. Zurlo completed a turf management 2,4-D assessment and report.

Lycee Francaise de New York, New York, NY. Ms. Zurlo conducted indoor air sampling with summa canisters and provided data interpretation to the client; preparation of workplan for agency review; water treatment system sample collection, NYCDEP permit renewal application, coordination of subcontractors for carbon treatment system change-out and waste disposal; and interface with client.

New York City Law Department, Oak Point. Ms. Zurlo prepared the Oak Point technical report.

New York State Office of General Services, Queens, NY. Ms. Zurlo monitored contractor tank removal activities and prepared Tank Closure Reports for submittal to the NYSDEC.

Standby State Superfund Contract (D006129) – NYSDEC, Statewide. Ms. Zurlo assisted the Project Manager with Schedule 2.11 development and Work Plan preparation for multiple projects, and has completed sub-slab depressurization training, notifications, inspections, tracking, reporting, and subcontractor procurement.

USEPA Region 2 Remedial Action Contract. Ms. Zurlo has prepared Work Plan, cost estimate, schedule preparation, and subcontractor management for multiple work assignments and conducted report/data review and report preparation.

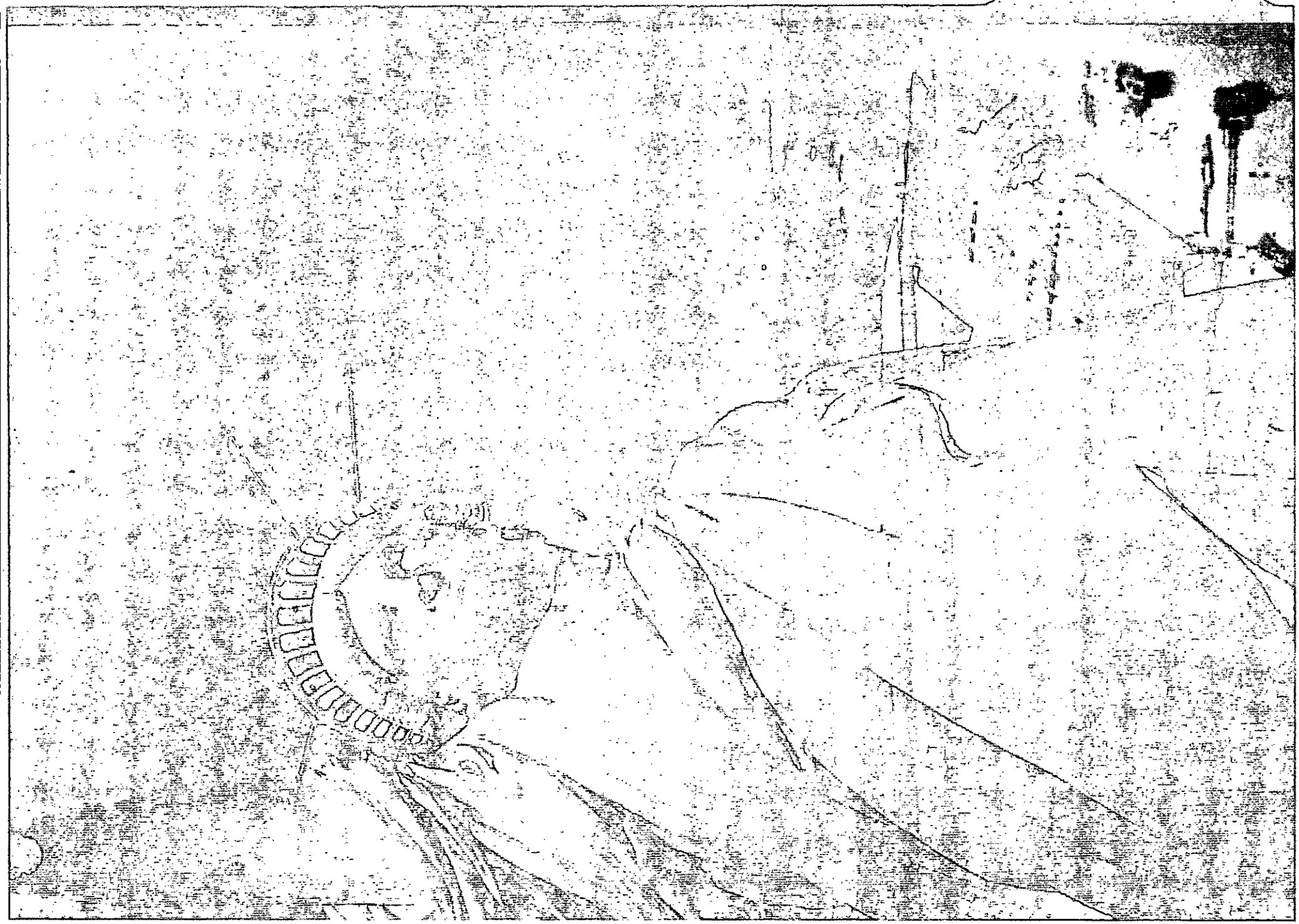
PANYNJ, GATX Site, Staten Island, NY. Ms. Zurlo conducted file reviews of historic data for a 400-acre former Major Oil Storage Facility (MOSF) in Staten Island, NY. The file review notes developed by Ms. Zurlo were used to evaluate environmental conditions that could impact site development.

Wireless Communication Applications. Ms. Zurlo has reviewed telecommunication tower and antenna installation application packages submitted to the Town of Newburgh (Cellular One and Edge Mobile) and Village of Airmont (Cingular and Omnipoint) to ensure compliance with local and federal codes.

ACE, CR Brands. Ms. Zurlo reviewed site-specific due diligence documents and developed a corresponding client due diligence survey/form.

Consolidated Edison, Ossining, NY. Ms. Zurlo is responsible for Community Monitoring Action Plan setup during subsurface soil investigation and groundwater monitoring well installations as well as completion of field soil borings logs and sample collection.

Cow Bay Contracting, Port Washington, NY. Ms. Zurlo is responsible for continued groundwater sampling and monitoring and regulatory agency interface in support of spill closure. She was also responsible for the analysis of trends in groundwater concentrations and natural attenuation parameters.



SECTION E. BILLING RATES

The actual, direct hourly rates for personnel identified in the organizational chart and other technical and engineering personnel who may be assigned to work on PANYNJ assignments are presented below. If the call-in assignment warrants, HDR will request to utilize additional personnel or personnel with similar experience to those in the table below.

HDR Personnel - Billing Rates and Direct Hourly Rates

Title	Personnel	2010 Direct Hourly Rates
Quality Assurance/Quality Control Officer	(Ex. 1)	$90.00
Modeling		$71.50
Project Manager - Compliance Audits		$56.86
Soil & Groundwater Investigations Support		$34.00
UST Assessments & Closures Support		$24.05
Phase I Assessments Support		$42.00
Project Manager - Remediation Design/Cost Estimating/Shop Drawings		$55.05
Remediation Design Support		$45.25
Compliance Audits Support		$54.00
Environmental Assessments Support		$20.08
Project Manager - Environmental Assessments		$51.54
Environmental Assessments Support		$74.70
Soil & Groundwater Investigations Support/Soil, Groundwater, Surface Water Sampling Plans		$33.25
Compliance Audits Support		$46.86
Remediation Design Support		$39.43
Compliance Audits Support		$58.30
Soil, Groundwater, Surface Water Sampling Plans		$52.95
Environmental Assessments		$42.20

Title	Personnel	2010 Direct Hourly Rates
Support		
Remediation Design Support	(Ex. 1)	$30.80
Compliance Audits Support		$36.91
Phase I Assessments Support/Report Preparation		$42.53
Board of Experts		$84.50
Soil & Groundwater Investigations Support/Modeling		$64.71
Modeling		$62.53
Soil & Groundwater Investigations Support		$76.20
Risk Assessments Support		$21.30
Field Inspections/ Environmental Data Collection & Analysis		$38.14
Contract Manager		$98.00
Project Manager - Risk Assessments		$52.55
UST Assessments & Closures Support		$38.14
Project Manager - Phase I Assessments		$51.68
Remediation Design Support		$43.27
Board of Experts		$86.52
Contract Documents		$63.36
UST Assessments & Closures Support		$26.80
Cost Estimating		$35.70
Remediation Design Support		$47.00
Environmental Assessments Support		$47.36
Environmental Assessments Support		$39.65
Project Manager - UST Assessments & Closures Support		$64.58

Title	Personnel	2010 Direct Hourly Rates
Risk Assessments Support		$49.66
Phase I Assessments Support	(Ex. 1)	$34.45
Field Inspections/ Environmental Data Collection & Analysis		$38.69
Environmental Assessments Support		$29.68
Risk Assessments Support		$52.89
Phase I Assessments Support		$26.85
Project Manager - Soil & Groundwater Investigations		$74.75
Risk Assessments Support		$46.05
Report Preparation		$29.25

Note:
Rates are based on current salary levels. HDR implements industry standard salary adjustments on a calendar year basis and anticipates that such an increase will occur in January 2011.

Company Compensation Policy
HDR is committed to fair and equitable compensation practices and strives to maintain pay rates that are comparable to other companies in our industry and geographic area.

Work Week
HDR's regular workweek is considered to be a schedule of 40 hours in length worked within a calendar week, Sunday through Saturday.

Timekeeping Requirements
As an employee of a government contractor, all employees, including those in salaried positions, keep accurate time records, recording daily the time spent on each project. Because these reports are the principal source of information in preparing cost reports and invoices for presentation to clients, it is important to prepare complete and accurate reports.

Exempt Salaried Employees
Each exempt salaried employee is paid on the basis of a weekly salary. Salaried employees normally do not receive overtime pay.

Nonexempt Hourly Employees
Hourly employees are paid a rate for each hour they work. All hourly employees at HDR are non-exempt and will be paid a minimum wage and overtime at one and one-half times their regular rate for all authorized hours worked in excess of 40 hours per week.

SECTION F. RELEVANT EXPERIENCE

Company Overview

HDR was founded in 1917 and has more than 7,800 planners, engineers, scientists and support personnel located in 185 offices throughout the United States. HDR's operating philosophy is to be an expertise-driven national firm that delivers tailored solutions through a strong local presence. In the New York metropolitan area, HDR represents over 500 professionals in ten regional offices.

Recent and Ongoing PANYNJ Studies

Since 1984 we have enjoyed an excellent working relationship with the PANYNJ Engineering Department managers and staff, PANYNJ Facility managers and staff, and other Line Departments, e.g., Port Commerce; Aviation; World Trade Center; Tunnels, Bridges, and Terminals. HDR has been awarded multiple Engineering Department call-in contracts since 1990 and has conducted many project-specific major assignments. Our past PANYNJ assignments (200 over the last two decades) have covered most of the PANYNJ facilities and programs including:

A. Aviation Facilities

1. ***JFK Airport:*** assignments ranging from baseline studies, wastewater treatment and treatability studies, subsurface investigations, EA's and SPDES permits, SPDES water quality modeling, water quality and flow monitoring, DMR preparation and compliance, underground storage tanks (UST) Closure Plans, SPCC Plans, SWPPP Plans, BUD's, deicing measurements and modeling, air emissions, to soils management.
2. ***LGA Airport:*** assignments ranging from closure plans, runway extension investigations, water quality modeling, SPCC plans, UST removal to site investigations.
3. ***EWR Airport:*** assignments ranging from site investigations, wastewater treatment and sanitary sewerage and surcharge studies, SPCC plans, staff training, peripheral ditch odor control and declassification to alternative fuel evaluation, Switch House #1 underground storage tank closure and removal and remedial action report.
4. ***Stewart Airport:*** Due diligence studies, wetland delineations.
5. ***Teterboro Airport:*** Habitat delineation studies, airport runway safety improvements.

B. Port Commerce Facilities

1. ***Howland Hook:*** Essential Fish Habitat (EFH) Studies, Sanitary Engineering Investigations, wastewater treatment, dredging studies, eastbound ramp.
2. ***Port Newark/Port Elizabeth:*** Dredging and reprofiling studies, Newark Bay sedimentation modeling, roadway realignment, remedial action plan, EFH, site investigations, wastewater treatment, and stormwater studies/permits.
3. ***New York Harbor Subchannel Cells for Dredged Material:*** EIS
4. ***New York Harbor Subchannel Cells for Dredged Material:*** EIS
5. ***Newark Bay Dredging & Sedimentation***
6. ***Newark Bay CDF:*** Sampling and Modeling, EIS, EFH
7. ***Port Jersey:*** Wind power project, coastal rule review and avian study, avian and bat survey.

C. Other Facilities including:

Port Jersey, Port Reading Due Diligence, Brooklyn Piers, Bayonne Bridge, GW Bridge, A&A

landfill, Proctor & Gambel site investigations, Atlantic Basin, Hoboken Ferry Terminal, Hunter's Point Development, CAC Borrow Pits, Passenger Ship Terminal, Path Exchange Place, Holland and Lincoln Tunnels, Allied Signal Site, Goethals Bridge and Outer Bridge Crossing.

D. Major PANYNJ Programs

1. ***World Trade Center:*** Intake Studies, Biological, Water quality, chlorination studies, thermal studies, North Cove (Battery Park City) dredging investigations, SPDES studies alternative cooling studies, BTA intake investigations and permits, sustainability evaluation, chiller plant.
2. ***Hudson River Ferry Terminals:*** Environmental impact, biological investigations, pile condition studies, marine borer investigation, air quality, noise, EA and NYSDEC permits.
3. ***New York Harbor Deepening:*** Dredging, HARS Assessment, GIS studies, Fresh Kills placement of dredged material.
4. ***Innovative Dredging Investigations and Workshops:*** Investigation ranging from dredging technology evaluation, transportation, beneficial use of sediments and upland placement, Environmental Green Ports Management Seminar for New York/New Jersey Tenants.
5. Several other PANYNJ co-sponsored, projects, e.g., CPIP, HRE, and ARC.

Firm Experience in the Seven Primary Scope of Work Areas

HDR possesses experience within a wide range of environmental fields including the seven primary areas of work outlined in the RFP. Services we have provided include environmental studies, site investigations, preparation of reports, technical specifications, and cost estimates. The following provides a brief description of the seven primary work areas followed by representative projects by area.

1. SOIL AND GROUNDWATER INVESTIGATIONS

HDR has completed numerous soil and groundwater investigations in New York and New Jersey, many with the direct oversight of not only the client but the regulatory agencies involved (NYSDEC, NJDEP, and NYCDEP). Our experience in such investigations includes not only the field work itself, but the planning and scoping of same, the preparation of health and safety plans (HASPs) for field work, contracting and supervision of sub-contracting specialists such as drillers and analytical laboratories, preparation of and adherence to quality assurance/quality control plans, data useability assessments, data evaluation and comparison to standards, regulatory agency communication and negotiation and remedial recommendation reports. Our soil and groundwater investigations have been used to identify environmental conditions in order to assess liability for property transfer; effectively plan and design remediation in an area impacted by historical contamination or more recent disposal activities; investigate and identify areas requiring regulatory closure activities; and evaluate conditions and costs.

2. REMEDIATION DESIGN

HDR remedial design experience includes pre-design geological and hydrogeological studies, contaminant delineation studies, bench and pilot scale treatability studies, conceptual/ preliminary/final design plans and specifications, cost estimating, bid forms and bid item descriptions, construction manuals, and bid advertisements as well as HASPs, construction quality control plans, engineering reports, and permit applications. We have provided review of bids, shop drawing review, resident engineering services, and reports documenting tank closures

and progress and completion of remedial efforts. HDR's remedial design experience includes many UST closures (in-place as well as excavation), excavation of soils contaminated with PCBs, petroleum and other hazardous materials remediation, and groundwater pump and treat systems. Our treatment systems have included tray and tower air stripping, activated carbon, metals and contaminant removal, biological removal for ketones, and filtration. We have experience with excavation of soils beneath existing structures. Soil remediation projects have included ex situ treatment of soils contaminated with xylenes and 1,1,1-trichloroethane and later back fill as well as in-situ bioremediation and slurry wall development. In situ projects have included peroxide oxidation, chemical addition, vapor extraction, air sparging, and soil vapor and mitigation systems.

3. COMPLIANCE AUDITS

HDR has completed numerous audits designed to review facility compliance with applicable laws and regulations. Environmental regulatory audits performed have included management audits for assessment of a facility's Environmental Management System (EMS), third-party compliance audit assessment, and internal facility audits to assess ongoing compliance posture at the facility. Environmental programs addressed in these audits have included regulations under the Clean Air Act, Clean Water Act, Resource Conservation and Recovery Act (hazardous waste), Toxic Substance Control Act (PCB management), Emergency Planning Community Right-to-Know Act, Safe Drinking Water Act, NPDES/SPDES programs, Petroleum and Chemical Bulk Storage, and Pesticide programs. HDR recommended cost-effective options for regulatory compliance issues and associated remedial measures. HDR has developed numerous site-specific EMSs to address individual environmental regulatory compliance needs. These EMSs include identification of environmental regulatory aspects applicable to facility operations, development of procedures to effect compliance, generation of statutory environmental program plans as required, development of Best Management Practices (BMPs) to ensure cost-effective regulatory compliance, and development of internal compliance assessment systems to track ongoing compliance, notification, and confirmation of corrective action.

4. UNDERGROUND STORAGE TANKS ASSESSMENTS AND CLOSURES

HDR has conducted numerous UST investigations, tank excavations, tank closures and related soil remediation efforts in both New York and New Jersey. HDR is certified in New Jersey for the installation of an entire UST systems and any subsurface evaluation. Individual staff members are also certified by the same program to provide on-site field services in these areas. Currently, New York State has no certification program, but our New Jersey certifications attest to our qualifications. HDR works with a UST client to develop a compliance program that meets current and developing state and Federal regulations. Where site information is insufficient or lacking, we can assist in defining the likely contents and historical uses of tanks. Typical products of concern in previous UST projects have included various grades of heating oils, aviation fuel, automotive oils, heat transfer oils, isopropyl alcohol, washing wastes, trichloroethylene, and other products and wastes.

5. PHASE I ASSESSMENTS

HDR has conducted many Phase I site investigations, now also referred to as All Appropriate Inquiry investigations, in New York and New Jersey. Those conducted under NYSDEC, NJDEP or other agency auspices, are often intended to provide a preliminary characterization of hazardous

substances present at the site, estimate pathways by which pollutants might be migrating from the original site of disposal, determine what population or resources might be affected by pollutants from the site, observe how the disposal area was used or operated, and gather information regarding who might be responsible for wastes at the site. Phase I reports are also often conducted as part of real estate transfers as part of a duel diligence evaluation and are also conducted as "corridor" studies to identify the preliminary environmental issues relevant along a project pathway related to such as for roads, pipes, transmission lines, or similar projects.

6. RISK ASSESSMENTS

HDR has conducted ecological and human health risk assessments and defined appropriate remedial actions based on these assessments at a wide variety of sites. We integrate data collected from these surveys with public health risk assessments and toxicity studies to help our clients and the involved agencies determine appropriate limitations and goals for site operations and remediation. Public health risk assessments consist of such activities as: identification of hazards, assessment of exposure pathways, and toxicity and risk evaluation and are defined as qualitative (exposure route scenarios) or quantitative by the scope of the project and the agency having jurisdiction and review of the project. Potential chemicals of concern are identified and further evaluation of toxicological profiles (carcinogenic) and non-carcinogenic effects) is conducted. For human health and safety, the type of exposure (dermal contact, ingestion, or inhalation) is described for a qualitative exposure analysis and can be used to define subsequent worker health and safety needs. Durations and frequencies of exposure are described and exposure point conducted.

7. ENVIRONMENTAL ASSESSMENTS

HDR is highly skilled at assessing and evaluating the impacts of various physical actions by humans upon the environment and has extensive experience in the preparation of environmental reports and assessments developed for the purpose of meeting NEPA, SEQRA, LURP, CEQR, permitting and licensing requirements. HDR supports many of our environmental assessments with a variety of aquatic and terrestrial sampling and testing programs that included efficient environmental data collection and analysis. We have provided our clients with innovative measures to mitigate for unavoidable project related impacts.

HDR's environmental assessments have involved work on specialized aspects of major projects, such as the Goethals Bridge and Access to the Region's Core projects. We have also undertaken overall responsibility for the preparation of major EIS documents covered by both Federal NEPA as well as state and municipal environmental review programs. Examples include the Newark Bay CDF EIS, the Harbor Deepening EIS, and the New York City Solid Waste Management Plan EIS.

Relevant Project Experience

The following matrix and descriptions of representative projects completed on time and within budget that included the tasks specified in the RFP are shown below. Services provided include project scoping, field inspections, environmental data collection and analysis, preparation of reports, preparation of cost estimates, modeling, preparation of contract documents, and shop drawing review and approval.

Relevant Project Experience Matrix	Project Disciplines						
	Soil & Groundwater Investigations	Remediation Design	Compliance Audits	UST Assessments & Closures	Phase I Assessments	Risk Assessments	Environmental Assessments
PANYNJ - Environmental Engineering Call In Contract	✓	✓	✓	✓	✓		✓
PANYNJ - Former Allied Signal Site Investigations & Remediation	✓	✓					✓
PANYNJ - Goethals Bridge Replacement Program	✓					✓	✓
PANYNJ - Comprehensive Port Improvement Plan	✓					✓	✓
PANYNJ - JFK International Airport Building 296 UST	✓			✓			
Philip Habib & Associates, Brooklyn Piers 7-12 EIS and Brooklyn Army Terminal	✓	✓		✓	✓		✓
NYSDOT - Stewart International Airport Environmental Services	✓	✓					
NYSDOT - Term Contract for Hazardous Waste Assessment & Remediation Design	✓	✓	✓	✓	✓	✓	✓
NYSDEC - Harrison Sub-residency Remediation	✓	✓		✓	✓	✓	✓
NYCEDC - Pier 7, Brooklyn Marine Terminal	✓			✓	✓		✓
NYCEDC - East River Ferries, Environmental Assessment							✓
NYCEDC - Fulton Fish Market Reconstruction	✓	✓	✓	✓	✓	✓	✓
NYCEDC - Hunts Point Cooperative Market Parcel A	✓	✓	✓	✓	✓	✓	✓
NYCEDC - Bronx River Greenway	✓	✓					✓
NYCDEP - Alley Creek Salt Marsh Design, Restoration and Creation, Queens, New York	✓	✓	✓			✓	✓
Neptune Regional Transmission System - Permitting & Engineering	✓	✓	✓			✓	✓
USACE - Chemical Insecticide Corporation Superfund Site	✓	✓				✓	✓
USACE - Imperial Oil/Champion Chemical Superfund Site	✓	✓		✓		✓	
USACE – Rockaway Borough Well Field Superfund Site	✓	✓					✓
USACE - Hudson Raritan Estuary Environmental Restoration Studies	✓						✓
USACE - Harbor Navigation EIS and Ecosystem Studies			✓			✓	✓
USACE - Liberty State Park Restoration	✓					✓	✓
USEPA – Ellenville Superfund Site	✓	✓			✓	✓	✓
NYSOGS - Environmental Engineering and Project Management Term Contracts	✓	✓	✓	✓	✓	✓	✓
The Related Retail Corp. - Staten Island Site	✓	✓	✓			✓	✓
Alfa Laval - Jones Sanitation Superfund Site Remediation	✓	✓				✓	✓
IKEA - Voluntary Cleanup Agreement	✓	✓				✓	✓
Access to the Region's Core - Draft Environmental Impact Statement	✓						✓
Tractebel Project Development - Industrial Site Recovery Act (ISRA) Due Diligence	✓	✓	✓		✓		✓
Sive, Paget & Riesel, P.C.- City Island Estates	✓			✓	✓		
Consolidated Edison Company of New York, Inc. - Echo Avenue Site Remediation	✓	✓		✓	✓	✓	✓
Dyno Nobel, Inc. - Environmental Compliance Audit & Environmental Programs	✓		✓				
Watson Laboratories - Environmental Regulatory Programs			✓				
Saint Francis Hospital and Health Centers - Environmental Regulatory Programs	✓		✓				
Jay K. Thiese & Companies - 225 North Route 303/81 Brenner Drive Phase I Assessment					✓		
SP Industries - FTS Systems, 3538 Main Street Phase I Assessment	✓		✓		✓		

1. SOIL AND GROUNDWATER INVESTIGATIONS

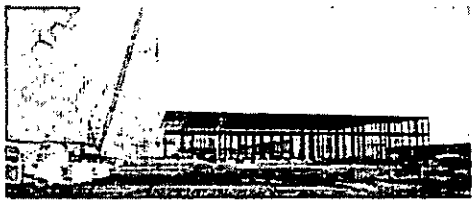
PANYNJ, Former Allied Signal Site Investigations and Remediation, Elizabeth, NJ. HDR performed a site investigation for portions of the former Allied Signal site in Elizabeth, NJ. The investigation included a detailed review of historical documents related to the site and an overall baseline field inspection and supplemental field investigation which consisted of environmental data collection and analysis of suspected areas of concern. HDR prepared the site-specific quality assurance project plan, health and safety plan and soil and groundwater sampling plan. The investigations included an initial wetlands delineation and soil and groundwater sampling. Results of the investigations were used to prepare a remedial action work plan to address both soil and groundwater contamination. An application for a Statewide General Permit No. 4 was prepared and submitted to NJDEP for authorization to complete well installation and excavation of contaminated soil within the freshwater wetland transition areas. Sediment and erosion control plans were prepared and a fugitive dust suppression and particulate monitoring program were employed at the site. HDR provided oversight of the approximately 7,200 tons of contaminated material that was excavated for off-site disposal and conducted groundwater monitoring to assess contaminant transport. ***Reference:*** *Mr. Edward Aldrich, PANYNJ, (973) 565-7553*

NYSDOT, Stewart International Airport Environmental Services, Orange County, NY. HDR has conducted numerous environmental investigations and provided environmental design services at this airport. Areas of concern on the site included: an active Jet A fuel aboveground storage tank (AST) and associated fueling area, a former UST farm; several old landfilled areas used for industrial waste disposal, military disposal and household debris disposal; a demolition/burn area where ammunitions were disposed; site wide groundwater contamination; and off-site groundwater fate/transport. Work included: Phase I field inspection, preparation of soil, surface water, sediment and groundwater sampling plans, Phase II environmental data collection and analyses; asbestos and lead-based paint assessments; groundwater sampling, monitoring well installation/rehabilitation; UXO evaluation screenings; soil boring installation and soil sampling, surface water and sediment sampling; potable well sampling and analysis; air quality sampling, and an evaluation of potential public health impacts from off-site migration of contaminants. ***Reference:*** *Mr. Steve Campbell, Aviation Services, NYSDOT, (518) 457-8439*

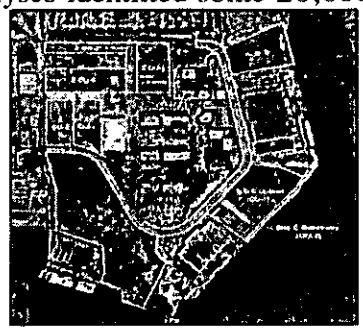
USACE, Kansas City District/USEPA Region II, Chemical Insecticide Corporation, Edison, NJ. Under a 3-year term contract with the USACE - Kansas City District, HDR provided long term monitoring and assessment services as part of the RD of Operable Unit 4 – Groundwater at the former Chemical Insecticide Corporation (CIC) Superfund Site in Edison, NJ. A baseline well inventory and usability survey was conducted to determine the location, condition and depth of the existing onsite and offsite wells. Historic data was used to assess the nature, extent and potential migration and/or attenuation of groundwater contamination in aquifers.

Additional overburden and bedrock wells were installed to complete the well monitoring network. HDR prepared the soil and groundwater sampling plans, collected the environmental data and oversaw the subcontracted laboratory analysis. Groundwater data was input into a GIS database management system. Nationally recognized optimization tools developed by the Air Force Center for Environmental Excellence (AFCEE) were used to model groundwater flow and and optimize the long term monitoring systems. ***Reference:*** *Ms. Nanci Higginbotham, USACE – Kansas City District, (816) 389-3359*

NYCEDC, Hunt's Point Cooperative Market Parcel A, Bronx, NY. HDR performed a field inspection and site investigation of Parcel A at the Hunt's Point Cooperative. The investigation was conducted to assess areas of the site that are suitable for redevelopment and identify areas that might require remediation before or during redevelopment. Historically, Site A was occupied by a steel truss building and three associated USTs. HDR prepared the soil, and groundwater sampling plans which included the installation of a total of five trenches, one deep boring, and two monitoring wells across the site. The resultant environmental data collected was summarized in a report which described the sampling methodology laboratory analyses performed and results of the investigation. The recommended mitigative measures were detailed in the Response Plan prepared for and approved by NYSDEC, NYCDEP and NYSDOH. Engineering controls were proposed as the site remedy to limit infiltration through the fill to the groundwater table. ***Reference:*** *Ms. Kay Zias, NYCEDC, (212) 312-3752*



NYCEDC, Fulton Fish Market Reconstruction Project, Hunt's Point Cooperative Market, Bronx, NY. HDR prepared NYSDEC-required soil and groundwater sampling plans, reports and mitigative recommendations for the Voluntary Cleanup Project associated with this 38-acre parcel located in the southern tip of Hunts Point. The parcel was part of a former site of a manufactured gas plant. The environmental data collection and analyses identified some 20,000 yd3 of waste (coal tar and purifier bed material) which had to be removed prior to site clearing or grading. HDR provided all coordination with NYSDEC and NYSDOH for approval of the integrated remediation and construction and was present on-site to manage the project. The project has received engineering excellence awards for its innovation and benefit to the environment. Contract documents prepared included the entire contract specification for the environmental project. HDR was responsible for the completion of the project within the time frame required to maintain the construction schedule. The project includes items such as vapor barriers, soil vapor extraction, air sparging to remove residual contamination, and engineered surfaces to contain material and mitigate potential exposure to employees. ***Reference:*** *Ms. Kay Zias, NYCEDC, (212) 312-3752*



Consolidated Edison Company of New York, Inc., Echo Avenue Site Remediation, NY. HDR was retained to conduct an investigation in compliance with an Order on Consent for the Echo Avenue site, listed on the New York State Registry of Inactive Hazardous Waste Sites. HDR completed the environmental data collection and analyses, prepared the associated environmental reports describing sampling methodology and results, assisted in litigation support, developed

remedial plans, assisted in negotiations with the agencies, and provided oversight during remedial operable units for the site. HDR prepared the remediation work plan that included soil removal from onsite areas and three adjacent residential properties, sediment removal from the mudflat area of Echo Bay, and backfilling of the cable vault and manholes on site. HDR collected all post-remediation samples, conducted the required community air monitoring, and provided guidance on decisions regarding changes to the remediation plan. HDR also prepared a work plan to remove the slabs and any contaminated soil beneath them. HDR is continuing to provide consulting services to Con Edison as related to the sediment sampling and contamination issue in the bay. ***Reference:*** *Mr. Edward R. Wiederkehr, Consolidated Edison, (718) 267-3868*

PANYNJ, Brooklyn Marine Terminal Pier 7 Gasoline Spill Investigation, Brooklyn, NY. HDR was contracted by PANYNJ to oversee the investigation of a 2007 gasoline spill at Pier 7 at the Brooklyn Marine Terminal. The New York State Department of Environmental Conservation (NYSDEC) required that the spill be investigated. The objective of the investigation was to collect sufficient environmental data to delineate the extent of the gasoline spill in soil, to determine whether additional soil delineation was required, and to gain an understanding of the remedial activities that may be necessary to close the spill case. The spill investigation consisted of the installation of 14 soil borings and the collection and analysis of eight soil samples. The horizontal extent of the soil contamination was adequately delineated during the 2009 soil boring field work; analytical results of perimeter samples met applicable cleanup criteria. HDR prepared a letter report describing the field investigation activities and comparing the 2009 and an earlier investigation analytical results to the clean up criteria. The PANYNJ is using this information to prepare a remedial action plan to close the spill. ***Reference:*** *Mr. Ed Aldrich, PANYNJ, (973) 565-7553*

2. REMEDIATION DESIGN

NYSDOT, Harrison Sub-residency Remediation, Harrison, NY. HDR has provided a full spectrum of investigation and engineering services at this seasonal highway maintenance facility. The site included a fill area for the disposal of bridge construction and highway maintenance debris and a garage with associated USTs. The major concern was the potential for contaminated surface water runoff or contaminated groundwater impacts to a major drinking water reservoir serving New York City. The site was initially classified as a Class 2A hazardous waste disposal site but subsequent to HDR's investigations and remediation, the site was reclassified to Class 4, indicating that it had been properly closed but required continued site O&M. The remedial program completed by HDR included: field inspection and preliminary site assessment; remedial investigation/feasibility study; remedial design; remedial construction and construction services; and site management, O&M, HASP development, analytical QA/QC, public health exposure evaluation, wetlands delineation, and community relations activities. HDR prepared two RDs: one to close the C&D landfill and the other to remediate the petroleum spill. ***Reference:*** *Ms. Jeanne Hewitt, NYSDOT, (518) 457-4052*

USACE, Kansas City District/USEPA Region II, Imperial Oil/Champion Chemical, Marlboro Township, NJ. HDR is providing services in support of the RD and RA for OU3 at the Imperial Oil/Champion Chemical (Imperial Oil) Superfund Site in Morganville, NJ. The primary contamination at the site is arsenic, lead, and PCBs. Tasks under this assignment include conducting a comprehensive review of historical data and the RD work prepared by a consultant to NJDEP, conducting a value engineering screening to assess the potential for cost savings, and completion of a detailed design for the implementation of the requirements specified in the ROD. HDR conducted a field inspection, prepared soil sampling project plans, quality assurance project plans and health and safety plans for the installation of geotechnical borings around the perimeter of the delineated excavation area. The geotechnical borings were installed and the data collected was used to support the hydraulic barrier design that is currently serving to control the flow of groundwater during remedial excavation activities at the site. HDR completed the Pre-Final and Final RD including preparation of contract documents based on the results of the geotechnical investigation. HDR also completed the remedial action cost estimating and is currently providing design services during remedial action activities at the site. The services include shop drawing review and approval, preparation of the necessary permits, participation in weekly progress meeting and on-site construction oversight. ***Reference:*** *Mr. Todd Daniels, USACE - Kansas City District, (816) 389-3584*

USACE, Kansas City District/USEPA Region II, Rockaway Borough Well Field, Rockaway Borough, NJ. HDR completed conducted a Pre-Design Investigation under OU3 to confirm the previous delineation of soil contamination and to further determine if PCE-contaminated soils exist at concentrations that exceed remedial action levels beneath a historic commercial building. Included in the planning was a structural evaluation of the historic building to assure that the investigation wouldn't harm the structure. Results of the environmental data collection and analyses confirmed the previous delineation and further identified contaminated soils above clean-up goals beneath the Building footprint. HDR completed the 100% RD submission which included plans prepared using AutoCAD, specifications, basis of design, and MCACES MII cost estimate; hot-spot excavation and off-site disposal of PCE-contaminated soils and installation and operation of a SVE system to address PCE contaminated soils beneath the Building footprint. Due to the historical significance of the building and its proximity to the former Morris Canal, an archeological monitoring/sampling plan was prepared in accordance with the NJ State Historic Preservation Office (SHPO). HDR also completed an 72-hour aquifer pump test on three extraction wells under OU2 including monitoring draw down (capture zone) in the surrounding monitoring well network by installing instrumentation (pressure transducers) to continuously log hydraulic elevation changes over an approximate 3 week period. As part of the RD evaluation, HDR was able to optimize the mass removal of the system by relocating extraction wells and performed a sensitivity analysis on the plant components to demonstrate the adequacy of the design allowing the project to move forward on schedule. ***Reference:*** *Mr. Saquib Kahn, USACE-Kansas City District, (816) 389-3239*

3. COMPLIANCE AUDITS

PANYNJ, LaGuardia Airport Spill Prevention, Control and Countermeasure Plans, and Hazardous Waste Investigation. HDR oversaw the closure and removal of 16 550-gal gasoline underground storage tanks (USTs). All gasoline tanks were in sound condition, with no visible holes,

pitting, or staining. The waste oil tank had no visible holes but pitting and staining were present. Potentially contaminated soil was stockpiled, and environmental data was collected and analyzed for disposal classification. Free phase product was encountered in the vicinity of the former pump islands during the excavation of the product lines. Excavation was temporarily halted at this point awaiting disposal of the stockpiled. ***Reference:*** Mr. *Thzaira Charles, PANYNJ, (973) 565-7554*

Watson Laboratories, Inc., Environmental Regulatory Programs Assistance, Carmel, NY. HDR has provided environmental regulatory compliance services including: development and execution of full facility environmental regulatory compliance assessment; development and execution of facility self-audits for internal ongoing compliance assessments; assistance with agency audits; development of environmental compliance program manuals for applicable operations (e.g. SPCC, BMPs, SWPPP, RCRA Contingency Plan, Spill Reporting Manuals, Facility-specific Operating Plans, PM programs, O&M Manuals); technical training of facility personnel; development of procedures for implementation of environmental programs (e.g. air, water discharges, POTW, hazardous waste, oil, chemicals, EPCRA); development, design and implementation of corrective action activities for environmental programs; and full-time on-site staffing as needed. ***Reference:*** *Ms. Adrienne Scivolette, Watson Laboratories, Inc., (845) 278-3725*

Electronic Manufacturing Facility (Confidential Client), On-Site Compliance Programs, Poughkeepsie, NY. HDR provides a full range of environmental compliance and engineering support to the facility. HDR has assisted this facility with its environmental programs including Environmental Compliance Audit Activities; Resource Conservation and Recovery Act (RCRA) compliance programs; Oil and Chemical Management Programs; State Pollutant Discharge Elimination (SPDES) and Publicly Owned Treatment Works (POTW); Air permitting and associated compliance programs; Emergency Planning and Community Right-to-Know Act (EPCRA) Tier II and Toxic Release Inventory (TRI) preparation, and Pesticide usage programs. The facility has an extensive audit program to ensure continued compliance with all regulations pertinent to the environmental aspects of facility operations. HDR has completed projects entailing development and implementation of various audits to accomplish environmental management objectives. This has included self-audit as a tool for management to determine compliance posture and to evaluate the continued effectiveness of the facility's Environmental Management System (EMS), and identify areas for continued improvement. ***Reference:*** *Confidential Client, N/A*

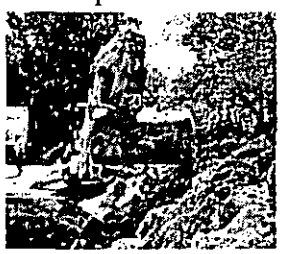
4. UNDERGROUND STORAGE TANK ASSESSMENTS AND CLOSURES

PANYNJ, Newark Airport Switchhouse #1, UST Closure and Removal, Newark, NJ. HDR was contracted by PANYNJ to oversee the closure and removal of one 550-gal diesel underground storage tanks (UST), formerly used to provide fuel to an emergency generator. The diesel UST and associated piping system was in sound condition with no visible holes, pitting, or staining. Free phase product, released from the piping during the contractor's excavation work, was observed and a spill was reported to the New Jersey Department of Environmental Protection (NJDEP). Potentially contaminated water was removed from the tank and excavation with a vac-truck and transported off-site for disposal. Potentially contaminated

pea gravel was stockpiled and analyzed for disposal classification. The excavation was backfilled with clean fill after receipt of post-excavation sampling data. An Underground Storage Tank Closure and Remedial Action Report was submitted to the NJDEP. ***Reference:*** *Ms. Danielle McGrath, PANYNJ, (973) 565-7574*

PANYNJ, Former Olympia Trails Bus Terminal Remedial Action & UST Closure, Elizabeth, NJ. HDR was contracted by the PANYNJ to oversee the remedial action at the former Olympia Trails Bus Terminal in Elizabeth, NJ. The site encompasses an area of approximately 3.2 acres, and is bounded to the north and east by Relocated Bayway Avenue; to the south and southwest by the roadway approach to the Goethals Bridge and a gravel parking area; and to the west by a railroad corridor operated by the Central Railroad of New Jersey. Activities conducted as part of the Remedial Action included decommissioning of three underground storage tanks (USTs) formerly utilized to store diesel fuel and motor oil; investigation and decommissioning of an oil/water separator system; excavation and off-site disposal of TCE-impacted soil at concentrations in excess of groundwater standards; closure of three dry wells; and locating and removing four hydraulic vehicle lift pistons. ***Reference:*** *Mr. Joe Talkiewicz, PANYNJ, (973) 565-7575*

NYCEDC, Pier 7 Brooklyn Marine Terminal, Brooklyn, NY. As part of a Phase II assessment for preparation of the hazardous materials section of a draft EIS for Piers 7 through 12, HDR prepared sampling plans and collected soil, vapor and groundwater samples from an area surrounding two abandoned-in-place 500-gal gasoline USTs in front of the Pier 7 pier shed at the Brooklyn Port Authority Marine Terminal. The Phase II investigation included a geophysical survey to locate tanks and buried utilities prior to the installation and sampling of soil borings and monitoring wells. Subsequent to discovery of a gasoline release, a spill was reported to NYSDEC. At the request of PANYNJ, HDR developed a scope of work to delineate the extent of gasoline contamination in the areas surrounding the tanks and to prepare a Remedial Action Workplan. ***Reference:*** *Ms. Julie Thompson, NYCEDC, (212) 312-3816*



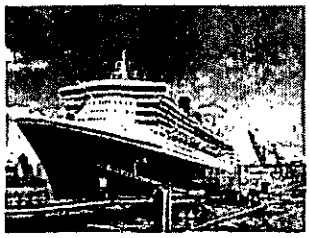
NYSOGS, Environmental Engineering and Project Management Term Contracts, Various Locations. Under our environmental services contracts HDR has been assigned over 50 work orders at facilities throughout the state. The services provided under these term contracts include: UST closures, UST installations/upgrades/replacement designs, subsurface investigations, spill investigations, environmental sampling, remedial options/corrective action plans, remedial design, remedial action/construction, OM&M, SPCC plans. Each work order has an established scope, budget, and schedule which driven by the specific facility's needs and regulatory requirements. In each case HDR has worked closely with NYSOGS, the facility, and the regulatory agents to insure the project objectives were achieved and the deliverables acceptable. ***Reference:*** *Mr. William Miller, NYSOGS, (518) 402-5558*

Sive, Paget & Riesel, PC, City Island Estates, NY. Two historic underground storage tanks were closed and removed. The age of the tanks (over 80 years) combined with prior site activities compromised the integrity of the tanks, resulting in an unusual and difficult removal. Petroleum

impacted soil associated with the USTS was excavated and stockpiled pending off site disposal. Post excavation soil samples were collected from the tank excavation to assess the condition of the soils remaining in place. The tank closure activities and results were presented to NYSDEC and NYCDEP. ***Reference:*** *Mr. Michael Bogin, Sive, Paget & Riesel, P.C., (212) 421-2150*

5. PHASE I ASSESSMENTS

Philip Habib & Associates, Brooklyn Piers 7-12 Environmental Impact Statement and Brooklyn Army Terminal, Brooklyn, NY. HDR prepared a Phase I assessment for the acquisition of 120+ acres of waterfront property by the City of New York from the PANYNJ. Additionally, HDR also completed the Hazardous Materials chapter and associated sections of the Mitigation chapter for the Environmental Impact Statement for this same piece of property. HDR completed a Phase I assessment for over 500,000 square feet of Building A at the Brooklyn Army Terminal. This property is slated to be renovated into a new biotechnology center. The area assessed currently includes a truck maintenance garage. The Phase I also included a visual assessment of potential lead-based paint and asbestos-containing materials. ***Reference:*** *Mr. Abir Sabet, Philip Habib & Associates, (212) 929-5656*



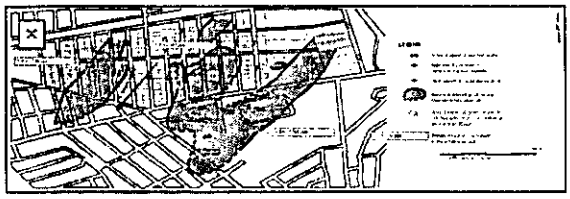
United Water, Phase I Site Assessments, Haverstraw, NY. HDR recently completed ASTM Phase I Environmental Site Assessments (ESAs) associated with a Long Term Water Supply project. The target properties of the Phase I ESAs were at several non contiguous properties that were identified for either the construction of a pilot treatment plant, proposed water intake locations, and routes for conveyance piping. The Phase I ESAs took place at a closed municipal landfill, a wastewater treatment plant, active manufacturing facility, marina, vacant lot, undeveloped lot, and an inactive manufacturing facility. As part of the ESAs, the activities included historical record searches, aerial photography reviews, environmental database summaries, interviews and site visits. Following the Phase I ESAs, HDR completed Phase II investigations at two of the sites that were proposed for development. The Phase II investigations included a portion of a municipal landfill and an active manufacturing facility. ***Reference:*** *Mr. Steven R. Garabed, PE, United Water, (201) 634-4250*

National Park Service, Floyd Bennett Field Phase I Site Assessment, Tarrytown, NY. The primary electrical cables at Floyd Bennett field date 1930's when the field was in use as the first municipal airport for the City of New York and 1940's when the field was being used by a US Naval Air Station during World War II. These seriously deteriorated cables which stretch more than 8 miles in length provide the primary electrical services to 95% of the buildings on Floyd Bennett Field, including Jamaica Bay Education Campus, Historic Hangar Row, Ryan Visitor Center, the Jamaica Bay unit maintenance shop and headquarters, and the headquarters for the US Park Police New York Field Office. The National Park Service contracted with HDR Engineering, Inc. for Geotechnical Services and Predesign/Schematic Design Services. HDR performed a geotechnical investigation to aid in the design of the new electric cable system. HDR also performed an environmental investigation along the route to identify possible sources of contamination that may affect the design and construction of the cable. ***Reference:*** *Ms. Carol Whipple, National Park Service, (303) 969-2482*

6. RISK ASSESSMENTS

NYSDEC, Risk Assessment at New Cassel Industrial Area, NY. HDR has had a standby contract with the NYSDEC since 1992. HDR has completed seven assignments for NYSDEC in support of the remedial activities at the New Cassel Industrial Area (NCIA). The NCIA is a large 170-acre

industrial complex in Nassau County, New York, consisting of approximately 200 industrial or commercial businesses. The site is within the primary recharge area of the sole-source Magothy Aquifer, used for drinking water. The NCIA exhibits wide-spread soil and groundwater VOC contamination, primarily with chlorinated solvents. Based on the preliminary site assessments (PSAs) a total of 16 sites were identified and listed in the New York State Registry of Inactive Hazardous Waste Disposal Sites as Class 2. A Class 2 site presents significant threat to the public health or the environment and requires action. ***Reference:*** *Mr. Jeffrey Dyber, NYSDEC, (518) 402-9621*



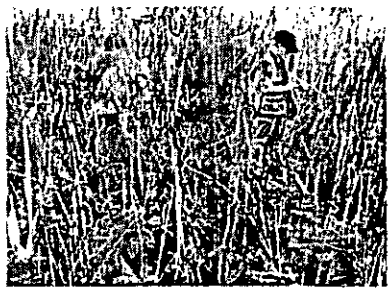
USEPA Region 2 Remedial Action Contract Superfund Sites, Ellenville Scrap Iron and Metal Site, Ulster County, NY. The Ellenville Scrap Iron and Metal Site is a former scrap iron and metals reclamation facility and unlicensed landfill located at 34 Cape Road in the Ellenville. In 2005 EPA Region 2 performed clean-up activities at the Site by removing lead-acid battery casings from the surface of the slope behind an adjacent residential property, and excavating and disposing of oil- and lead-contaminated soil from excavations on-site. Under this assignment, HDR reviewed existing site background information as well as the RI data summary information provided by EPA. HDR prepared the RI and FS including the baseline human health risk assessment and screening-level ecological risk assessment. HDR is currently participating in the public outreach activities. ***Reference:*** *Mr. Damian Duda, USEPA Region 2, (212) 637-4269*

7. ENVIRONMENTAL ASSESSMENTS

PANYNJ, Port Wind Energy Avian and Bat Surveys, Bayonne, NJ. The PANYNJ is soliciting a developer to construct and operate a wind energy project in the location of an active container terminal on the Port Jersey peninsula in Bayonne and Jersey City, NJ. A feasibility analysis indicated that the site could support five to eight 1.5 Megawatt (MW) turbines. The project schedule is driven by the potential availability of economic incentives for the wind developer that would make the project an attractive investment. Federal incentives include American Recovery and Reinvestment Act (ARRA) loan guarantees and Department of Energy investment tax credits. To maintain the schedule requirements to be considered for ARRA funds, the PANYNJ is initiating the permitting process for the project during the solicitation process. Consideration to the project's potential impacts to birds and bats is a requirement of the application process for a New Jersey Department of Environmental Protection (NJDEP) Waterfront Development Permit. HDR is assisting the PANYNJ to negotiate a pre-construction avian and bat monitoring plan for the project with the NJDEP, and conducting wildlife surveys on the site to determine the sites usage by birds for migratory stopover habitat, breeding and foraging habitat, and overwintering habitat. HDR has conducted 12 months of avian surveys on the project site and has proposed the use of NEXRAD radar data to estimate the density of birds that migrate over the site that could be vulnerable to collisions with turbines. Sonar studies to estimate the density of migrating bats are planned for the fall of 2010. ***Reference:*** *Mr. Chris Zeppie, PANYNJ, (212) 435-4415*

PANYNJ, Teterboro Airport Habitat & Wetland Delineation Studies, Teterboro Airport, NJ. HDR conducted environmental surveys in support of the proposed Runway 19 Safety Area Expansion at Teterboro Airport. HDR conducted a roosting tree survey for suitability by Indiana bats, a state and federally endangered species. HDR wildlife biologists conducted detailed tree surveys of two parcels (19 and 0.8 acres in size) to evaluate their potential as roosting sites for Indiana bats. A total of 941 trees comprising 21 species were identified to species, measured and located by GPS for mapping purposes. The trees were categorized for suitability using USF&WS criteria for roosting potential. HDR also delineated state-regulated wetlands on the parcel using the 1989 Federal Interagency Manual routine on-site determination method. The wetlands were flagged, surveyed, and base maps produced to identify wetland locations and potential permtting requirements. Wetland habitats (scrub/shrub and forested wetlands) were characterized using the Cowardin system. As portions of the site had been previously filled and in current use as recreation fields, advanced field techniques relying on soil characteristics and hydrology were used to map the wetland boundaries. As part of the wetlands report, HDR also documented other evidence of altered hydrology (ditches, storm drains, and road runoff) affecting the site. Potential state approvals and permits (Letter of Interpretation, Stream Encroachment, and Freshwater Wetlands) and applicable wetland buffer zone requirements were also evaluated for the proposed site development. ***Reference:*** *Mr. Steven Dochniak, PANYNJ, (973) 565-7552*

PANYNJ, Stewart International Airport Wetland Delineations, New Windsor, NY. In total, the Stewart Airport facility covers 2,400 acres with a terminal that accommodates seven passenger gates. A Jurisdictional Determination of wetland and watercourse resources was requested by PANYNJ to aid in the planning process for additional commercial development. HDR delineated the boundaries of wetlands and watercourses in June 2009 using the three-parameter methodology described in the 1987 United States Army Corps of Engineers (USACE) delineation manual within two areas located on the airport property totaling over 100 acres. HDR prepared Jurisdictional Determination reports using the post-Rapanos guidance for approved and preliminary JD's. HDR also obtained endangered and threatened species file search results from the NYSDEC Natural Heritage Program and the U. S. Fish & Wildlife Service for the study area. ***Reference:*** *Mr. Marco Salcedo, PANYNJ, (973) 565-7556*



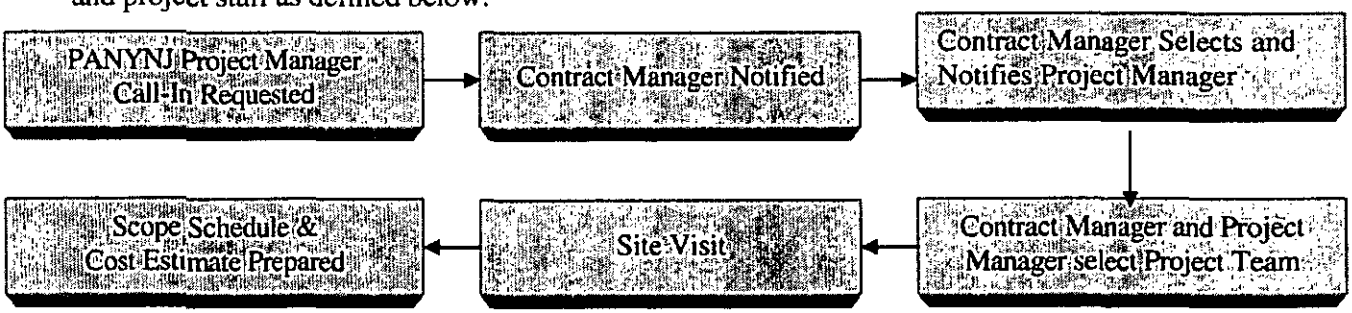
USACE New York District, NY and NJ Harbor Navigation Environmental Impact Statement and Ecosystem Studies. HDR was managing partner in a joint venture - The New York and New Jersey Harbor Partnership (NYNJHP) - that performed a comprehensive environmental impact study of navigation improvements to the New York and New Jersey Harbor. Since the completion of the Harbor Navigation FEIS, HDR has continued participated in on-going studies relating to the deepening program, including the preparation of an Environmental Assessment (EA) of the Effects of the New York/New Jersey Harbor Deepening Project on the USEPA RI/FS of the Newark Bay Study Area in response to a Court Order and Opinion. The EA included the evaluation of deepening the Federal navigation channels within the Newark Bay Study Area. Under contract to USACE and its non-federal partners, the PANYNJ, we assisted in preparing the EA under USACE and NEPA guidelines. Project tasks included hydraulic and water quality modeling of existing and future Harbor conditions, EA preparation, and technical support for the litigation. ***Reference:*** *Ms. Jenine Gallo, USACE - New York District, (917) 790-8617*

SECTION F. MANAGEMENT APPROACH

HDR has conducted over 200 assignments in the areas of environmental design services for the PANYNJ during the last two decades. Our Management Approach, as described here, is based on this experience with the PANYNJ call-in contracts and approximately 100 term-contracts (several thousand assignments) with other public agencies in the New York Region. The key to an effective call-in contract management system is the robust use of computer-based project management and cost/schedule tools that integrate scope of work activities with schedule, resources, and budget details. In addition, our Quality Management System will handle not only technical but administrative questions and contingencies as they arise. Our proposed contract organizational structure for environmental design services is presented in Section D, Resumes. Our core management team will consist of a contract manager, a QA/QC Officer (QAO), and assignment-specific project managers to be designated upon receipt of each assignment. In addition to our project execution team, we will have an in-house Board of Experts (BOE).

Management Responsibility

Management and responsibility will proceed through the following sequence of key personnel who make up the project team: contract manager – the primary point of contact, QAO, project manager and project staff as defined below:



Contract Manager: Commits resources to contract; assures contract requirements and PANYNJ objectives are met; ensures project goals are clearly understood by our team and ensures effective and timely involvement of other key staff; designates a project manager for individual assignments; approves subcontracting plans as to scope, contract and terms; plans overall program, approves assignments, work scopes, budgets, schedule, and staffing plans.

QAO: Responsible for ongoing surveillance of project activities, ensuring conformance with our Quality Management System (QMS) and evaluating the effectiveness of its requirements; ensures coordination of sampling with laboratory activities and timely involvement of in house experts; performs audits to ensure that protocols are being followed; coordinates all data validation activities or usability studies as appropriate for individual work scopes and assures all deliverables are reviewed prior to submission.

Project Manager: Develops a detailed work scope for assignments; assigns staff with contract manager; contracts with and supervises subcontractors as pre-specified in our assignment; plans and tracks the budget, schedule, staff, and equipment of specific assignments as supported by our Intranet and computer-based management and cost/schedule tools; supervises all project task work; reviews and approves task work products; generally is responsible for execution of one or more specific work elements for a designated project.

Workflow and Execution of Consultant Assignments

Upon selection for a Call-In Task Order, and receipt of Notice-to-Proceed, HDR will immediately initiate the work effort. HDR recognizes that the successful delivery of multidisciplinary projects demands close coordination and communication between the design team and the owner. HDR will:

- Provide proposals with a clear Work Breakdown Structure at a task level where % complete can be clearly defined
- Hold kickoff/meetings with Engineering and Facility personnel as required
- Establish a project guide establishing communication guidelines, the project schedule, and budget
- Organize the Quality Control Plan and schedule staff to complete the QC reviews to meet the project schedule
- The Project Manager and key technical team members will attend regularly scheduled project meetings with PANYNJ.
- Conduct on-board workshops when appropriate
- Provide an Earned Value Spreadsheet with every invoice based on the Work Breakdown Structure provided in the proposal. This Earned Value report will demonstrate the level of completion of each scope task relative to the overall expenditures on the project budget.

From contract initiation forward, the work product and schedule become the responsibility of the Project Manager. The Contract Manager will continue to monitor staffing and client satisfaction and will hold regular meetings with the PANYNJ to review all active task orders.

Descriptions of typical consultant tasks that may be required for each environmental on-call task order are provided below:

Field Inspections

Field Inspections are an important means of identifying project objectives and constraints and are recommended for every assignment. They can be used either as a reconnaissance tool to be followed by more intensive efforts in large investigations, or solely for the purpose of defining issues on smaller projects. The objectives of the field investigation will be defined in the project work plan and may include such items as air quality measurements for health and safety purposes, staking of sample locations, defining site access and work limitations, terrestrial and aquatic biological sampling for baseline assessments and impact analyses, surface or groundwater quality assessment, or sampling of waste and/or contaminated environmental media to determine the extent of contamination or investigation/design/remediation studies.

Environmental Data Collection and Analysis

Depending on the needs of a specific project, data collection and analysis may be limited to a one-day effort involving only a few specific environmental samples or may be a multi-week program involving many or all environmental media. Typical environmental data collected may include sampling of surface water (and sediments), soils (surface and subsurface), groundwater, air (including particulates), effluents, leachate, and biota. Biological data collected may also include information on resident or migratory avian communities, terrestrial species, wetlands and other significant habitats for environmental assessments. Where appropriate, certified analytical laboratories will be subcontracted, as will a data validator. Other subcontractors that may be warranted during data collection include geophysical consultants, drillers, surveyors, excavators, mobile laboratories, and asbestos specialists. HDR's project manager will direct all subcontractors.

Report Preparation

The synthesis of the data collected and analyzed is also a task common to all projects. Reports will be tailored to the project scope but at a minimum will consist of a description of the objectives of the study, the methods used, a synopsis of the results (with attachments providing detail as appropriate), and conclusions and recommendations. Where appropriate, environmental data will be compared to relevant standards or criteria to provide a link to the conclusions and recommendations that follow. Data will be presented in tabular and graphic form for clarity and to enhance written text. A draft report will be prepared that will be submitted to the PANYNJ for review and comment. Subsequent to discussions with the PANYNJ on the draft report, the final report will be prepared incorporating any changes.

Cost Estimating

Cost Estimates are normally included for those projects where recommendations for either further investigation or remediation are made. For projects in which remediation recommendations are made, estimates will be provided for the expected order of magnitude of costs. This task may be expanded to the provision of detailed cost estimates and specifications at the request of the PANYNJ.

Modeling

Mathematical modeling is a task that may be required for specific projects but may not be necessary for many. Typical environmental modeling assignments may include surface water quality modeling, ecological and biological modeling, toxic fate and transport modeling, effluent discharge/loading modeling, sediment transport modeling, plume modeling, air quality modeling, groundwater modeling, and flood modeling. The objective and focus of the particular project assignment will determine the potential areas for modeling, the likelihood of such modeling, and the specific models that might be appropriate. The individual work scopes will define the potential (optional) modeling needs for the individual projects.

Preparation of Contract Documents

For previous projects, HDR has used the PANYNJ standard specifications, modified to suit the site conditions, and prepared new specifications where required for specific equipment and systems. All specifications prepared by us conform to the PANYNJ standard format. Contract documents typically include plans and specifications, construction cost estimates, a construction operation plan, and a design report. We will prepare all contract documents in conformance with the PANYNJ standards and all applicable codes and regulations. The PANYNJ standard "up-front documents" for contracting, bidding and insurance requirements would be attached to the technical documents with the end product being a fully biddable package. We are familiar with all of these requirements, having performed similar services for the PANYNJ under our past call-in term contracts.

Shop Drawing Review and Approval

HDR can assist the PANYNJ in the review and approval of shop drawings for various construction projects. The review of shop drawings, equipment literature, cut sheets, and similar material is performed to ensure that the submitted materials are in conformance with the specified products. These reviews generally consider the following elements of a submittal: materials of construction, dimensions, elevations, functionality, compatibility and operability.

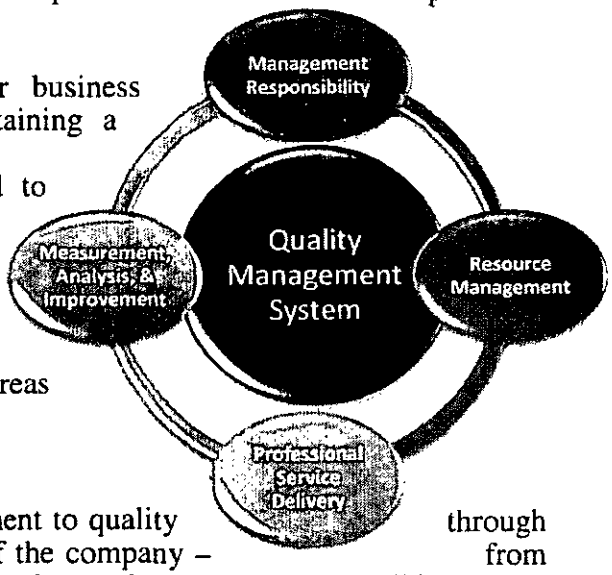
Various contractors and equipment suppliers offer similar equipment with the same general specifications; it is important to thoroughly review these products to ensure that subtle differences between manufacturers do not result in potential construction or design problems. This type of review is typically referred to as "substitution review" and the PANYNJ has specific guidelines for reviewing substitute items. We have reviewed the PANYNJ standard practices for construction reviews, have performed these reviews as part of past PANYNJ projects, and find them to be consistent with our approach to standard shop drawing reviews.

Our standard review and logging procedure is consistent with the PANYNJ standards. Except for submittals for the record or information, where action and return is required, we will review each submittal, mark to indicate action taken, and return it in the allotted time frame.

HDR's Quality Management System

HDR believes that quality products and services result from having sound business practices, retaining talented staff, and focusing on being responsive to our client's needs. Our clients respect us for our philosophy of "doing the right things for the right reasons."

Quality is integrated into HDR's day-to-day business activities through our Quality Management System (QMS). The programs, policies, and business processes that comprise the QMS have four key elements:



- Management actively promotes quality in our business activities and defines responsibilities for maintaining a quality focus
- Resources are trained, available and committed to providing quality services.
- Processes and procedures are in place that promotes quality in the delivery of our products and services.
- Continual improvement is achieved through performance measurement and identification of areas for improvement

Management Responsibility

HDR's senior management demonstrates its commitment to quality through establishing responsibilities for quality at all levels of the company – from company president to members of management to the project team. Responsibilities are documented in our QA/QC Program procedures. These procedures define how HDR delivers products and services to our clients. HDR's senior management has also committed the resources needed to promote, maintain and monitor adherence to the QA/QC Program.

Resource Management

Talented and committed staff makes the biggest impact on quality products and services. QMS tools and resources that support our staff include:

- Management Information Systems – integrated systems that provide the project managers with "immediate" access to up-to-date project information
- Project Management Program - includes Best Practices, guidelines, project controls, and support systems

- HDR University – provides a full range of technical and communication training
- Health & Safety Program – encompasses safety training and field procedures
- Business Communities – identify internal technical experts that are available throughout the company, maintain practice groups to facilitate communication among staff working in specific technical areas, and establish practice leaders that are responsible for making the appropriate resources available for projects
- Quality Office – provides quality training, tools and resources

Professional Service Delivery

HDR's QMS promotes professional service delivery though formal policies and procedures, tools and processes. These include project planning requirements (such as development of project guides), internal staffing/workload monitoring and projection system, quality control review requirements, management oversight responsibilities, CAD/BIM capabilities and standards, and a variety of technical standards and Best Practices.

Measurement, Analysis & Improvement

HDR's culture of continual improvement provides our clients with confidence that products and services are delivered efficiently and effectively. QMS components include:

- Balanced Scorecard - automated performance measures used to monitor the alignment of client, service, staff and financial/business indicators
- QA/QC Program Audit - provides internal monitoring of compliance with quality procedures
- Lessons Learned – provides a course of action to learn from the past and improve in the future
- Client Survey - conducted by an independent organization, outside of HDR, to capture the "voice of our customers"

HDR's QMS provides sound business practices that result in quality products and services that our clients expect.

Sub-Contracting

HDR's size and diversity enable us to directly perform all of the environmental design services listed in the RFP. Where appropriate and if needed, we will solicit bids and qualifications from minority and women-owned business entities (MBE/WBE) when subcontracting "vendor work" (such as drilling, surveying, laboratory analyses and other specialty services). HDR is committed to achieving the MBE/WBE participation goals specified by the Chief Engineer and we have an excellent track record in this area. We have established successful working relationships with a number of MBE and WBE firms while performing numerous other contracts for agencies and industry. We have the PANYNJ list of "Certified Minority Owned/Women Owned and Small Business Enterprises" and will use this list in conjunction with our knowledge of qualified M/W/SBE firms to meet the participation goals for this contract.

SECTION H. FIRM AFFILIATES

The following are affiliates of Henningson, Durham & Richardson, Architecture and Engineering, P.C.:

- Brown, Vence & Associates
- CGvL
- Claunch & Miller, Inc.
- Cochran & Wilken, Inc.
- CUH2A Europe, Inc.
- CUH2A, INC. Architecture Engineering Planning
- Devine Tarbell & Associates, Inc.
- E. T. Archer Corporation
- Economic & Engineering Services, Inc. (EES)
- Engineering-Environmental Management, Inc. (e2m)
- Hawaii Pacific Engineers, Inc.
- HDR Acquisition Services, Inc.
- HDR Alaska, Inc.
- HDR Architecture Associates, Inc.
- HDR Architecture Canada, Inc.
- HDR Architecture, Inc.
- HDR Architecture, P.C.
- HDR Archs. & Engrs., P.C.
- HDR Canada Holding Corporation
- HDR Construction Control Corporation
- HDR Corporate Services, Inc.
- HDR Corporation
- HDR dé Puerto Rico, P.C.
- HDR Design-Build, Inc.
- HDR Engineering, Inc.
- HDR Engineering, Inc. of the Carolinas
- HDR Environmental Technologies, Inc.
- HDR, Inc.
- HDR International, Inc.
- HDR Michigan, Inc.
- HDR of the District of Columbia, P.C.
- HDR Project Development Services, Inc.
- HDR Project Services Corporation of Arizona
- HDR Security Operations, Inc.
- HDR/Wljorden, Inc.
- HDR-Richardson Gordon, Inc.
- Henningson, Durham & Richardson International Inc.
- Henningson, Durham & Richardson of Penn., Archs. & Engrs., P.C.
- Henningson, Durham & Richardson, P.C.
- HLB Decision Economics, Inc.
- iTRANS Consulting, Inc.
- Johnson-Brittain & Associates, Inc.
- Pharos Corporation
- Quest Engineers, Inc.
- Shiner, Moseley and Associates, Inc.
- Surface Water Resources
- WHM Transportation Engineering Consultants, Inc.

I. Conflict of Interest Statement

SECTION H. CONFLICT OF INTEREST

Henningson, Durham & Richardson, Architecture and Engineering, P.C., any employee of the firm, agent or subcontractor does not have a conflict of interest with the subject project.

SECTION J. COMMENTS ON CONTRACT

HDR has no comments on the contract language at this time.

The Port Authority of New York and New Jersey

"CALL-IN" CONSULTANT PROPOSAL EVALUATION

RFP #: 22195

ECOLOGICAL STUDIES & DESIGN SERVICES DURING 2011

PM: Marc Helman

RANK	FIRM	Office/ Field MULT	TECHNICAL EVALUATION Staff Quals (	Firm Quals	Mngt Appr	SCORE	AGR EXCPTNS (X)(1)	NOTES
A	HDR	2.85	9	9.5	8.5	90.5		
A	Malcolm Pirnie	2.89 / 2.20	9	8.5	8.5	87.5		
B	Hatch Mott MacDonald	2.95/2.67	8	8.5	8.5	82.5		
B	Weston Solutions	2.82	8	8.5	8.5	82.5	X	
B	CDM (Camp, Dresser & McKee)	2.86 / 2.25	8	8	8	80		
B	TRC	2.69	7.5	7	7.5	73.5		
B	Langan	2.7	7	7	7	70		
	CMX (Formerly Schoor DePalma)							NR
	Kleinfelder East							NR

TECHNICAL RATINGS: EXCELLENT = 10 GOOD = 9 - 8 FAIR = 7 - 6 U

(X) INDICATED RANKING SUBJECT TO RESOLUTION OF AGREEMENT EXCEPTIONS

Marc Helman 1 Dec 2010
EVALUATOR DATE

William Cyr 12/2/10
EVALUATOR DATE

Shirley Engelhart 12/2/10
EVALUATOR DATE

CONCURRED: 12/2/10
DIVISION MANAGER DATE

CONCURRED: 12/7/10
MANAGER, PTASD DATE

APPROVED: 12/9/10
CHIEF ENGINEER DATE

The Port Authority of New York and New Jersey

"CALL-IN" CONSULTANT PROPOSAL EVALUATION

RFP #: 21999

ENVIRONMENTAL DESIGN SERVICES DURING 2011

PM: William Glynn

RANK	FIRM	MULT Cons Office/ PA Office	TECHNICAL EVALUATION Staff Quals)	Firm Quals	Mngt Appr	SCORE	AGR EXCEPT (X)	NOTES
A-1	Malcolm Pirnie, Inc.	2.89/2 20	9.6	10	9.1	96		
A-2	Hatch Mott MacDonald, LLC	~~2.946/2.673~~ **	8.8	8.5	8.5	87		*Mults. Lowered: 2.892/2.624 (SEE ATTACHED)
A-3	TRC Engineers, Inc.	2.69/2.23	8	8.3	8	81		
A-4	HDR	2.85	8	7.6	8	79		
B-5	Camp Dresser & McKee	2 86/2.25	7.6	7.3	7.6	75		
B-6	Weston Solutions, Inc.	2.82	7.3	7.3	7.6	74	X	
B-7	URS Corporation - NY	2.5	7	7	7.3	71	X	
B-8	Langan Eng & Env'l Svcs	2.7	6.6	7	6.8	68	X	
B-9	Kleinfelder East, Inc.	2.79	6.3	6.3	6	62		
NR	PMK Group Inc.							

TECHNICAL RATINGS: EXCELLENT = 10 GOOD = 9 - 8 FAIR = 7 - 6 UNSATISFACTORY = 5 - 0

X Any exceptions to the Agreement will be resolved prior to any work

PHILIP CREMIN — DATE 10/22/10

WILLIAM GLYNN — DATE 10/27/10

BRUCE WALCH — DATE 10/27/10

CONCURRED: DIVISION MANAGER — DATE 11/1/10

CONCURRED: MANAGER, PTASD — DATE 11/9/10

APPROVED: CHIEF ENGINEER — DATE 11/15/10

NR = No response