Exhibit 3
Resumes

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The First Wind Executive Team

Paul J. Gaynor

President,
Chief Executive Officer

Executive Summary

Paul J. Gaynor is responsible for the strategic direction and day-to-day management of First Wind projects in North America.

Career Highlights

Mr. Gaynor has more than 20 years of experience in the energy field, encompassing leadership and finance roles in the energy, power, and pipeline sectors. In addition, he has been engaged in several landmark energy and power financings across the globe.

Mr. Gaynor was formerly Chief Financial Officer of Noble Power Assets, LLC, a private equity-backed power acquisition company. Prior to that, he was the Senior Vice President and Chief Development Officer of Singapore Power Group (SP) and Chief Operating Officer of SP International (SPI).

Mr. Gaynor led a comprehensive restructuring of SP and oversaw project development and asset management at SPI. He joined SP as Senior Vice President and Chief Financial Officer, where he was responsible for all financial matters, including leading the initial public offering and introducing world-class finance practices into the organization.

From 1998 to 2000, Mr. Gaynor was the Senior Vice President and Chief Financial Officer of PSG International, a pipeline development company owned by GE Capital and Bechtel Enterprises. PSG developed, financed, built, owned, and operated gas, oil, and water pipeline systems across the globe. Mr. Gaynor assisted in the establishment of the company and oversaw financial matters. He was also responsible for acquiring a 32.5% interest in a natural gas system in Mexico and subsequently sat on the board of directors. In addition, he led the fundraising process for the $3 billion TransCaspian Gas Pipeline project in Central Asia.

Before PSG, Mr. Gaynor was Vice President and Manager of Asia Pacific operations for GE Capital's Structured Finance Group (SFG). He was responsible for deal analysis, execution, and internal approvals, leading a team that evaluated over 20 power projects between 1994 and 1998. Mr. Gaynor also led the Group's $400 million investment in Paiton Energy and Quezon Power, and he received internal approval for over $1 billion of projects. He also worked at GE Capital SFG in the U.S. before moving to Asia, and he sold power plants for GE Power Systems prior to attending business school.

Education and Credentials

- Master of Business Administration, University of Chicago Graduate School of Business
- Bachelor of Science, Mechanical Engineering, Worcester Polytechnic Institute

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Kurt Adams

Executive Vice President,
Chief Development Officer

Executive Summary

Kurt Adams oversees the development of all First Wind's projects nationwide.

Career Highlights

Prior to joining First Wind, Mr. Adams was Chairman of the Maine Public Utilities Commission from 2005 to 2008, where he served as Maine's primary regulator of transmission infrastructure. While chairman, he served as a member of the New England Conference of Public Utilities Commissions, the National Association of Regulatory Utility Commissions (''NARUC''), the NARUC Electricity Committee, the NARUC Competitive Procurement Committee and as Maine's representative on the New England State Committee on Electricity.

Prior to his position with the Maine PUC, Mr. Adams was Governor John Baldacci's chief legal counsel from 2003 to 2005.

Before joining the Governor's staff, Mr. Adams was a partner in the law firm of Bernstein, Shur, Sawyer & Nelson in Portland, Maine.

Education and Credentials

- Juris Doctor from the University of Maine School of Law
- M.A. in International Affairs from The George Washington University
- B.A. Skidmore College

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Michael Alvarez

Executive Vice President,
Chief Operating Officer

Executive Summary

Michael Alvarez is responsible for First Wind operations and asset management, as well as the firm's commercial transactions and mergers and acquisitions.

Career Highlights

Mr. Alvarez joined First Wind from Edison International, where he was the Vice President of Strategic Planning. Prior to Edison, he served as Executive Vice President, Chief Financial Officer, and General Counsel at Nexant Inc., a privately held San Francisco-based company that provides software and advisory services to the global energy industry.

Before Nexant, Mr. Alvarez was at PSG International in London, where he managed the development of the $2.3 billion, 1,700-kilometer TransCaspian natural gas pipeline.

Previously, he was a senior executive at Kenetech Energy Systems Inc., successfully managing the development of electric generation projects, as well as a global operating portfolio of wind, gas, biomass, and oil-fired projects.

Mr. Alvarez began his career with the San Francisco law firm of Thelen, Marrin, Johnson & Bridges (now Thelen, Reid & Priest), where he was a partner specializing in commercial and project finance.

Education and Credentials

- Juris Doctor, University of Virginia
- Bachelor of Art, Economics, University of Virginia
- Trustee, California State Parks Foundation
- Member of the Bar of California, New York and Washington, D.C.

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Lori Erickson

Senior Vice President
Human Resources

Executive Summary

Lori Erickson has overall responsibility for strategic direction of human capital needs for First Wind's workforce of more than 150 employees.

Career Highlights

Ms. Erickson joined First Wind in 2008, bringing over 20 years of experience in driving the HR agenda of technology and services companies of varying size and scope. Prior to First Wind, Ms. Erickson served for 4 years as the Senior Vice President of Global Human Resources at Monster Worldwide. During her tenure with Monster her focus was on providing the company with the capabilities to attract, develop, and retain the highest caliber talent in the industry and to drive organizational effectiveness and employee engagement.

Prior to Monster Worldwide, Ms. Erickson was Senior Vice President of Human Resources for StorageNetworks where she provided strategic HR direction for the emerging company during a period of rapid organic growth. She has also held a variety of Human Resource roles at Honeywell Bull, Computervision, I-Cube/Razorfish and Shiva.

Education and Credentials

- Bachelor of Science, Computer Science and Business Management, Franklin Pierce College

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Carol J. Grant

Senior Vice President,
External Affairs

Executive Summary

Carol J. Grant is responsible for external affairs at First Wind, including public affairs, public relations and communications.

Career Highlights

Ms. Grant served as Chief of Operations for Mayor David Cicilline in the City of Providence from 2003 to 2007, leading ten departments and two strategic initiatives in the areas of neighborhood services and economic growth. She was previously vice president of human resources for Textron. From 1983 to 1997, Ms. Grant held executive positions in law, external affairs, and operations for NYNEX, including leadership of the entire business in Rhode Island. She also served as the founding Chair of the Rhode Island Airport Corporation during the period that the quasi-public organization was created and the new terminal at T.F. Green Airport was built.

Ms. Grant has held a wide variety of civic leadership roles, including Chair of the Greater Providence Chamber of Commerce and membership on the Governor's Economic Policy Council and the Board of the Rhode Island Foundation.

Education and Credentials

- Juris Doctor from University of Michigan School of Law
- B.A. from University of Missouri
- HONORS: Athena Award, the New England Council's Women in Leadership Award

Neil Kiely
First Wind
129 Middle Street
3rd Floor
Portland, ME 04101

Neil Kiely is Director, Development--New England at First Wind in Portland, Maine. At First Wind, Neil coordinates an internal team and external consultants on all aspects of development on individual wind energy projects including site identification, real estate acquisition, civil design, permitting and pre-construction planning.

Prior to joining First Wind, Neil practiced as an attorney with the Firm of King and Spalding in Washington D.C. and served as General Counsel to a firm in Portland, Maine. More recently, Neil served as a Director at Corporate Finance Associates, a commercial financing firm, where his responsibilities included business development and transaction management. In addition, Neil has founded and operated his own companies in the areas of real estate development and commercial financing.

Neil is a graduate of Boston College and Emory University School of Law.

Geoffrey West
First Wind
129 Middle Street
3rd Floor
Portland, ME 04101

November 2008-Present ***Environmental Permitting and Compliance Manager,*** First Wind, Portland

- Currently manage First Wind's permitting and due diligence efforts for Grid-Scale Wind Development in Maine.

January 2007-November 2008 ***Environmental Specialist (I),*** Juno Environmental Services, FPL Energy, Juno Beach, FL

- Managed Permitting and due diligence for natural gas, wind, and transmission projects in the Midwest.

September 2004-January 2007 ***Environmental Specialist (II),*** Everglades Mitigation Bank, Corporate Real Estate, Florida Power and Light Company (FPL), Juno Beach, FL

- Managed restoration of mitigation banks and conducted functional wetland assessments for the sale of mitigation credits for obtaining USACE 404 and Environmental Resource Permits while brokering credit sales with permit applicants.

July 2002-September 2004 ***Environmental Scientist,*** Everglades Division, Southern Restoration Department, South Florida Water Management District (SFWMD), West Palm Beach, FL

- Managed the construction of the Loxahatchee Impoundment Landscape Assessment (LILA) research facility developed to evaluate the success of the Comprehensive Everglades Restoration Plan (CERP).

Nov. 2000-July 2002 ***Senior Scientific Associate***, Site Management, Ecological Technologies Division, Northern Restoration Department, South Florida Water Management District, West Palm Beach, FL

- Assisted in the daily operation of Stormwater Treatment Facilities (>4000 acres) developed to treat agricultural runoff.

June 2000-November 2000 ***Field Intern***, Florida Power and Light

- Conducted a retrospective analysis of mercury content in Raccoons in the Everglades.

1999-2000 ***Interpretive Guide, Florida Power and Light, Indian Town, FL***

- Guided interpretive, ecological tours though the Barley Barber Cypress Swamp.

EDUCATION

B.S. Biology, University of the South, 1999

M.S. Environmental Engineering Sciences, University of Florida, 2008

Joy Y. Prescott

Project Manager

Ms. Prescott is responsible for providing large-scale project management, NEPA documentation, permitting assistance, and natural resource planning. She has specific management experience in the development of utility-scale alternative energy projects, including development of required NEPA environmental impact statements. She has also managed staffing, implementation, and reporting for Stantec's many wind power related field studies and has coordinated more than 40 studies over the past several years. Her prior experience includes identifying conservation options and creating site improvement and management plans.

Her information management and reporting skills include project planning and tracking, budget development and tracking, database system management, data compilation and analysis, technical presentation development, and multimedia document production. She has considerable permitting experience, including data collection for FERC pipeline, power, and wind projects; avoidance and minimization support; NEPA compliance and documentation; and state environmental permit exhibit preparation.

PROFESSIONAL EXPERIENCE

- Stantec Consulting. 2007-present. Project Manager.
- Woodlot Alternatives, Inc. 2005-2007. Project Manager.
- Land Trust Alliance. 2004-2005. Project Coordinator.
- Independent Consultant. 2003-2004.
- Akibia, Inc. 1999-2002. Principal Consultant.
- Systems Engineering, Inc. 1998-1999. Analyst.
- Cambridge Technology Partners. 1996-1998. Consultant.

EDUCATION

MA, Landscape Planning and Design, Conway School of Landscape Design, Conway, Massachusetts, 2003

BA, Economics, Smith College, Northampton, Massachusetts, 1996

PROFESSIONAL ASSOCIATIONS

Member, Town of Brunswick Department of Planning and Development, Conservation Commission

Member, Maine Association of Planners

PROJECT EXPERIENCE

Natural Resource Services

Confidential Wind Projects, New Hampshire, Vermont, New York, Pennsylvania, Ohio, West Virginia (Project Manager)

Managed pre-construction fieldwork surveys and impact assessments at multiple sites in the Mid-Atlantic, New England and the Midwest. The assessments include habitat analyses, fatal flaw analyses, migration surveys using marine radar, acoustic bat surveys, breeding bird surveys and raptor surveys. Ms. Prescott has effectively served as liaison between clients and regulatory agencies to ensure that studies and monitoring plans are in accordance with federal and state guidelines.

Moresville Wind Project, Delaware County, New York (Project Manager)

Coordinated and prepared comment responses to Draft Environmental Impact Statement.

Joy Y. Prescott

Project Manager

Sheffield Wind Project, Vermont

Managed pre-construction fieldwork and reporting for proposed wind energy project. Coordinated documentation and responses for Section 248 Discovery, Testimony and Rebuttal.

Oakfield Wind Project, Washington County, Maine (Project Manager)

Provided project management and planning services. Coordinated fieldwork and deliverables for natural and cultural resource assessments and assisted in permitting.

Rollins Wind Project, Penobscot County, Maine (Project Manager)

Provided project management and planning services. Managed fieldwork and deliverables for natural and cultural resource assessments. Coordinated consultations with state and federal agencies and helped to coordinate state and federal environmental permitting.

Cape Wind EIS, Nantucket Sound, Massachusetts (Project Manager)

Stantec participated in the federal environmental permitting effort for the Cape Wind project in Nantucket Sound, Massachusetts. As Project Manager and Regulatory Specialist, Joy was instrumental in the coordination and development of NEPA documentation for the project. She was responsible for preparing and reviewing sections of the Draft and Final Environmental Impact Statement and Biological Assessment documents as well as responding to comments regarding issues raised by public and government entities. Her work also included extensive literature reviews, analysis of applicant field survey data concerning avian and bat species distribution and behavior, and informal and formal consultations with USFWS staff and MMS.

Dale F. Knapp

Senior Project Manager, Wetland Scientist, Soil Scientist

Mr. Knapp is a Senior Project Manager and the Director of the Water Resources Division at Stantec. His primary responsibilities include staff management, project administration and management, ecological field surveys, strategic planning for permitting, and report preparation. In addition to managing and implementing large scale permitting and restoration projects, Mr. Knapp has conducted a variety of field biological sampling efforts to determine risk to ecological receptors and water quality determinations. He has also provided expert witness testimony regarding the findings of various ecological field surveys. Mr. Knapp also has extensive experience in soil mapping, morphology, and subsurface wastewater design.

Under Mr. Knapp's direction, the Water Resources Division performs wetland delineations, vernal pool surveys, threatened and endangered species surveys, ecological community characterizations, permitting, biological assessments, environmental planning, fish and wildlife surveys, wetland mitigation and compensation, project management and document preparation in accordance with the state and federal regulatory agencies.

PROFESSIONAL EXPERIENCE

- Stantec Consulting. 2007-present. Senior Project Manager, Director of Water Resources.
- Woodlot Alternatives, Inc. 2005-2007. Project Manager.
- Corinne Leary. 2002-2005. Field Scientist.
- Leary Soil Works. 2001-2002. Construction.

EDUCATION

BA, University of Maine, Orono, Maine, 2003

Preserving the Wetland Landscape - Tools for Successful Mitigation, Grappone Center, Concord, New Hampshire, 2006

Subsurface System Inspector, Joint Environmental Training Coordination Committee, Portland, Maine, 2006

Hydric Sandy Soils Workshop, Maine Association of Professional Soil Scientists, Scarborough, Maine, 2006

Basic and Advanced Erosion Control Practices, Maine Non-point Source Training and Resource Center, Portland, Maine, 2007

40-Hour HAZWOPER Certification, OSHA, Topsham, Maine, 2010

REGISTRATIONS

Onsite Sewage Disposal System Inspector #523, State of Maine, An Office of the Department of Health and Human Services - Subsurface Wastewater Program

Apprentice Wetland Scientist #WSA-18, New Hampshire Joint Board

Licensed Site Evaluator #386, State of Maine, An Office of the Department of Health and Human Services - Subsurface Wastewater Program

Enviro-Septic Certified #5058MEES, Presby Environmental Inc.

PROFESSIONAL ASSOCIATIONS

Vice President, Maine Association of Site Evaluators

Dale F. Knapp

Senior Project Manager, Wetland Scientist, Soil Scientist

Member, New Brunswick Environment Industry Association

Member, Society of Wetland Scientists

Professional Member, Society of Soil Scientists of Southern New England

President, Maine Association of Wetland Scientists

Recognized Wetland Delineator, New Brunswick Department of Environment

Member, Association of State Wetland Managers

Member, Maine Association of Professional Soil Scientists

PROJECT EXPERIENCE

Natural Resource Services

Pine Tree Landfill Restoration Project, Hampden, Maine

Senior Project Manager responsible for conducting natural resource surveys and developing and implementing a restoration plan to repair and rehabilitate habitat affected by an incidental release of liquid material of unknown composition from a gas-to-energy recovery system at the Pine Tree Landfill.

Rollins Wind Project, Penobscot County, Maine

Senior Project Manager responsible for organizing and managing all natural resource surveys for an extensive 60-megawatt wind project consisting of 40 turbines, 2 transmission lines, an electrical substation, and an operations and maintenance building. He also helped address agency questions and concerns, including those of the U.S. Fish and Wildlife Service regarding impacts to eagles and oversaw the QA/QC of natural community mapping and permitting efforts, which included Maine Department of Environmental Protection, U.S. Army Corps of Engineers, and local permit applications. The project is expected to be fully operational in 2010.

Oakfield Wind Project, Oakfield, Maine

Senior Project Manager responsible for organizing and managing all natural resource surveys for a 34-turbine wind project encompassing 600 acres, including 12 miles of collector line, capable of generating 51 megawatts of renewable energy. Survey efforts included wetland delineations, vernal pool surveys, and rare, threatened and endangered species plant and wildlife surveys. He also oversaw the QA/QC of natural community mapping and permitting efforts, which included Maine Department of Environmental Protection, U.S. Army Corps of Engineers, and local permit applications. The project is expected to be fully operational in 2010.

Old Port Village Peer Review, Kennebunkport, Maine

Senior Project Manager. Reviewed documents filed by the applicant as they pertained to natural resource impacts associated with a proposed subdivision and the presence or absence of rare, threatened, and endangered (RTE) species that may occur within the proposed project area. Work done on behalf of an abutting property owner to the proposed development.

Penobscot River Restoration Natural Resource, Penobscot County, Maine

Technical Lead. Coordinated and participated in natural resource assessment of three dam impoundments along a 10-mile stretch of the Penobscot and Piscataquis Rivers. Characterized existing ecological resources and collected existing infrastructure information. Tasks included wetland reconnaissance, site specific delineation and Function Value Assessments along the backwater of all three impoundments. In addition, coordination of invasive/exotic plant management and supporting development of ecological changes post removal.

Wind Farm Development Surveys and Risk Assessments, Maine

As Senior Project Manager, Mr. Knapp has managed preconstruction wind farm development surveys and assessments at multiple sites throughout Maine. These assessments include site prospecting for wind farm sites, landscape analyses, fatal flaws, and ecological community characterization.

Dale F. Knapp

Senior Project Manager, Wetland Scientist, Soil Scientist

Hoosac Wind Project, Massachusetts

Field Manager/Senior Project Manager. Conducted a series of wetland delineations in concert with other environmental team members. Field surveys included confirming mapped wetlands and other natural communities and delineating the boundaries of wetlands, streams, and other natural resource features. He also conducted extensive botanical field surveys within the project area to determine if any state- or federal-listed rare plant species were present.

Cabelas Retail Development, Scarborough, Maine

Wetland Scientist. Conducted wetland delineations and vernal pool surveys. Completed a systematic mitigation site search through several counties in suppport of permitting efforts.

Highland Wind, Maine

Senior Project Manager responsible for the organization and management and oversaw the QA/QC of the wetland delineations, vernal pool surveys, natural community mapping, and RTE plant and wildlife surveys conducted on an approximately 1,500-acre project area.

Line 56, Maine

Senior Project Manager responsible for organization and management of all natural resource work along more than 50 miles of transmission line corridor.

Maine Power Connection Transmission Corridor, Maine

Senior Project Manager responsible for the organization and management and oversaw the QA/QC of the wetland delineations, vernal pool surveys, natural community mapping, and RTE plant and wildlife surveys conducted along over 140 miles of existing and proposed power line corridor between Haynesville and Chester, Maine.

Grand Manan Wind Farm Phase I, New Brunswick

Senior Project Manager responsible for organization and management of all wetland delineations and impact assessments for a 20 MW wind project covering 250 acres on the island of Grand Manan.

Stetson Wind Farm, Maine

Field Manager and Permitting Support. Responsible for completing natural resource surveys on a 1,300-acre project area for this 24 MW wind project. Mr. Knapp functioned as field leader responsible for leading teams of 4-6 person crews. Studies included wetland delineations, vernal pool surveys, natural community mapping, and RTE plant and wildlife surveys. Assisted in the completion of required state and federal permit applications filed in support of the project.

Record Hill Wind Farm, Roxbury, Maine

Senior Project Manager supporting the Record Hill wind project, which is a 22-turbine, 55 MW wind project on a forested ridge environment in the western Maine mountains. This project has included planning and feasibility studies, wetland delineations, wildlife impact studies, noise and visual impact assessments, and coordination of all state and Federal environmental permitting.

Redington Wind Farm, Maine

Field Manager and Permitting Support. Responsible for completing natural resource surveys on a 1,700-acre project area. Functioned as field leader responsible for leading teams of 4-6 person crews. Studies included wetland delineations, vernal pool surveys, natural community mapping, and RTE plant and wildlife surveys. Assisted in the completion of required state and federal permit applications filed in support of the project.

Dale F. Knapp

Senior Project Manager, Wetland Scientist, Soil Scientist

PUBLICATIONS

Emerson, B., D. Knapp, and G. Carpentier. Potential Alteration of Wetland Functions and Values from Dam Removal. *Poster presented at New England Water Environment Association 2010 Annual Conference, Boston, Massachusetts*, 2010.

Emerson, B., D. Knapp, J.D. DeGraaf, and G. Carpentier. Potential Impacts to Wetland Functions and Values from Dam Removal. *Poster presented at The Diadromous Species Restoration Research Network Science Meeting, University of Maine, Orono, Maine*, 2009.

Presentation: The Dirty Side of Wetland Science. *Distinguished Speaker Series: University of Maine Fort Kent, Fort Kent, Maine*, 2009.

Guest Lecturer: College Level Course PSE 413/PSE 533 Wetland Delineation and Mapping. *University of Maine, Orono, Maine*, 2009.

Guest Lecturer: College Level Course PSE 413/PSE 533 Wetland Delineation and Mapping. *University of Maine, Orono, Maine*, 2008.

Workshop: Hydric Soil Determination. *Stantec Consulting*, 2007.

Guest Lecturer: College Level Course PSE 413/PSE 533 Wetland Delineation and Mapping. *University of Maine, Orono, Maine*, 2007.

Workshop: Intro to Soil Science. *Stantec Consulting*, 2006.

Adam J. Gravel

Project Manager, Certified Wildlife Biologist

Mr. Gravel is a Project Manager at Stantec responsible for coordinating ecological inventories and environmental resource evaluations, including wildlife surveys, avian and bat impact evaluations, and habitat studies. Mr. Gravel has most recently been involved in organizing and conducting large-scale natural resource investigations associated with wind power and transmission projects. He has provided permitting and expert testimonial support to several New England wind projects and managed Stantec's New England based wildlife biologists. His field biology experience has allowed him to conduct avian radar surveys, breeding-bird surveys, winter track surveys, bat surveys, raptor surveys, and natural community surveys in Maine, New Hampshire, Vermont, Pennsylvania, Ohio, West Virginia, Virginia, and New York. Mr. Gravel takes an innovative, solution oriented approach to survey design and implementation which has enabled Stantec to conduct ecological surveys in some of the Northeast's most remote and challenging locations.

PROFESSIONAL EXPERIENCE

- Stantec Consulting. 2007-present. Project Manager.
- Woodlot Alternatives, Inc. 2004-2007. Project Manager.
- New Hampshire Division of Forests and Lands. 2003. Field Research Technician.
- University of New Hampshire. 2002-2003. Research Lab Technician.
- University of New Hampshire. 2002. Field Research Assistant.

EDUCATION

BS, Wildlife Management, University of New Hampshire, Durham, New Hampshire, 2003

40-hour HAZWOPER Certified, OSHA, Topsham, Maine, 2009

REGISTRATIONS

Certified Wildlife Biologist, The Wildlife Society

PROJECT EXPERIENCE

Natural Resource Services

Georgia Mountain Community Wind Project, Milton, Vermont

As Project Manager for this proposed 4.5 megawatt wind project, Mr. Gravel coordinated a nocturnal migration study using X-band radar. He also provided support for the Section 248 process, including participation in meetings with Vermont Agency of Natural Resources biologists and development of a work scope for nocturnal radar surveys. Mr. Gravel prepared and submitted pre-filed testimony and responses to discovery requests, and he provided expert witness testimony during subsequent evidentiary hearings before the Vermont Public Service Board.

Adam J. Gravel

Project Manager, Certified Wildlife Biologist

Groton Wind Project, Grafton County, New Hampshire

Mr. Gravel is Project Manager for the proposed Groton Wind Project, which will consist of up to 25 2.0 MW turbines on the forested ridges of Tenney and Fletcher Mountains in the Sunapee Uplands of New Hampshire. He has coordinated numerous studies to address wildlife-related issues present in the vicinity of the project, including avian radar studies, acoustic bat surveys, and Breeding Bird Surveys (BBS) using the United States Fish and Wildlife Service BBS methods. Mr. Gravel worked with the New Hampshire Fish and Game Department to develop protocol and perform spring and fall raptor surveys, and collaborated with New Hampshire Audubon to conduct monitoring of peregrine falcons near the project area. He was involved in the drafting of an avian risk assessment that evaluated the potential impacts to birds and bats as a result of the project and provided expert witness testimony and support during the New Hampshire Site Evaluation Committee process.

Highland Wind Project, Somerset County, Maine

Highland is a proposed wind energy facility consisting of 48 turbines. Mr. Gravel acted as Technical Lead during the planning process and was responsible for wildlife studies including nocturnal radar migration surveys, acoustic bat surveys, raptor migration surveys, and rare threatened or endangered species surveys. He acted a liaison between the client and state and federal resource agencies to develop work plans and avoidance and minimization measures during the planning phase of the project. Mr. Gravel also assisted in generating permit application materials for the project.

Mars Hill Wind Farm, Aroostook County, Maine

Mars Hill is a 28 turbine wind energy facility situated on a low-elevation ridge in Aroostook County, Maine. Mr. Gravel acted as Technical Lead during the planning process and was responsible for avian and bat studies including nocturnal radar migration surveys, acoustic bat surveys, raptor migration surveys, and morning bird stopover surveys. He also assisted in the design of a post-construction avian and bat monitoring program.

Wind Farm Development Bird and Bat Surveys and Impact Studies, Mid-Atlantic, New England, Pennsylvania, Ohio, and New York

Mr. Gravel has managed and conducted pre-construction wildlife impact assessments at proposed wind energy projects at multiple sites in the Mid-Atlantic, New England, Pennsylvania, Ohio, West Virginia and New York. These assessments include habitat analyses, critical issues analyses, nocturnal migration surveys using marine radar, acoustic bat surveys, breeding bird surveys, raptor migration surveys, and ecological community characterizations. Mr. Gravel has effectively served as liaison between clients and regulatory agencies to ensure that studies and monitoring plans are in accordance with federal and state guidelines. Study results and determinations of risk have been provided to clients to assist with their project planning and permit applications in compliance with applicable local, state, and federal natural resource regulations. Mr. Gravel has also provided expert witness testimony for projects in Vermont and New Hampshire.

Hounsfield Wind Farm, Galloo Island, New York

As Project Manager for the nocturnal migration surveys conducted to determine site suitability for this proposed wind energy project located on Galloo Island in Lake Ontario. Mr. Gravel negotiated and designed a marine radar survey reflective of the unique location of this island site. Solutions to transport, maintenance, and site coverage were carefully determined in order to produce one of the most extensive migration surveys to date, successfully documenting avian abundance, flight patterns, and flight altitudes surrounding the site. Mr. Gravel and his project team were praised for their thoroughness and insights provided to state agencies.

Adam J. Gravel

Project Manager, Certified Wildlife Biologist

Granite Reliable Wind Park, Coos County, New Hampshire

Mr. Gravel has acted as the Project Manager on this long-term project, supervising and conducting a variety of natural resource surveys to assess potential concerns raised by the proposed project. Surveys included several seasons of nocturnal radar surveys, wetland and vernal pool reconnaissance surveys, multiple seasons of acoustic bat surveys, rare plant surveys, a raptor migration survey, and a Natural Community Characterization. A winter track survey was also conducted within the project site to document occurrence of American marten (State Threatened) and Canada Lynx (Federally Threatened). Mr. Gravel gave several agency presentations to summarize the multiple seasons of environmental surveys and their implications for the project and he has provided expert witness testimony regarding the work conducted at the site.

Stetson Mountain Wind Farm, Washington County, Maine

Stetson is a 57 MW generation facility consisting of 38 turbines on a 6.5-mile, low-elevation ridge in Washington County, Maine. Mr. Gravel acted as Technical Lead responsible for avian and bat studies during the planning process and assisted in the design of a post-construction avian and bat monitoring program.

Lempster Wind Project, New Hampshire

As the Project Manager, Mr. Gravel was responsible for coordinating and conducting environmental surveys and providing permitting support for this 24 MW wind project, the first in New Hampshire. Tasks included developing and negotiating work plans with agencies, performing avian and bat studies, rare species investigations, vernal pool surveys, and providing testimonial support. Mr. Gravel was also involved in the initial development of post-construction bird and bat monitoring protocols for the project.

Record Hill Wind Farm, Maine

Mr. Gravel acted as Project Manager for the Record Hill wind project, which is a 22-turbine, 55 MW wind project on a forested ridge environment in the western mountains of Maine. For this project, he coordinated planning and feasibility studies, wetland delineations, wildlife impact studies, noise and visual impact assessments, and helped to coordinate all state and Federal environmental permitting.

Adam J. Gravel

Project Manager, Certified Wildlife Biologist

PUBLICATIONS

Pelletier, S.K., G.C. Kendrick, T.S. Peterson, and A.J. Gravel. Atlantic Offshore Bird & Bat Pilot Study: 2009 Results. *Poster Presentation at AWEA Offshore Energy Conference, Atlantic City, New Jersey*, 2010.

Giumarro, G. and A. Gravel. Assessing The Risk Of Avian And Bat Mortality At Commercial Wind Farms. *Presentation at the Windpower 2009 Conference and Exhibition, Chicago, Illinois*, 2009.

Pelletier, S., G. Kendrick, G. Giumarro, T. Peterson, and A. Gravel. Gulf of Maine Offshore Bat and Bird Project. *Poster Presentation at AWEA Offshore Energy Conference; Boston, Massachusetts*, 2009.

Pelletier, S.K., A.J. Gravel, and T.S. Peterson. Nocturnal avian flight heights relative to risk of collision with wind turbines. *Poster presentation at the NWCC Wind Wildlife Research Meeting VII in Milwaukee, Wisconsin*, 2008.

Pelletier, S.K., C.W. Meinke, T.S. Peterson, and A.J. Gravel. 2008. Radar and acoustic bat surveys in pre and post-construction bird and bat mortality monitoring. *Poster presentation at the 2008 American Wind Energy Association conference in Los Angeles, California*, 2008.

Gravel, A. Windpower and Wildlife an Overview of Pre-construction Survey Methods and Results. *Presentation to State and Federal Natural Resource Agencies*, 2008.

Matthew P. Arsenault

Certified Ecologist, Botanist, Project Manager

Mr. Arsenault is a Certified Ecologist and expert Botanist responsible for performing ecological and botanical assessments and characterizations; natural resource inventories including rare, threatened, and endangered species surveys; wetland delineations and function and value assessments; wildlife population surveys; long-term biological monitoring; and water quality monitoring surveys.

Mr. Arsenault has worked on numerous ecological projects, including natural community and rare plant and wildlife survey projects throughout the northeastern and mid-Atlantic United States. These projects have ranged from general reconnaissance observations to quantitative, community- and species-specific surveys. These projects have involved detailed natural community mapping and analysis. He has provided expert witness testimony regarding the findings of various ecological field studies.

Mr. Arsenault has taught many workshops and led field trips on plant identification and ecology. Continuing education and training has included many workshops with the New England Wildflower Society, Josselyn Botanical Society, Maine Association of Wetland Scientists, and Delta Institute of Natural History.

PROFESSIONAL EXPERIENCE

- Stantec Consulting. 2007-present. Project Manager.
- Woodlot Alternatives, Inc. 2005-2007. Project Scientist.
- Delorme Mapping. 2004-2005. Map Technician.
- Maine Natural Areas Program. 2003-2004. Assistant Ecologist.
- Shenandoah National Park. 2003. Biological Science Technician (Exotic Survey Crew).
- University of Maine. 2001-2003. Biological Research Assistant

EDUCATION

BS, Botany, summa cum laude honors, University of Maine, Orono, Maine, 2003

Wetland Delineation Methods, University of New Hampshire, Durham, New Hampshire, 2005

10-Hour Construction Safety & Health Certified, OSHA, Topsham, Maine, 2009

40-hour HAZWOPER Certified, OSHA, Topsham, Maine, 2010

Wilderness First Aid Certified, SOLO, Topsham, Maine, 2010

Heartsaver CPR Certified, SOLO, Topsham, Maine, 2010

REGISTRATIONS

Ecologist, Ecological Society of America

PROFESSIONAL ASSOCIATIONS

Survey-approved Botanist, Massachusetts Division of Fisheries & Wildlife, Natural Heritage and Endangered Species Program

Plant Conservation Program Task Force, New England Wildflower Society

Matthew P. Arsenault

Certified Ecologist, Botanist, Project Manager

Member, Maine Natural Areas Program (Botanical Advisory Group)

Member, New England Wildflower Society

Member, New England Botanical Club

Member, Friends of the Maine Herbarium, The University of Maine Herbaria

Member, Josselyn Botanical Society

Recognized Wetland Delineator, New Brunswick Department of Environment

Member, Ecological Society of America

Member, Maine Association of Wetland Scientists

PROJECT EXPERIENCE

Natural Resource Services

Blanding's Turtle Survey, Galloo Island, New York

Project Scientist responsible for performing surveys for Blanding's turtles at a proposed development site. Survey methods included binocular surveys, nesting surveys, and trapping.

Rare Plant Survey, Lower Chichester, Pennsylvania

Lead Project Scientist responsible for performing a rare plant survey and natural community characterization of a proposed development site.

Rare Plant Survey, Londonderry, New Hampshire

Lead Project Scientist responsible for performing a rare plant survey and natural community characterization of a proposed development site.

Moresville Wind Power Project, Delaware County, New York

Lead Project Scientist. Conducted a broad-spectrum survey and characterization of the existing natural resources including natural communities, rare plants, and rare wildlife along an approximately 5-mile ridgeline in south central New York. Provided a detailed report of the results of the field surveys.

Ecological Characterizations, Windham and Westbrook, Maine

Field Manager and Lead Project Scientist. Responsible for leading field surveys including surveys for rare, threatened, and endangered species of plants and wildlife; assessments of existing wildlife habitat values; and mapping of wetland and stream resources. Provided detailed reports of the findings as well as an analysis on the overall landscape value of each parcel and mitigation potential.

Wetland Mitigation Monitoring, Kennebunkport, Maine

Project manager responsible for conducting and coordinating annual wetland monitoring of a created wetland mitigation site in southern Maine. Prepared annual reports that were submitted to state regulatory agencies describing the existing wetland conditions as well as functions and values. Assessments were made regarding the overall success of the wetland mitigation site.

Wetland Delineation and Vernal Pool Survey, Madison, Maine

Project manager responsible for conducting and coordinating field efforts and report preparation for a wetland delineation and subsequent vernal pool survey of an approximately 100-acre parcel.

Blanding's Turtle Survey, Lyman, Maine

Field Manager and Lead Project Scientist. Conducted binocular and meander surveys targeting the state endangered Blanding's turtle at a project site in southwestern Maine. Prepared a detailed report describing the methodology and results of the field surveys.

Matthew P. Arsenault

Certified Ecologist, Botanist, Project Manager

MBTA Greenbush Line Ecological Monitoring, Scituate, Cohasset, and Hingham, Massachusetts

Project Scientist. Conducted annual monitoring of wetlands and vernal pools including quantitative sampling of vegetation, macroinvertebrates, and water quality. Responsible for conducting radio telemetry monitoring of spotted turtles to determine seasonal movement patterns. Conducted regional de novo surveys targeting spotted turtles. Survey methods included binocular surveys, meander surveys, and trapping.

Proposed Transmission Line Natural Resource Identification, Penobscot and Aroostook Counties, Maine

Project Scientist. Completed vernal pool surveys, wetland delineations, and rare plant surveys along over 40 miles of a proposed transmission line corridor in northern Maine. Coordinated with the State agencies regarding potential impacts to several species of rare plants that were identified within the project corridor.

Saddleback Maine Ski Area Expansion, Rangeley and Dallas Plantation, Maine

Field Manager and Lead Project Scientist. Completed landscape analyses and field surveys to identify and characterize the existing natural resources present on Saddleback Mountain in western Maine prior to construction of a proposed development. Provided detailed analyses and expert witness testimony relative to the potential effects of the proposed development on significant natural resources including plants and wildlife and their associated habitats.

Stetson Mountain Wind Power Project, Washington and Penobscot Counties, Maine

Project Scientist. Completed wetland delineations and rare, threatened, and endangered plant surveys of a low elevation ridgeline and over 30 miles of a proposed transmission line associated with a proposed wind power facility.

Commercial Spring Source Biological Monitoring, Southern and Western Maine

Field Manager and Lead Project Scientist. Developed and implemented biological monitoring plans designed to provide long-term monitoring of potential impacts as a result of groundwater withdrawal to significant natural resources including wetland and stream habitats. Field efforts include annual quantitative sampling of wetland and stream habitats as well as identification of rare, threatened, or endangered species of plants and wildlife. Responsible for providing detailed analyses of the potential effects of water withdrawal operations on significant natural resources.

Significant Ecological Resource Evaluations, Moosehead Lake Region, Piscataquis and Somerset Counties, Maine

Field Manager and Lead Project Scientist. Responsible for coordinating and conducting field efforts on over 300,000 acres of forest land in northern Maine. Efforts included completing a landscape analysis focused on identifying areas likely to support significant natural resources including large wetland systems, exemplary natural communities, and rare, threatened, and endangered species of plants and wildlife and their associated habitats. Subsequent field surveys targeted areas to identify and characterize the existing natural resources and their overall landscape significance. Species-specific targeted surveys were conducted for several species of sensitive wildlife including rusty blackbird, Bicknell's thrush, and Clayton's copper butterfly. Conducted detailed analyses and provided expert witness testimony relative to the potential effects of a proposed development and conservation easements on the significant natural resources present within the project area.

Matthew P. Arsenault

Certified Ecologist, Botanist, Project Manager

PUBLICATIONS

Workshop: Carex Identification. *Maine Assocaition of Wetland Scientists*, 2009.

Workshop: Winter Twig Identification. *Stantec Consulting. 2006*, 2008.

Campbell, C.S., R.C. Evans, D.R. Morgan, T.A. Dickinson, and M.P. Arsenault. Phylogeny of subtribe Pyrinae (formerly the Maloideae, Rosaceae): Limited resolution of a complex evolutionary history. *Plant Systematics and Evolution. 266. pp. 119-145*, 2007.

Potter, D., T. Eriksson, R. Evans, S.-H. Oh, J. Smedmark, D. Morgan, M. Kerr, K. Robertson, M. Arsenault, and C. Campbell. Rosaceae phylogeny and classification. *Plant Systematics and Evolution. 266. pp. 5-43*, 2007.

Presentation: Natural Resource Inventories. *Maine Land Trust Conference, Maine Coast Heritage Trust*, 2007.

Presentation: The Genus Galium. *Plant Identification Workshop for Josselyn Botanical Society Annual Meeting*, 2006.

Campbell, C.S, W.A. Wright, M. Cox, T.F. Vining, C.S. Major, M.P. Arsenault. Nuclear ribosomal DNA internal transcribed spacer 1 (ITS1) in Picea (Pinaceace): Sequence divergence and structure. *Molecular Phylogenetics and Evolution, 35: 165-185*, 2005.

Arsenault, M. and A. Haines. Rediscovery of Carex typhina (Cyperaceae) in Maine. *Rhodora, 106:52-54*, 2004.

Presentation: Alpine Ecology. *Appalachian Mountain Club Ridge Runner Program*, 2004.

Arsenault, M. et al. Incongruence between three genomes in phylogenetic studies within Picea (Pinaceae). *Botany 2003 conference, Alabama*, 2003.

Glenn L. Correll, P.E.

Project Engineer

Glenn Correll joined the James W. Sewall Company in 2006 and is employed as a Project Engineer with a background in roadway design. Prior to his employment at James W. Sewall Company, Mr. Correll was employed as a transportation design engineer at Casey and Godfrey Consulting Engineers working on MaineDOT projects. He also worked in transportation engineering assignments during each of the summers between his undergraduate years as a civil engineering student. Prior to entering the engineering career field, Mr. Correll worked for over 20 years as a teacher in public schools. He was involved in teacher certification, school policy development, and the local education association.

EDUCATION

B.S., Civil Engineering, University of Maine, 2002
"Traffic and Transportation Engineering Seminar", Northwestern University, Evanston Illinois
"SYNCHRO6 and SimTraffic" seminar.
Graduate Program, Instrumental Conducting, University of Maine, 1995-1998
B.S. in Music Education, University of Maine, 1974

PROFESSIONAL LICENSE

Professional Engineer, Maine #11290

PROFESSIONAL MEMBERSHIP & COMMUNITY INTERESTS

Member ASCE
Chi Epsilon (Civil Engineering Honor Society), President
Phi Kappa Phi (Academic Honor Society)
Past President of Union #90 Educators Association
Past President of Bangor Jaycees

REVELANT EXPERIENCE

Highway Design & Traffic Operations

Wal-Mart Store, Sanford, Maine Designed and supervised the off-site plans including the utilities, open drainage system, and Right-of Way to MaineDOT standards. Worked with MaineDOT for off-site approval. Utilization of AutoCAD Land Development software.

Wal-Mart Supercenter, Bangor, Maine Designed and supervised the off-site plans on Stillwater Avenue including the utilities, closed drainage system, Right-of Way and construction to MaineDOT standards. Worked with MaineDOT for off-site approval. Utilization of AutoCAD Land Development software.

Bangor Triangle Project, Bangor, Maine Supervised the construction of the off-site work.

Kibby Mountain Wind Project Transportation Route, Maine Responsible for designing required upgrades for several intersections and vertical curves along the turbine component transportation route to MaineDOT and local municipality standards.

Route 1 & Congress Street, Belfast, Maine Responsible for the preliminary design for the widening for turning lanes of the intersection for MaineDOT.

Warren Avenue, Portland, Maine Responsible for the preliminary design of the widening and reconstruction of Warren Avenue for MaineDOT.

Stetson Mountain Wind Project, Washington County, Maine Part of the design team responsible for the access road network design and permitting process. Supervised the final as-built plans.

Sheffield Wind Project, Sheffield, Vermont Part of the design team responsible for the design and CAD layout of the access road network. Also performed field recon to establish preferred routes. Supervised plans for submittal to various permitting agencies.

Hammond Ridge, T1-R8 WELS, Maine Part of the design team responsible for a 3.2 mile road network along with several drives of 300' to 500' in length.

Guilford, Belfast, Caribou, Bethel, & Ellsworth, Maine Assisted in the design and detailing of plans for various state roads for MaineDOT.

PREVIOUS EXPERIENCE

2002 – 2006, Casey & Godfrey Consulting Engineers
Staff Engineer
Roadway design for MDOT projects statewide. Assisted in determining Right-of-Way for MDOT projects. Performed turning counts, pavement management, and checked sight distances.

June – August 2001
Engineering Intern
Inspector for MaineDOT Urban & Arterial Stillwater/I-95 Interchange.

June 2000 – May 2001
Engineering Intern
Performed turning movement and volume counts and managed the electronic files of those counts for BACTS. Set-up a system for rotation of needed counts on a bi-annual basis. Created a database to store and readily access the count information.

Janine S. Murchison, P.E.

Project Manager, Engineering & Survey Division

Ms. Murchison joined James W. Sewall Company in 2007 with over 20 years of experience in the civil engineering field. Ms. Murchison has managed, designed, and monitored construction activities on a wide variety of projects including roadway, storm drain, water, and sewer systems. She also has practical experience with downtown revitalizations, airport improvements, pedestrian trails, landfill closures, boat landings, parking lots, site design, environmental permitting, and all aspects of construction services.

EDUCATION

B.S., Civil Engineering, University of Maine, 1986
M.S., Business, Husson College, Caribou, Maine 1995

PROFESSIONAL CERTIFICATIONS AND AFFILIATES

Registered Professional Engineer, Maine #7125
Trustee, Caribou Public Library
Trustee, Caribou Utilities District

REVELVANT EXPERIENCE

Stetson II Wind Project, Washington County, Maine. Managed and prepared civil design for a 25MW wind farm including 17 GE 1.5MW wind turbine generators. Design included site layout, roadway plan and profile, stormwater management facilities and erosion & sedimentation control plans. Assisted project team with civil site narratives and drawings for successful application of the Development Permit submission to the Maine Land Use Regulation Commission. Additionally, managed and prepared final design drawings and specifications for bidding and construction phases.

Twin Pine Camps, LLC Expansion Project, T1 R8 WELS, Maine: Managed and prepared successful application for an Amendment to Development Permit per Maine Land Use Regulation Commission (LURC) requirements. Assisted with site design of roads, driveways, and parking lots for the addition of nine (9) transient Cove Cabins and a library/sauna building. Coordinated the efforts of the owner, environmental, and architectural team members.

KTAADN Resorts, T1 R8 WELS, Maine: Currently in the final stages of managing and preparing a Development Permit application per Maine Land Use Regulation Commission (LURC) requirements for the 'Adventure Lodge' portion of the resort. Managed the site design development of the proposed access roads, the proposed Lodge, a hotel/restaurant/conference center, in addition to the proposed 21 transient Family Cabins adjacent to the Lodge. Coordinated the efforts of the owner, environmental, and architectural team members.

Downtown Master Plan, Presque Isle, Maine: Managed and prepared a 20-year master plan, with 5-year implementation strategies for the downtown's focus area. Conducted a downtown workshop to discuss strategies and priorities; managed land use analysis, branding recommendations, funding option recommendations, and conceptual designs; prepared transportation and parking analysis; updated goals, strategies, and action plans and broke information down based on the four-point approach for downtown development: organization, economic restructuring, design, and promotion. Presented the final report and design concepts at separate meetings with the downtown

committee, the city council, and the planning board. Coordinated the efforts of the city and the downtown committee as well as the landscape architect and urban planner team members.

Prior to joining James W. Sewall Company, Ms. Murchison worked on numerous projects, primarily in the northern Maine area; several of which are outlined below:

Maysville Street Extension and Reconstruction Project; Presque Isle, Maine: Assisted with the preparation of a Site Location application; designed roadway, storm drain and sewer collection systems; managed concrete bridge, landscape, traffic and lighting design; managed construction monitors and provided construction services for one mile stretch of road adjacent to and in conjunction with the Aroostook Centre Mall. Also coordinated the work between engineering subconsultants, financially interested parties, and the Maine Department of Transportation (MDOT).

Big Rock Ski Area; Mars Hill, Maine: Assisted with the preparation of a site location application for proposed improvements to include additional ski trial development, additional ski lift sites, base area building construction and renovations, and parking area expansions; managed design improvements to ski trail lighting system. Also prepared a Spill Prevention, Control, and Countermeasure (SPCC) Plan for the facility.

Allagash Road Reconstruction Project; Dickey, Maine: Designed and monitored the reconstruction of a portion of the Allagash Road (Rapid Road) between the Little Black River Bridge and the St. John River Bridge as a result of previous flooding. This project involved coordination with MDOT as both the Little Black River and St. John River Bridges were being reconstructed simultaneously with this project. The Maine DEP and the Army Corps of Engineers were also involved due to the road's proximity to the rivers and correlated flood plain wetland issues.

Presque Isle Boat Landing; Maine: Designed access road and boat launch on the Aroostook River; project included concrete launch planking, paved parking lot and access road; provided construction monitoring and construction services. Environmental permitting was also completed as required by the Maine DEP and the Maine Department of Inland Fisheries and Wildlife.

Caribou Downtown Revitalization Project, Phases I and II; Maine: Completed site topographical survey and managed Design Charrette for conceptual site and façade design master planning. Managed and prepared the preliminary and final designs of the Phase I Sweden Street portion of the project and the Phase II Downtown Mall portion of the project. Improvements included the removal of a 26' x 280' mall canopy and associated concrete sidewalks as well as the installation of sidewalk trees, historic lighting, decorative pole banners, and the removal and reuse of existing concrete sidewalk pavers. The project also included electrical coordination with Maine Public Service for the removal of an underground transformer and the subsequent replacement with an above-ground transformer, serving 32 businesses. Provided construction monitoring and administrative services for both phases of the project. Each portion was funded, in part, by CDBG.

Jodi O'Neal, EI, CPESC
Staff Engineer

Mrs. O'Neal joined the James W. Sewall Company in January of 2007. She has eight years of experience in engineering design and permitting. Her primary focus is in wind power, commercial/retail development and subdivision design which includes site and utility design, stormwater management, and environmental and construction related permitting.

EDUCATION

BS in Civil Engineering, University of Maine, Orono, 2002

PROFESSIONAL CERTIFICATION

Engineer Intern
Certified Professional in Erosion and Sediment Control #3888

RELEVANT EXPERIENCE

STAFF ENGINEER

Stormwater Design and Analyses Successfully designed and permitted many stormwater systems for many different types of sites from complex wind power projects, commercial developments, subdivisions and mining operations to small site reconfigurations throughout the state. She uses the existing grade of the land to accomplish stormwater treatment to the best extent possible. This preserves the natural beauty of the site and minimizes development costs.

Kibby Wind Power Project, Kibby & SkinnerTownships, Maine. Stormwater analysis, erosion and sedimentation control and permitting for civil road and site redesign for proposed 132MW wind farm including 44 Vestas V90 3.0MW wind turbine generators. Permitting was done through the Maine Land Use Regulation Commission

Record Hill Wind Project, Roxbury, Maine. Stormwater analysis, erosion and sedimentation control and permitting for civil road and site redesign for proposed 50.6MW wind farm including 22 Siemens 23MW wind turbine generators. Permitting was done through the Maine Department of Environmental Protection for a Site Location of Development Act permit.

ALSID Site, Bangor, Maine. Design and permitting for 3+ acre commercial lot including site and storm drainage design and utility coordination. Permitting included MDEP Stormwater Permit and local Site Plan approval.

Emerson Mill Road Pit, Hermon, Maine. Design and permitting for a commercial clay mining pit. This was a sensitive erosion and sedimentation control project because it was a large exposed area that is constantly being disturbed. This project had to meet both State and Local requirements.

Kayden's Corner Subdivision, Hermon, Maine. Designed roadway and lotting for a 10 lot residential subdivision. configuration to maximize lot efficiency and minimize wetland impacts. Used soil filters for stormwater drainage control. Represented the client at planning board meetings. Achieved State and local approval.

Patrick N. Graham, P.E.

Director of Renewable Energy Services
Engineering, Survey & Utilities Division

Mr. Graham joined the James W. Sewall Company in 2006 with over thirteen years of experience in civil and environmental engineering as it relates to site development & permitting, stormwater management, wastewater collection & treatment, soil and water quality, and human health risk assessment. His areas of specialization include civil site design, environmental permitting (e.g., site law, stormwater, NEPA, NPDES and wetland), environmental site assessments, environmental site and field investigations, stormwater management, and municipal utility GIS development. He currently serves as Sewall's Director of Renewable Energy Services and Market Lead for wind energy project development.

EDUCATION

B.S.P.H., Environmental Science and Engineering, University of North Carolina at Chapel Hill, 1992
M.S, Environmental Engineering, Georgia Institute of Technology, 1997

PROFESSIONAL LICENSES AND AFFILIATIONS

Licensed Professional Engineer, Maine #11236
Registered Professional Engineer, Georgia #26690
Licensed Professional Engineer, South Carolina #24401

RELEVANT EXPERIENCE

Senior Project Manager

Stetson Mountain Wind Project, Washington County, Maine. Responsible for aerial mapping of 45-mile transmission line corridor and civil road and site design for 57MW wind farm including 38 GE 1.5MW wind turbine generators. Civil design included turbine micrositing, roadway plan and profile, stormwater management facilities and erosion & sedimentation control plans. Assisted project team with rezoning and site development permitting submittals to the Maine Land Use Regulation Commission.

Stetson II Wind Project, Washington County, Maine. Responsible for civil road and site design for 25MW wind farm including 17 GE 1.5MW wind turbine generators. Design included turbine micrositing, roadway plan and profile, stormwater management facilities and erosion & sedimentation control plans. Assisting project team with site development permit submittal to the Maine Land Use Regulation Commission.

Sheffield Wind Project, Sheffield, Vermont. Responsible for final civil road and site design for proposed 40MW wind farm including 16 Clipper 2.5MW wind turbine generators. Design included turbine micrositing, roadway plan and profile, stormwater management facilities and erosion & sedimentation control plans. Assisted project team with construction and operational stormwater permit submittals to the Vermont Department of Environmental Conservation.

Kibby Wind Power Project, Kibby & SkinnerTownships, Maine. Senior consultant to Sewall Project Team for civil road and site redesign for proposed 132MW wind farm including 44 Vestas V90 3.0MW wind turbine generators. Responsible for review of project design plans and Maine Land Use Regulation Commission permitting submittals.

Record Hill Wind Project, Roxbury, Maine. Senior consultant to Sewall Project Team for civil road and site redesign for proposed 50.6MW wind farm including 22 Siemens 23MW wind turbine generators. Responsible for review of project design plans and Maine Department of Environmental Protection site permitting submittals.

Offshore Wind Energy Geographic Information System (OWEGIS), Gulf of Maine. Responsible for data development and geodatabase population for offshore wind energy GIS development project with the University of Maine. Collaborated with University researchers to create comprehensive overlapping multi-faceted GIS consisting of over 450 data layers accessed through an ArcMap interface that have been derived from public and private sources, including traditional GIS data, discrete observational data, geospatial data extracted from scientific and government literature resources, and value-added data. The system included physical characteristics, economic, cultural, environmental, infrastructure and legal boundary data. OWEGIS was created with the intent to collect, analyze, and display geospatial information to assist in planning, permitting, and the development of offshore wind energy in the Gulf of Maine.

Fatal Flaw Analyses, Various Potential Wind Project Sites, Mid-Atlantic United States. Senior consultant for Sewall Project Team for conducting GIS-based fatal flaw analyses for numerous prospective wind project development sites across the mid-Atlantic area of the eastern United States. Analysis included development of cadastral mapping, aerial orthophotography image analysis, and GIS data compilation. Fatal flaw analyses were designed to display and analyze geospatial information to assist in planning, permitting, and development of commercial-scale land-based wind energy projects. Responsible for development of fatal flaw process and review of final reports.

ANDREW J. GILMORE, P.E.
Electrical Engineer
Transmission and Distribution

SGC Engineering, LLC
a part of Senergy

Academic Background

B.S. Electrical Engineering Technology
University of Maine – 2001

Professional Registrations

Professional Engineer
Maine - #11414

Professional Affiliations

Member IEEE, PES

Design Courses

Design of Overhead Transmission Lines using PLS-CADD-University of Wisconsin-Madison

Design of Transmission Line Structures and Foundations-University of Wisconsin-Madison

Substation Design - PTI and University of Wisconsin-Madison

INTRODUCTION

Mr. Gilmore is an Electrical Engineer who has seven years experience in providing electrical engineering support for electric utilities. His design experience includes transmission line design, distribution projects, and substation design. Mr. Gilmore has been involved with several projects through the design and construction phases. His involvement has consisted of substation and generating facility construction, protective relaying, and equipment specification. He has provided support for utility projects including the development of business case and work packages. He has specific experience in the following areas:

- Transmission and Distribution projects: New transmission line design; line rebuild project design, line modeling and analysis.
- Substation Design Engineering: Experience in bus design and substation layout, as well as relay protection.

REPRESENTATIVE PROJECTS

- Line 56: 115 kV Transmission Line Design for First Wind. Designed 38-mile line including preliminary design, permitting, and construction plans and drawings. Developed PLS-CADD model and plan-and-profile drawing set coordinating with survey, ROW, and environmental teams. Developed route selection evaluation, analyzed line capacity, developed design criteria, and provided construction support.
- Line 66 – East Rebuild: 115 kV Transmission Line Design for Bangor Hydro-Electric Co (BHE). Built line model in PLS-CADD based on original plan and profile drawings and LIDAR data. Worked with BHE staff to determine structure replacements. Redesigned line for 120° F rating and reduced the number of structures. Provided necessary construction documents and assisted BHE with construction RFP.
- 3307 Line Rebuild: Designed rebuild of 34.5 kV line for Green Mountain Power Company, using company standard structures for a larger conductor addition. Design accommodated two underground sections (by others), distribution underbuild section, and highway, river, and railroad crossings. Also updated company standards to reflect material and hardware upgrades.
- Line 89 Rebuild: 46 kV Transmission Line Design for BHE: Project involved designing a middle section with all new structures and conductor blended with existing structures at both ends. Line model and structures were created with PLS-CADD/POLE. New section was optimized for more uniform spans using fewer poles and

REPRESENTATIVE PROJECTS (continued)

avoiding wet areas where possible.

- 115 kV/12.5 kV Substation Rebuild: Developed all Electrical and Physical drawings, Bill of Materials, and performed commissioning for the substation.

- Bangor Hydro Electric Co.: Provided in-house support for several projects including:
  - 34.5 kV line relocation from right-of-way to roadside in downeast Maine involving new switch and pole placement. Created work packages.
  - 46 kV line upgrade, including pole reinforcements and replacements, splice replacements, and lightning arrester installations and upgrades.
  - Lightning Arrester Replacement Project; developed replacement design for a problematic arrester in several locations.
  - Structure Reinforcement of 115 kV Line: Developed guying recommendations for several structures that were identified as potentially unstable; objective was to strengthen the poles while minimizing additional stress.

- American Electric Power (AEP) / IEA: Participated in the design of several projects including:
  - Central Maine Power – Sewall St. & Union St. Substations, 34.5kV substation tie; participated in the relay protection design.
  - Terre Coupee (IN) 345 kV substation construction project; designed aluminum overhead bus configuration and layout.
  - Trent (TX) Wind Farm; Participated in the control house relay cabinet commissioning and design for 34.5 kV -138 kV substation.
  - Muskingum River (OH) power plant control system removal/upgrade; developed demo drawings involved with the removal of the old system and associated equipment.
  - Also supported lead engineers in several generation facility proposal and bid packages. Assisted with equipment lists and cable sizing and schedules.

- E/PRO: Provided electrical design for 34.5 kV PSNH project involving the addition of 2 new breakers at an existing substation;
  - Developed protection and control elementaries for new line breaker and new bus tie breaker, revised one-line diagrams, and produced red/green drawings.

RICHARD D. HALL, P.E.
Senior Project Manager

SGC Engineering, LLC
a part of Senergy

Academic Background

Master Business Administration
Boston University - 1980

B.S. Mechanical Engineering
University of Maine - 1976

Professional Registrations

Professional Engineer
Maine - #9389
New Brunswick - #L4336

Professional Affiliations

American Society of Mechanical Engineers (ASME)

INTRODUCTION

Mr. Hall fulfills the role of Project Manager at SGC. He has 30 years of experience providing technical, managerial, negotiations, and regulatory compliance. He has worked on both public and private sector projects, with extensive experience managing a broad range of issues related to regulatory compliance.

Mr. Hall has substantial experience in managing and designing projects from conception through construction. He possesses expertise in: project planning and management of multi-disciplinary engineering projects, including environmental regulatory compliance of capital projects.

The projects completed with Mr. Hall's participation and under his direct management are indicative of his ability to understand the client's objectives and lead technical professionals to deliver the project to meet those objectives.

REPRESENTATIVE PROJECTS

- Independence Wind – Record Hill Project
  Project manager for the substation and generator lead electrical design, for site permitting. Project included preliminary design for 22 wind turbine project, for a total of 50 MW. Also included was coordination of with utility on new substation to be constructed to serve this and other projects.

- Confidential Wind Developer
  Project manager for the substation site selection and transmission line routing of a 68 mile transmission line in an area where no right of ways exist. Project included preliminary site and route selection using available on line databases, field evaluation for environmental and constructability, alternatives analysis, right of way acquisition, final site and route selection, environmental permitting, and construction design.

- Maine Power Connection
  Project manager for the route selection of a 100 mile project in northern Maine. This included working directly with two utilities, including preliminary route selection, right of way acquisition, PUC Certificate of Public Need submittal, routing alternatives, and final route selection. This project also included site selection, right of way acquisition, and permitting for two high voltage substations.

- First Wind – Stetson II
  Project manager for the winter construction of electrical facilities for an additional 17 turbines to the Stetson Wind Project, located in Danforth, Maine. The project included turbine collector system, and the upgrade of the substation transformer from 62 MVA to 100 MVA. This project

REPRESENTATIVE PROJECTS (continued)

was completed in December 2009.

- First Wind – Rollins Mountain: Project manager for 38 turbine wind farm in Maine including site selection, land acquisition, collector electrical engineering, substation electrical engineering, and environmental permit support. This project is currently scheduled for construction in the summer of 2010

- National Semiconductor – South Portland, Maine: Served as Environmental Manager and Health and Safety Engineer. Responsible for all Air, Site, POTW, and Storm permitting, regulatory compliance for EPA, DEP, OSHA, & DOT and the site emergency response team.
  Lead the Environmental Permitting for a $1.2 billion semiconductor manufacturing facility. Permits included Maine Department of Environmental Protection Air Emission Permit& Land Use Permit, Municipal Publicly Owned Treatment Works (POTW) discharge permit, and US EPA Storm Water Discharge Permit.
  - Lead multidisciplinary team to create and implement an
  - Environmental Health and Safety Management System which improved existing policies and procedures of a semiconductor manufacturing operation resulting in the first Maine firm to achieve combined independent certification to International Standards Organization (ISO) 14,001 and Occupational Health and Safety Management Systems (OHSAS) 18,001.
  - Managed the removal and disposal of $1.2 million hazardous waste and special waste freeing valuable real estate for additional development.

- Campbell Environmental Group – Portland, Maine: Served as Professional Engineer. Responsible for remediation system design and review of hazardous waste cleanup and closure of sites. Prepared stormwater and spill prevention plans (SWPPP, SPCC) for clients. Conducted compliance audits, and trained staff on DEP/EPA regulations.

- Pioneer Plastics Corporation – Auburn, Maine: Served as Facilities Engineer Manager. Responsible for all engineering, maintenance and capital projects for a decorative laminate and resin manufacturer with $180 million annual sales. Also served as Corporate EH&S Manager. Responsible for all regulatory compliance, including EPA, DEP, OSHA, & DOT at Auburn, Maine and Morristown, Tennessee manufacturing sites and 16 regional warehouse/selling centers.
  - Engineering re-design and construction management of non-contact cooling system for manufacturing plant to eliminate the river discharge of waters which exceeded temperature limits for applicable river system.
  - Lead the design and construction team to replace 8 foot diameter, 115 foot tall boiler and thermo-oxidizer discharge stack. Team successfully met ME DEP air discharge requirements while performing the upgrade during a five day plant shutdown period.
  - Facilities engineering and environmental compliance responsibilities, as part of a management team to improve engineering, operational, financial and regulatory performance of manufacturing plant. Team transformed facility from near zero value to ultimate $72 million value at time of sale.

- Hall, Incorporated – Worcester, Massachusetts: Owner/President served as Chief Engineer. Responsible for re-manufacturer of resistance welding machines, specializing the most critical and demanding applications used in aerospace, electronics, computers, and oil tool manufacturing.

JEFFREY H. FENN, P.E.
Director, Electrical Engineering

SGC Engineering, LLC
a part of Senergy

Academic Background

B.S. Electrical Engineering Technology
Northeastern University-1981

Numerous short technical courses related to Utility engineering and project management

Professional Registrations

Professional Engineer
Maine - #10110
New Hampshire - #11471
Vermont - #8509
Massachusetts - # 47700
New Brunswick - #L4334

Professional Affiliations

Member IEEE, PES and NSPE/MSPE, ECNE, NEPPA

INTRODUCTION

Mr. Fenn is the Director of Electrical Engineering for SGC Engineering. He has over 25 years of experience providing engineering solutions for electric utilities and related projects. He has been directly responsible for numerous projects in the planning, design and construction phases in the areas of: protective relaying, system planning, short circuit studies, power flow studies, substation design and testing, equipment specification and procurement for substations, generation control and interconnection with utilities; project planning, administration, and coordination; permit acquisition; regulatory reporting; cost estimating; stakeholder support; and construction observation and reporting.

Projects completed with Mr. Fenn's participation and under his direct technical supervision balance the requirements for new or rehabilitated facilities and associated site improvements with the goal of long-term sustainable development. His experience includes the following areas:

- New England Power Pool (NEPOOL) Reliability Committee: Involvement and interaction with various planning committees or subcommittees which are associated with NEPOOL. Involvement includes participation in developing standards, rules and procedures, and interaction with ISO-NE at various levels.
- Substation Design Engineering: Expanding existing high voltage facilities or designing new ones. Strong experience in structure and equipment specification as well as control systems. Involved with some of the first Substation Integration (computer control and data integration systems in the substation) for utilities in the United States.
- Project Management: Managing simple and complex projects for electric utilities that include all aspects of project execution, from budgeting and cost estimating to design, permitting and construction.
- Electric System Planning and Protection: Preparing short circuit studies necessary for protection and equipment specification. Developed power flow studies to determine acceptable means to operate a system. Also, determined coordination from simple overcurrent to complex distance schemes with communication.

REPRESENTATIVE PROJECTS

- <u>Evergreen Wind V – Stetson Mountain Wind Park:</u>
  - Feasibility study effort to indicate viability of project location with regard to area electrical system.
  - System Impact Study management and interaction with ISO-NE and impacted parties.
  - Major equipment specification and procurement.
  - Managed the mountain substation design, the 35-mile 115kV transmission design and approximately 14 miles of 35kV collector system design.

REPRESENTATIVE PROJECTS (continued)

- Supported major stakeholder effort and contract/agreement discussions with local utilities.
- Project ongoing in 2007 and 2008 and activities will include completion of major items noted as well as other efforts.

- Kennebunk Light and Power District – West Kennebunk Substation:
  - Fast track design of 115kV to 12.5kV distribution substation with dual transformers and 4 local circuits. Substation interconnects with the Central Maine Power transmission system.
  - Represented client throughout process procuring materials, contractors and supporting construction and commissioning.

- 345kV Transmission Line, Maine to New Brunswick:
  - Managed the system impact study, coordinating the effort with interested and impacted parties including NBP, MEPCO, CMP, BHE, NEPOOL and ISO-NE.
  - Provided information and discussion forums with the steady state and stability peer review groups of ISO-NE and NEPOOL.
    Presented and received approval from the NEPOOL Reliability Committee, whose approval paves the way to construction of the project.
  - Negotiated, presented and received pool financial support for the entire project. Participated in substation equipment specification, selection and procurement including New England's first high voltage series capacitor.
  - NPCC interaction and approval of protection design as well as Special Protection System design.
  - Participated in a significant and successful stakeholder process, understanding stakeholder concerns and presenting the project in a manner that was understandable to stakeholders. Evaluated options and suggested changes to accommodate needs.

- Maine Independence Station Interconnection:
  - This is a 550MW combined cycle generation station interconnected at 115kV with the Bangor Hydro Electric Company and NEPOOL electrical systems.
  - Project management of the interconnection and electric utility facilities design and construction.
  - Completed system impact study, including approval at NEPOOL TTF (steady state peer review study group), STF (stability peer review study group) and RC (Reliability Committee that approves and accepts the system changes).
  - Weekly meetings with all involved parties including the project developer to review and coordinate the utility installation work with the plant needs.
  - Overview of design, procurement and installation of a 115kV transmission line and associated right-of-way.
  - Rebuild of four other 115kV transmission lines.
  - 115kV substation expansions at two locations for this project.
  - Coordinated efforts with neighboring utilities in regards to the ability of their electric systems to accommodate this project.

- Great Lakes Hydro Electric (GLHA) Maine Interconnection:
  - An interconnection was required between two distinct electric utilities. The existing generating system was designed and operated to meet mill loads and needs, and was operated as an electrical island with a low voltage tie with the local electrical utility (BHE). The tie was eliminated and a new 25-mile 115kV transmission line constructed along with substations at both ends and system changes in other areas to accommodate the changing needs of the island electrical system.

- Responsible for all interaction with NEPOOL and ISO-NE, including the system impact study, review with appropriate committees, and obtaining approval.
- Interacted with the Maine Public Utilities Commission supplying it with the technical details of the project (including study details); supported the application of public need / convenience.
- Responsible for the engineering and construction of the 25-mile transmission line, as well as a 115kV substation and several related changes to accommodate this project.

- Chester Static VAR Compensator: Involved with the study, design and commissioning, and subsequent operation and maintenance of the Chester Static VAR Compensator. This is a +450, -150 MVAR facility installed to permit heavy transfers of energy (2000MW) from Hydro-Quebec to New England, and prevent the Maritimes Canada area from having system stability problems.

- Scott's Hill Substation SI: Envisioned and championed the development and design of the first Substation Integration (SI) installation at BHE, and one of the first in the US. This included specification of intention (i.e. why were we doing this), intended outcome of the project, and suppliers to make it happen.
  - Developed a system that was mostly "off the shelf" to keep it as economical as possible.
  - Designed an operating philosophy that would allow construction folk to easily accept and operate
  - Allowed remote access to information that otherwise would have required a 3 – 5 hour round trip to acquire.

TECHNICAL / MANAGEMENT SKILLS

- High Speed Protection Scheme Design: These schemes improve system response to faults, reducing impact to area industrial customers.

- Fast Track Project Philosophy: Ability to apply fast track project management and design approach.
  - Allows improved start to finish schedule.
  - Ensures information and materials are available to the construction crews when needed to meet milestone schedule.

- Generation Control System Upgrade: Oversight of hydro generation control system upgrades from controls that were designed and installed up to 100 years ago, to control systems that were based on Programmable Logic Controllers (PLC's).

- Utility Engineering Group Management:
  - Responsible for budgeting and schedules.
  - Reviewed correspondence to ensure consistency with company policies and procedures.
  - Prepared and oversaw construction estimates and startup.

MARK R. LOWELL, P.E.
Senior Electrical Engineer

SGC Engineering, LLC
a part of Senergy

Academic Background

Bachelor of Electrical Engineering Technology
University of Maine

Numerous short technical courses related to Electrical Engineering

Professional Registrations

Professional Engineer
Maine - #10126
Vermont - #8841
Maryland - #37122

INTRODUCTION

Mr. Lowell has over 20 years of experience working with design, field support, and layout of various electrical systems for commercial, industrial, and utility clients. He has participated in a number of transmission line and utility projects for which he was responsible for the production of detailed design documents.

Mr. Lowell has the following high voltage substation, and transmission and distribution line experience:

- Substation equipment physical layout and location.
- Equipment specification and bid submission evaluation.
- Grounding design and specification.
- Cable specification and raceway routing.
- Protective relay panel design including control interface between utility and client for generator step-up transformers, utility transformers, line-side breakers, generator-side breakers, CCVTs, CTs, and MOABs
- Transmission line plan and profile development.
- Transmission line structure design.
- Sag chart development and calculation.

Mr. Lowell also is experienced in combined cycle power plant design. His experience includes:

- Managing other staff to meet project deadlines and stay within project budgets.
- Developing plant electrical distribution and switchyard designs.
- Preparing bid and construction specifications and recommending equipment purchases.
- Preparing and reviewing electrical drawings including, one-lines, three-lines, elementaries, interconnects, and power, lighting and grounding plans for new and existing facilities.
- Assisting with the preparation of fixed price and time and materials proposals.
- Plant startup and field support.
- Inspecting installations to ensure consistency with construction documents.

REPRESENTATIVE PROJECTS

- <u>VELCO Bennington Substation, Vermont:</u> Completed the design engineering for the installation of a new 70 MVA transformer with load tap changer including relay protection and controls. Also provided construction management services to oversee VELCO's subcontractors during the installation of the transformer and related construction. This project was completed in August 2007.

REPRESENTATIVE PROJECTS (continued)

- VELCO Highgate Substation, Vermont: Provided project and construction management services for the expansion and re-configuration of an existing 115-48kV substation. A new 48kV breaker and a new 115kV ring bus with all of the supporting equipment were installed. The existing 115kV system was de-commissioned. Daily activities included project schedule maintenance, engineering support for construction, change order reviews, material substitution submittals, and engineering liaison between owner and construction. This project also included engineering and construction/commissioning support for new line protection and breaker failure relays and controls, and the addition of two motor operated disconnect switches with controls. This project was completed in July 2006.

- VEC Automated Meter Reading (AMR) Project, Vermont: Provided engineering services for the integration of AMR equipment into nine distribution substations for Vermont Electric Cooperative. The design included the production of general arrangement plans and elevations for the substation including the AMR equipment, as well as AMR wiring diagrams, substation one-line diagrams, distribution panel schedules, and construction bill of materials. Field reconnaissance was completed at each of the substations to ensure the most effective design.

- Generation Station Interconnection, Berlin, New Hampshire: Designed the electrical interconnection for the White Mountain Energy Generation Station, a 25MW steam turbine generating facility. The connection was made to the Public Service of New Hampshire (PSNH) transmission system. In addition, the design and commissioning of a 22kV generator step-up transformer, 22kV line breaker, and two (2) parallel 22kV aerial spacer cable type transmission lines to a new 22kV switch located on an existing PSNH transmission tower were completed. Other tasks included design and commissioning activities for a 13.8kV shielded aerial spacer cable type distribution line from an existing 13.8kV substation primary switch to a new station service transformer located adjacent to the generator step-up transformer.

- Design of Hanging Rock Substation, American Electric Power, Ohio: Provided engineering and design support for the production of electrical schematics and connection diagrams for a substation in American Electric Power service territory. The substation design included high voltage electrical equipment such as transformers, high voltage breakers, CCVTs, CTs, disconnect and grounding switches.

- Trent Wind Farm Substation and Transmission Line, Trent, Texas: Provided engineering support for a 34.5kV substation and a 138KV transmission line providing power to Texas Utilities' Eskota substation. Installation of 100 General Electric wind turbines rated at 1.5MW at 34.5kV prompted the need for a new substation and transmission line to deliver power to Texas Utilities. The scope of the project included detailed engineering, construction, and commissioning of the substation and of the 138kV transmission line.

- Plains End Generating Station, Arvada, Colorado: Provided project management and detailed engineering design for a 20 – 7.165MVA diesel generator unit peaker plant. Supervised the project team in the production of a comprehensive engineering package to support the construction of 20 Wartsila diesel generators and all ancillary systems. The design package included physical layout and grounding drawings, lighting drawings, one and three line diagrams, wiring/interconnection diagrams, elementary/ schematic diagrams, cable/raceway schedule, and motor list. This design effort was in support of but not limited to the following major components: diesel generators and control systems, UPS and DC systems, plant electrical

distribution (through high voltage terminals of generator step-up transformer), emissions systems, cooling systems, and fuel storage and delivery systems.

ANDREW J. PERKINS, P.E.
Senior Electrical Engineer

SGC Engineering, LLC
a part of Senergy

Academic Background
A.S. & B.S. Electrical Engineering Technology
University of Maine, Orono 1966, 1969

Electronics Technician, Class A, *United States Navy*

Professional Registrations
Professional Engineer
Maine - # 8288

Master Electrician
Maine - # MS60003519

Licensed Electrical Contractor (PEI) *#MS60017563.*

Certified Universal Technician, *ESCO Institute #0064213110763*

Professional Affiliations
-Electricians Examining Board :Instructor 15 Hr NEC Code Update Course
-Instructor 45 Hr NEC Code Course
-Maine Association of Engineers (MAE), Member BOD
-Penobscot Valley Electrical Associates, Past President
-Orono Zoning Review Committee
-Orono Economic Development Corporation, Board of Directors,
-Institute of Electrical & Electronics Engineers (IEEE) Past President, Treasurer
-Past Chair - ME Section Communication Society

INTRODUCTION

Mr. Perkins is a registered Professional Engineer in the State of Maine, a Master Electrician and a Licensed Electrical Contractor. He founded Perkins Engineering, Inc in 1995 and has participated in numerous utility grade wind energy projects and undersea high voltage energy systems providing permitting, design, construction management and commissioning services. In addition Mr. Perkins has significant experience with electric utility, commercial and industrial clients and community wind initiatives throughout New England with projects up to 345kV.

Mr. Perkins has been at the forefront of the initial evaluation and development of wind energy in the State of Maine. The wind projects completed with Mr. Perkins' participation demonstrate specific experience in the following areas:

- Installation of temporary meteorological towers and instruments for wind studies.
- Review of transmission interconnections.
- Preparation of FERC Large Generator Interconnection Agreements (LGIA) and Large Generator Interconnection Procedures (LGIP).
- Coordination of FERC requirements with host transmission provider.
- Preliminary Design for electrical interconnection requirements.
- Assistance to Developer
  - Negotiations for and the acquisition of easements for all proposed project landowners.
  - Preparation of DEP permit documents.
  - Development Civil Site work specifications and contract negotiations.
  - Development of Foundation and Turbine Erection specifications and contractor negotiations.
  - Selection of Civil and erection contractors.
  - Preparation of project budget cost.
- Development of specifications and design for Wind Farm 35kV Collector system.
- Preparation of RFQ for construction of Electrical Systems.
- Selection of Electrical contractors and contract negotiations.

REPRESENTATIVE PROJECTS

- <u>1995-2009 Perkins Engineering – Principal</u>
  Mr. Perkins has been responsible for the entire oversight of Perkins Engineering, Inc. projects. This includes, where applicable, project reports, design, estimating/budgeting, permitting, material procurement, contractor procurement, construction management, cost analysis and project exit analysis.

REPRESENTATIVE PROJECTS (continued)

- Wind Projects:
  - W. Maine 60MW wind project FERC studies, preliminary design of Collector system, Collector sub and transmission interface.
  - Stetson Mountain, Springfield, Maine Washington County, 57MW wind project. Preliminary analysis of interconnection and ongoing project support during construction, Aroostook County, Maine. Initial evaluation of wind resource for multi turbine projects.
  - Initial evaluation of wind resource for multi turbine project.
  - University of Maine, Presque Isle, 600kW wind turbine.
  - 42MW Wind Farm (Mars Hill Maine) Electrical Systems design, FERC permitting, assist in environmental permitting, land acquisition, cost/benefit analysis and construction contract negotiations. In January 2006 Mr. Perkins was appointed Project Manager by the developer and had full construction oversight responsibilities.
- Other Projects:
  - EPC 9 Miles of Undersea/Island High Voltage Power System, Maine.
  - EPC 3.5 Miles of Undersea/Island Fiberoptic Telecom System, Maine.
  - Design, 0.6-Miles Undersea Fiberoptic Telecommunications System, The Bahamas.
  - Design, Electrical System for 50,000 Sq, Ft. Retail Sales Building, Maine.
  - Analysis of Motor Failure for Utility Water System, Maine.
  - Design Parking lot lighting for EMMC professional building, Brewer, Maine.
  - Design, Electric System for Waste Water Pump Station, Maine.
  - Design, Electric System for Water Booster Station, Maine.
  - Design Parking lot lighting for CES / UMO project.
  - Design street lighting for Dirigo Pines, Orono, Maine.
  - Design Street Lighting for City of Brewer new parallel road.
  - Review, Inspection and Approval of Private Line Distribution Power Extensions for Contractors.
  - Design/Specification for 500 KW Motor / Generator Backup system.
  - Analysis and recommend client options for Aggregate Energy Supplier and Electrical Delivery costs.
  - EPC 22,000' Underground Medium Voltage Distribution System for retirement community.
  - Design/Specify/ Telephone and Cable TV Underground Distribution Duct System for retirement community.
  - Design/Specify several commercial/industrial facility electrical, voice, data, video, fire alarm and security systems.
  - EPC 4.5 Miles of 5.8GHz Spread Spectrum Microwave Telecom System, Maine.

- Bangor Hydro Electric Company (June 1971 to August 1995)
  Mr. Perkins progressed through the ranks of Bangor Hydro to become a Senior Manager reporting to the executive branch of the company and responsible for annual operating and construction budgets of several millions of dollars. He was responsible for the management of staff in the various positions of up to 30 individuals as well as contract crews. Mr. Perkins worked closely with staff from other New England Utilities in behalf of Bangor Hydro. Mr. Perkins completed 24 years service with Bangor Hydro Electric Company.
  - Manager of Radio Communications & Subsidiary Operations (May 94 to Sept. 95)
    - Management oversight of BHE communications systems, representing BHE on state, regional and national telecommunications committees. Also management oversight of subsidiary companies including:

- Maine Electric Power Company (MEPCO) - Responsible for the 345 KV Orrington substation, transmission system operations and maintenance.

  - Management of the Electrical Dept. with emphasis on day-to-day crew operations, training and education. This position focused on all aspects of operations, maintenance and construction of Substations and Power Station electrical equipment within the BHE system including SCADA, relay and control systems and large power equipment.
  - Assistant Electrical Engineer (January 79 to October 84) - Design, specify, estimate and manage stations construction projects as assigned by the Electrical Engineer. The position included dept. supervision in the absence of the Electrical Engineer.
  - Assistant Engineer (June 74 to January 79) - Estimating, designing and construction of assigned projects. These projects included radio transmitter stations, power plant control circuits and underground power distribution projects.
  - Electrician (June 71 to June 74)

- Evergreen Wind V – Stetson Mountain Wind Generation:
  - Feasibility study effort to indicate viability of project location with regard to area electrical system.
  - System Impact Study management and interaction with ISO-NE and impacted parties.
  - Major equipment specification and procurement.
  - Managed the mountain substation design, approximately 14 miles of 35kV collector system design and assisted with the 38-mile 115kV transmission design .
  - Supported major stakeholder effort and contract/agreement discussions with local utilities.

- Bangor Pacific Hydro Company (West Enfield Hydro Station) - General Manager, Corp Secretary/ Treasurer, Member: Board of Directors.

- East Branch Improvement Company (Telos, Lock Dam, Matagamon) - General Manager, Corp Secretary / Treasurer, Member: Board of Directors.

GREGORY S. PERKINS
Electrical Engineer

SGC Engineering, LLC
a part of Senergy

Academic Background

Associate of Applied Science
Electrical Power Technology
Eastern Maine Technical College - 1999

Bachelor of Science
Electrical Engineering Technology
University of Maine - 2008

INTRODUCTION

Mr. Perkins has over 10 years of experience designing and providing field support and layout of various electrical, communications and instrumentation systems for commercial, industrial, and utility projects. He has also contributed to the design and construction several transmission line and utility projects.

Mr. Perkins has the following communications and SCADA experience:

- Protective Relaying Communications Systems.
- Analog and Digital Microwave Systems.
- High Speed Data Networks for industrial, commercial and residential applications.
- SCADA Systems design, installation and commissioning.
- Analog and Digital Systems Integration.
- Frame Relay system design and commissioning.

REPRESENTATIVE PROJECTS

- High Speed Data Communications System, Chester, Maine: Provided design, specification, and installation support for a SONET OC-3 Fiber Network to connect high speed T1 Internet and telephone service to facilities located 38 miles away over fiber optic cable.
- Fiber Optic Network, Danforth, Maine: Provided design and specifications for a wind turbine SONET collector network for a Wind Farm Expansion Project.
- Substation Communications System, Eustus, Maine: Provided Design, specification, installation and commissioning services for a 115KV substation. This design included network construction support for a 12 mile single mode fiber network link between the operations center and substation. Assisted in the commissioning of multiple IEDs within the substation.
- Wind Farm Communications System, Lincoln, Maine: Provided design services for collector network, substation network, and operations center for a large wind farm.
- Wind Farm Collector Network, Mars Hill, Maine: Provided specification and bid evaluation for a large scale wind farm collector network. Responsible for T1 Circuit procurement for the operations center.
- Offshore Microwave Communications System, Tenants Harbor, Maine: Provided design, procurement, installation and commissioning of a dual T-1 digital 5.8 Ghz microwave system to provide telephone service to islands located 4.5 miles to sea.

KEVIN J. RIDLEY, E.I.
Electrical Engineer

SGC Engineering, LLC
a part of Senergy

Academic Background

Bachelor of Electrical Engineering Technology
University of Maine

Professional Registrations

Engineer Intern
Maine - #5695

INTRODUCTION

Mr. Ridley's qualifications include planning, design, and commissioning of various protection systems. Mr. Ridley's background includes service to public and private-sector clientele, including Bangor Hydro Electric Company, Central Maine Power Company, Florida Power and Light, Public Service of New Hampshire, Suez Energy and Ventus Energy.

Mr. Ridley has experience in the following general areas:

- Relay & Protection Design
- Preliminary & Conceptual Design
- Detailed Engineering Design
- Bus, Transmission, Transformer, Generation Protection
- Short Circuit Analysis
- Relay & Control Cabinet Design

REPRESENTATIVE PROJECTS

- Ventus Energy - West Cape Wind Project, Prince Edward Island, Canada: Responsible for the protection and controls for a 55 wind turbine collection system, Dynamic Var System, five station Internet Protocol based transfer trip scheme, station step-up transformer and tie breaker.

- Ventus Energy - Norway Wind Project, Prince Edward Island, Canada: Responsibilities included the protection and controls for a three wind turbine collection system, station step-up transformer and tie breaker.

- Central Maine Power Company - Hotel Road Substation, Auburn, ME: Protection & Control (P&C) Engineer for the development of relay settings for the addition of a new 115kV circuit breaker, 115kV circuit switcher, 115kV/34.5kV transformer, a 115kV bus differential scheme, and 34.5kV circuit breaker. Settings for existing relaying were also evaluated and modified as needed.

- Public Service of New Hampshire - White Lake Substation, Tamworth, NH: P&C Engineer for the controls upgrade and settings modifications for an automated capacitor switching scheme of two 115kV capacitor banks.

- Bangor Hydro Electric Company - Keene Road Substation, Chester, ME: P&C Engineer for a new 345kV substation, 115kV substation expansion, remote-end relay upgrades and relay settings. Relay settings development included protection of a 345kV/115kV auto-

REPRESENTATIVE PROJECTS (continued)

transformer, automated 115kV capacitor bank switching scheme, and breaker failure settings.

- Florida Power & Light Company - Seabrook Nuclear Generating Station, Seabrook, NH: Commissioning of protection and controls for a 345kV gas insulated substation expansion. He obtained the required security clearance for unescorted access within Seabrook's protected area.

- Bangor Hydro Electric Company - Trenton Substation, Trenton, ME: P&C Engineer where his responsibilities included the design of protection and controls for one 115kV breaker, one 115kV/34.5kV transformer and five 34.5kV breakers.

- Public Service of New Hampshire - Mammouth Road Substation, Londonderry, NH: Design of protection and controls for two 115kV breakers and line relaying, two 115kV/34.5kV transformers, a 34.5kV capacitor bank and six 34.5kV breakers.

- Bangor Hydro Electric Company - NRI SPS Additions and Modifications, Multiple Substations, ME: P&C Engineer for this project where his responsibilities included the design and commissioning of two new 345kV special protection systems and modification of an existing system. This was part of the Northeast Reliability Interconnect project.

- Bangor Hydro Electric Company - Orrington Substation, Orrington, ME: P&C Engineer for the protection and controls for four 345kV line breakers, three 345kV line protection schemes using bulk power system (BPS) design criteria.

- Central Maine Power Company - Lovell Substation, Sweden, ME: Design of new protection and controls for a 115kV/34.5kV transformer and four 34.5kV line breakers.

- Central Maine Power Company - Raymond Substation, Raymond, ME: Design of new protection and controls for two 115kV/34.5kV transformers, two 115kV transmission terminals, five 34.5kV transmission and distribution breakers and a 34.5kV capacitor bank.

- Central Maine Power Company - Bridgton Substation, Bridgton, ME: Contract included three new 34.5kV breakers with line relaying upgrades, capacitor bank, and all associated relaying and controls.

THOMAS M. HENAGHEN, P.E.
Senior Civil Engineer

SGC Engineering, LLC
a part of Senergy

Academic Background

Bachelor of Science
Civil Engineering
Clarkson University, 1996

OSHA 10-hour Construction Safety & Health Training

Professional Registrations

Professional Engineer
Massachusetts - #45045
New Brunswick - #L4337

Professional Affiliations

Society of American Military Engineers

American Society for Testing and Materials

INTRODUCTION

As a Senior Civil Engineer for SGC Engineering, LLC, Mr. Henaghen is responsible for the design, computation, and preparation of plans, specifications, and engineering reports for civil engineering projects. He has particular experience in the areas of: site planning and design, development feasibility and due diligence studies, stormwater analysis and design of best management practices, subdivision layout, roadway design, utility design and coordination, state, local and federal permitting. Mr. Henaghen has advanced proficiency in both HydroCAD Stormwater Modeling Software and AutoCAD Land Development packages.

Mr. Henaghen is a registered professional engineer with over 14 years of consulting experience. He has significant experience in the planning, design and permitting of site development projects including residential, commercial and industrial facilities.

REPRESENTATIVE PROJECTS

- Stetson II Wind Project: Project Lead responsible for coordinating the electrical design of the 34.5kV collector system for this 17 turbine wind farm development. Responsible for coordinating with the developer and other project consultants to complete the permitting level and construction level designs for this project.

- Rollins Wind Project: Electrical Project Lead responsible for coordinating the electrical design of the 34.5kV collector system for this 40 turbine wind project. Responsible for coordinating with the developer and other project consultants to complete the Issued for Construction plans for this project.

- Stetson Substation Design: Engineer responsible for the preparation of the civil/structural design plans and specifications associated with the construction of this substation. Design included foundations, grading, stormwater management, oil containment and fencing. Project required planning for the future expansion of the substation to accommodate the Stetson II Wind Farm in the future. Provided construction administration services during construction including review of shop drawings and responding to RFIs.

- Rollins Substation: Provided civil support with regards to the geometric layout, grading, stormwater management and oil containment associated with the construction of this 34.5/115kV substation required to support the Rollins Wind Farm project.

REPRESENTATIVE PROJECTS (continued)

- Littleton Substation: Project Manager and Design Engineer responsible for the preparation of the civil design plans to support the permitting of this substation expansion project. Design included geometric layout, grading, stormwater management and fencing and coordination with others for survey and foundation design. The project required Dredge and Fill Permit from the New Hampshire DES and a Zoning Board approval from the Town of Littleton, New Hampshire.
- Hancock Substation: Design engineer responsible for the preparation of the civil design plans to support the permitting of this fast track design-build project. Design included geometric layout, grading, stormwater management and fencing and coordination with others for survey and foundation design. The project required Site Plan Review and a new driveway permit from the New Hampshire Department of Transportation.
- Lawrence Airport Industrial Park, MA: Preparation and filing of various Federal Aviation Administration (FAA) documents required to obtain a land release from the FAA to allow for the development of an industrial park on airport-owned property.
- Weathervane Village and Weathervane Golf Course, MA: Responsible for the site design and permitting for the expansion of this on-going project to include 31 additional housing units and extension of the golf course from a par 32 to a par 36 layout
- Meredith Way Residential Development, MA: Responsible for site design and permitting for this residential cluster development in Weymouth, MA. The development was designed to avoid impacts to three vernal pools and their associated habitat. In addition, the stormwater management system was designed to mitigate existing drainage problems identified by abutters. The project also included an Environmental Assessment of impacted fill material on the property.
- Cook Estate Age-Restricted, Mixed-Income Residential Development, Cohasset, MA: Preparation of a feasibility and master plan study for a 45-unit cluster development on a 28-acre site in Cohasset, MA; master plan minimized off-site and environmental impacts while creating a quaint, New England coastal mixed-income development consistent with the intent of the Cohasset planning staff
- Westwood Housing Development Study, Westwood, MA: Assisted the Owner to assess the development potential for multi-family residential development of a 28-acre parcel in Westwood, MA; completed four concept layouts with various densities and products to include single family detached, duplex/triplex, town houses and 4-story flats
- Wrentham Town Center Multi-Use Development Study, Wrentham, MA: Assisted nationally based developer to assess the site suitability and potential for housing development on this 75-acre DEP-listed former industrial site; included preparation of over ten mixed-use and residential development schemes, site development cost estimates and phasing plans
- Stonewood Realty Trust, MA: Design and permitting of a 15,000 square foot commercial building project

JASON T. FITZGERALD
Electrical Engineer

SGC Engineering, LLC
a part of Senergy

Academic Background

B.S. Electrical Engineering Technology
University of Maine-2006

A.A.S. Electrical and Automation Technology
Eastern Maine Community College

Professional Registrations

Passed State of Maine Journeyman's Electrician Exam

Professional Affiliations

IEEE Member

INTRODUCTION

Mr. FitzGerald is an electrical engineer and a recent graduate of the University of Maine. He gained relevant experience as an electrical engineering intern and as a laboratory technician while attending the university. During his tenure at SGC, Mr. FitzGerald has participated in several projects during the design phase. His involvement has consisted of substation facility layout, industrial plant layouts, and equipment specification. He has specific experience in the following areas:

- Industrial projects: Device protection, panel layouts, equipment specification.
- Substation Design Engineering: Experience in substation and control house layout, protective relaying elementaries and wiring.
- Transmission and Distribution projects: Line and structure digitization, and modeling based on existing plan and profile information.

REPRESENTATIVE PROJECTS

- Stetson Wind – 34.5kV Overhead Collector System: Designed a 7.5 mile line including preliminary design, permitting, and construction plans and drawings. Developed route selection, evaluation, design criteria, and provided construction inspection.

- Stetson II Wind – 34.5kV Overhead Collector System: Provided preliminary permitting design for an 11 mile line, collocated on structures with the Stetson Collector System. Provided PLS-CADD support for final construction package and developed route selection, evaluation, and design criteria.

- Rollins Wind – 34.5kV Overhead Collector System: Assisted with preliminary permitting design for a 17.5 mile line, including preliminary design, permitting, and construction plans and drawings. Developed line model in PLS-CADD, and also assisted with route selection, evaluation, and design criteria. Coordinated and supported design of Half Township Road line (a 34.5 kV Hendrix type design, connecting Rollins North and South Wind Sites, which also has Bangor Hydro and Fairpoint installations collocated on its poles to serve customers along the roadway).

- Kibby Mountain – 34.5kV Overhead Collector System: Provided design for 20 miles of Overhead Collector System. Developed line model in PLS-CADD, and assisted with route selection, evaluation, and design criteria. Also supported the specification of equipment, construction drawings, and construction support.

REPRESENTATIVE PROJECTS (continued)

- Line 6910 – Maine Public Service: Provided PLS-CADD support, digitized six miles of Paper Plan and Profiles, and created a PLS model for Line 6910 to enable future design modifications in PLS-CADD.

- Kennebunk Light & Power District: Provided design and drafting support for construction of 115kV to 12.5kV substation in West Kennebunk, Maine including:
  - Site orientation
  - Substation equipment/steel location
  - Control house layout
  - Ground-grid design
  - Protection & Controls package

THOMAS M. HENAGHEN, P.E.
Senior Civil Engineer

SGC Engineering, LLC
a part of Senergy

Academic Background

Bachelor of Science
Civil Engineering
Clarkson University, 1996

OSHA 10-hour Construction
Safety & Health Training

Professional Registrations

Professional Engineer
Maine - #12433
Massachusetts - #45045
New Hampshire - #13264
Vermont - # 71768
New Brunswick - #L4337

INTRODUCTION

As a Senior Civil Engineer for SGC Engineering, LLC, Mr. Henaghen is responsible for the design, computation, and preparation of plans, specifications, and engineering reports for civil engineering projects. He has particular experience in the areas of: site planning and design, development feasibility and due diligence studies, stormwater analysis and design of best management practices, subdivision layout, roadway design, utility design and coordination, state, local and federal permitting. Mr. Henaghen has advanced proficiency in both HydroCAD Stormwater Modeling Software and AutoCAD Land Development packages.

Mr. Henaghen is a registered professional engineer with over 14 years of consulting experience. He has significant experience in the planning, design and permitting of site development projects including residential, commercial and industrial facilities.

REPRESENTATIVE PROJECTS

- Stetson II Wind Project: Project Lead responsible for coordinating the electrical design of the 34.5kV collector system for this 17 turbine wind farm development. Responsible for coordinating with the developer and other project consultants to complete the permitting level and construction level designs for this project.

- Rollins Wind Project: Electrical Project Lead responsible for coordinating the electrical design of the 34.5kV collector system for this 40 turbine wind project. Responsible for coordinating with the developer and other project consultants to complete the Issued for Construction plans for this project.

- Stetson Substation Design: Engineer responsible for the preparation of the civil/structural design plans and specifications associated with the construction of this substation. Design included foundations, grading, stormwater management, oil containment and fencing. Project required planning for the future expansion of the substation to accommodate the Stetson II Wind Farm in the future. Provided construction administration services during construction including review of shop drawings and responding to RFIs.

- Rollins Substation: Provided civil support with regards to the geometric layout, grading, stormwater management and oil containment associated with the construction of this 34.5/115kV substation required to support the Rollins Wind Farm project.

REPRESENTATIVE PROJECTS (continued)

- Littleton Substation: Project Manager and Design Engineer responsible for the preparation of the civil design plans to support the permitting of this substation expansion project. Design included geometric layout, grading, stormwater management and fencing and coordination with others for survey and foundation design. The project required Dredge and Fill Permit from the New Hampshire DES and a Zoning Board approval from the Town of Littleton, New Hampshire.
- Hancock Substation: Design engineer responsible for the preparation of the civil design plans to support the permitting of this fast track design-build project. Design included geometric layout, grading, stormwater management and fencing and coordination with others for survey and foundation design. The project required Site Plan Review and a new driveway permit from the New Hampshire Department of Transportation.
- Lawrence Airport Industrial Park, MA: Preparation and filing of various Federal Aviation Administration (FAA) documents required to obtain a land release from the FAA to allow for the development of an industrial park on airport-owned property.
- Weathervane Village and Weathervane Golf Course, MA: Responsible for the site design and permitting for the expansion of this on-going project to include 31 additional housing units and extension of the golf course from a par 32 to a par 36 layout
- Meredith Way Residential Development, MA: Responsible for site design and permitting for this residential cluster development in Weymouth, MA. The development was designed to avoid impacts to three vernal pools and their associated habitat. In addition, the stormwater management system was designed to mitigate existing drainage problems identified by abutters. The project also included an Environmental Assessment of impacted fill material on the property.
- Cook Estate Age-Restricted, Mixed-Income Residential Development, Cohasset, MA: Preparation of a feasibility and master plan study for a 45-unit cluster development on a 28-acre site in Cohasset, MA; master plan minimized off-site and environmental impacts while creating a quaint, New England coastal mixed-income development consistent with the intent of the Cohasset planning staff
- Westwood Housing Development Study, Westwood, MA: Assisted the Owner to assess the development potential for multi-family residential development of a 28-acre parcel in Westwood, MA; completed four concept layouts with various densities and products to include single family detached, duplex/triplex, town houses and 4-story flats
- Wrentham Town Center Multi-Use Development Study, Wrentham, MA: Assisted nationally based developer to assess the site suitability and potential for housing development on this 75-acre DEP-listed former industrial site; included preparation of over ten mixed-use and residential development schemes, site development cost estimates and phasing plans
- Stonewood Realty Trust, MA: Design and permitting of a 15,000 square foot commercial building project

MARK R. LOWELL, P.E.
Senior Electrical Engineer

SGC Engineering, LLC
a part of Senergy

Academic Background

Bachelor of Electrical Engineering Technology
University of Maine

Numerous short technical courses related to Electrical Engineering

Professional Registrations

Professional Engineer
Maine - #10126
Vermont - #8841
Maryland - #37122

INTRODUCTION

Mr. Lowell has over 20 years of experience working with design, field support, and layout of various electrical systems for commercial, industrial, and utility clients. He has participated in a number of transmission line and utility projects for which he was responsible for the production of detailed design documents.

Mr. Lowell has the following high voltage substation, and transmission and distribution line experience:

- Substation equipment physical layout and location.
- Equipment specification and bid submission evaluation.
- Grounding design and specification.
- Cable specification and raceway routing.
- Protective relay panel design including control interface between utility and client for generator step-up transformers, utility transformers, line-side breakers, generator-side breakers, CCVTs, CTs, and MOABs
- Transmission line plan and profile development.
- Transmission line structure design.
- Sag chart development and calculation.

Mr. Lowell also is experienced in combined cycle power plant design. His experience includes:

- Managing other staff to meet project deadlines and stay within project budgets.
- Developing plant electrical distribution and switchyard designs.
- Preparing bid and construction specifications and recommending equipment purchases.
- Preparing and reviewing electrical drawings including, one-lines, three-lines, elementaries, interconnects, and power, lighting and grounding plans for new and existing facilities.
- Assisting with the preparation of fixed price and time and materials proposals.
- Plant startup and field support.
- Inspecting installations to ensure consistency with construction documents.

REPRESENTATIVE PROJECTS

- <u>VELCO Bennington Substation, Vermont:</u> Completed the design engineering for the installation of a new 70 MVA transformer with load tap changer including relay protection and controls. Also provided construction management services to oversee VELCO's subcontractors during the installation of the transformer and related construction. This project was completed in August 2007.

REPRESENTATIVE PROJECTS (continued)

- VELCO Highgate Substation, Vermont: Provided project and construction management services for the expansion and re-configuration of an existing 115-48kV substation. A new 48kV breaker and a new 115kV ring bus with all of the supporting equipment were installed. The existing 115kV system was de-commissioned. Daily activities included project schedule maintenance, engineering support for construction, change order reviews, material substitution submittals, and engineering liaison between owner and construction. This project also included engineering and construction/commissioning support for new line protection and breaker failure relays and controls, and the addition of two motor operated disconnect switches with controls. This project was completed in July 2006.

- VEC Automated Meter Reading (AMR) Project, Vermont: Provided engineering services for the integration of AMR equipment into nine distribution substations for Vermont Electric Cooperative. The design included the production of general arrangement plans and elevations for the substation including the AMR equipment, as well as AMR wiring diagrams, substation one-line diagrams, distribution panel schedules, and construction bill of materials. Field reconnaissance was completed at each of the substations to ensure the most effective design.

- Generation Station Interconnection, Berlin, New Hampshire: Designed the electrical interconnection for the White Mountain Energy Generation Station, a 25MW steam turbine generating facility. The connection was made to the Public Service of New Hampshire (PSNH) transmission system. In addition, the design and commissioning of a 22kV generator step-up transformer, 22kV line breaker, and two (2) parallel 22kV aerial spacer cable type transmission lines to a new 22kV switch located on an existing PSNH transmission tower were completed. Other tasks included design and commissioning activities for a 13.8kV shielded aerial spacer cable type distribution line from an existing 13.8kV substation primary switch to a new station service transformer located adjacent to the generator step-up transformer.

- Design of Hanging Rock Substation, American Electric Power, Ohio: Provided engineering and design support for the production of electrical schematics and connection diagrams for a substation in American Electric Power service territory. The substation design included high voltage electrical equipment such as transformers, high voltage breakers, CCVTs, CTs, disconnect and grounding switches.

- Trent Wind Farm Substation and Transmission Line, Trent, Texas: Provided engineering support for a 34.5kV substation and a 138KV transmission line providing power to Texas Utilities' Eskota substation. Installation of 100 General Electric wind turbines rated at 1.5MW at 34.5kV prompted the need for a new substation and transmission line to deliver power to Texas Utilities. The scope of the project included detailed engineering, construction, and commissioning of the substation and of the 138kV transmission line.

- Plains End Generating Station, Arvada, Colorado: Provided project management and detailed engineering design for a 20 – 7.165MVA diesel generator unit peaker plant. Supervised the project team in the production of a comprehensive engineering package to support the construction of 20 Wartsila diesel generators and all ancillary systems. The design package included physical layout and grounding drawings, lighting drawings, one and three line diagrams, wiring/interconnection diagrams, elementary/ schematic diagrams, cable/raceway schedule, and motor list. This design effort was in support of but not limited to the following major components: diesel generators and control systems, UPS and DC systems, plant electrical

distribution (through high voltage terminals of generator step-up transformer), emissions systems, cooling systems, and fuel storage and delivery systems.

Albert Frick Associates
Soil Scientists & Site Evaluators
95A County Road Gorham, ME 04038
(207) 839-5563 FAX (207) 839-5564

Albert Frick, SS, SE
James Logan, SS, SE
Matthew Logan, SE
Brady Frick, SE
Bryan Jordan, SE
William O'Connor, SE
Noel Dunn, Office Manager

James Logan

EDUCATION:

Bachelor of Science, May 1985
University of Maine, Orono, Maine
Program: Natural Resources – Land Use Planning

Rutgers – The State University of New Jersey, 1979-1983
Program: Environmental Science – Water Resources

WORK EXPERIENCE:

July 1987 - Present
Consulting Soil Scientist and Site Evaluator. Albert Frick Associates, Inc. Gorham, Maine.
Professional associate in small consulting firm that produces high-intensity soil maps, subsurface wastewater disposal system designs, environmental studies, and subdivision planning with regard to soil utilization.

March 1986 - June 1987
Research Technician II. University of Maine at Orono. Department of Plant & Soil Sciences.
Responsible for soil site-disturbance study assessing the effects of paper industry cultural practices on the chemical components of soils and groundwater quality.

May 1985 - March 1986
Biologic Aide. Soil Conservation Service. U.S. Dept. of Agriculture
Compilation and construction of soil maps for Cooperative Soil Survey (Knox-Lincoln, Hancock, and Oxford counties), using aerial photos and field observation.

September 1984 - May 1985
Research Assistant. Soil & Water Resources Center. University of Maine at Orono.
Acid deposition studies with regard to soil properties, including in-depth chemical laboratory analysis.

July 1981 - December 1981
Compliance Investigator. New Jersey Department of Environmental Protection.
Had enforcement responsibility for state and federal discharge permits for treatment facilities, also including flood control, stream encroachment and sludge application.

January 1981 - July 1981 **Staff Scientist. ECOL Science Environmental Consulting Group**
Preparation and presentation of Environmental Impact Statements, Comprehensive Plans, and other environmental documents for private and public-sector organizations.

1980 – 1981. **Environmental Compliance Investigator, New Jersey Department of Environmental Protection**.
Inspected municipal wastewater treatment facilities for compliance with state and federal regulatory programs.

PUBLICATIONS: **An Investigation into the Effects of Site Disturbance on the Mobilization of Accumulated Trace Metals from Forest Floors and the Implications for Groundwater Quality**. Land & Water Resources Center, University of Maine (October, 1987).

PROFESSIONAL AFFIL1ATIONS AND ORGANIZATIONS:

Maine Certified Soil Scientist #213
Maine Licensed Site Evaluator #237
Maine Association of Professional Soil Scientists, past Vice-President
Maine Associates of Site Evaluators (Secretary, 1991-1992), present
MASE Technical Review Committee, Chairman
Soil Conservation Society of America, Pine Tree Chapter member.
Co-chair of Subcommittee on Design, Soils and Site Conditions for Task Force on Review of Maine Subsurface Wastewater Disposal Rules (2006-present)

John I. Walker Ph.D.

Practice Lead, Acoustics

Senior Associate and Project Manager

Dr. John Walker, Stantec Practice Lead in Acoustics, is a Senior Associate and Senior Project Manager in the Stantec Dartmouth office with 30 years of experience in the environmental consulting industry. He earned his doctorate in air pollution meteorology and environmental physics from the University of Guelph in 1980. John has worked on air quality, noise, hazardous waste, environmental management and other studies for such diverse clients as Michelin (Canada), Nova Scotia Power, INCO, El Paso Corporation, Shell Brunei, Harvard School of Public Health, El Paso Corporation, Petro-Canada, and Environment Canada. He has assisted many of these organizations in Environmental Assessments, in permitting facilities, solving problems and adapting to changes in the policy and regulatory environments. His international work has included World Bank and private sector clients in China, Kazakstan, Iran, Syria, Brunei, Brazil, Chile, and Argentina.

EDUCATION

Doctor of Philosophy, Air Pollution Meteorology, University of Guelph, Guelph, Ontario, 1980

Master of Science, Geography (Climatology), Queen's University, Kingston, Ontario, 1976

Bachelor of Science, Geography (Honors), Queen's University, Kingston, Ontario, 1975

PROFESSIONAL ASSOCIATIONS

Past Chair, Atlantic Section, Air & Waste Management Association

PROJECT EXPERIENCE

Sound Assessments

Amherst Wind Farm, Accione: Director of noise impact assessment and baseline noise measurements.

Digby Wind Farm, SkyPower: Director of noise impact assessment.

Digby Wind Farm, Nova Scotia Power: *Director of study to examine revised locations of wind farm sold to provincial utility.*

East Kings Wind Farm, PEI Energy Corporation: *Project manager in a two phase study of allegations of excessive noise impacts due to 20 MW wind energy development.*

Harrington Wind Turbine Study, Agriculture Canada: *Project Manager of study to determine acoustic impact acceptablilty and cost/benefit of relocation or disposition of wind turbine at a research station.*

Lameque Wind farm: *Directed noise baseline studies and impact assessment for a wind farm in northern New Brunswick.*

Sunset Creek Compressor Station, Spectra Energy: *Conducted noise impact analysis for gas compressor stations at two locations in northern British Columbia.*

Canpotex Environmental Assessment, Canpotex, Port of Prince Rupert Authority: *Directed noise impact assessment for potash export terminal in northern British Columbia.*

Petro-Canada Sturgeon Upgrader, Petro-Canada, Fort Saskatchewan, Alberta (Principal Scientist and Task Manager) *Conducted an assessment of noise impacts for the Petro-Canada Sturgeon Upgrader Project, Fort Saskatchewan, Alberta.*

ConocoPhillips Surmont Project, ConocoPhillips, Fort McMurray, Alberta (Project Manager and Principal Scientist) *Conducted an assessment of noise impacts for the ConocoPhillips Noise Impact Assessment, Fort McMurray, Alberta.*

Highway 104, Nova Scotia Transportation and Public Works, Salt Springs Provincial Park, Nova Scotia (Project Manager) *John conducted an assessment of noise and noise barrier design for Highway 104 at Salt Springs Provincial Park, Nova Scotia.*

** denotes projects completed with other firms*

John I. Walker Ph.D.

Senior Associate and Project Manager

Third-Lane Project for the Macdonald Bridge, Halifax-Dartmouth Bridge Commission, Halifax-Dartmouth, Nova Scotia (Project Manager)
John conducted an assessment of potential construction noise impacts of the Third-Lane Project for the Macdonald Bridge, Halifax-Dartmouth, Nova Scotia.

Total Upgrader, Fort Saskatchewan, Alberta (Task Leader - Noise Impact Assessment)
Directed the baseline noise survey and preliminary modeling, performed Senior Review on final modeling and backup to Energy Resources Conservation Board Hearings.

Fort Hills Upgrader, Fort Saskatchwan, Alberta (Task Leader - Noise Impact Assessment)
Directed the baseline noise survey and noise attenuation modeling, prepared the noise impact assessment document, and provided testimony at regulator hearings.

Surmont SAGD, Fort MacMurray, Alberta (Acoustic Consultant)
Conducted baseline sound measurements at the project site and a pilot plant, prepared a noise impact assessment in fulfillment of requirements under the Energy Utilities Board.

Fort Nelson Gas Plant, Fort Nelson, British Columbia (Task Leader - Noise Impact Assessment)
Conducted noise impact assessment for a gas plant, including inventory of equipment and modeling using Cadna.

EnCana Cabin Gas Plant, Remote northern British Columbia (Task Leader - Noise Impact Assessment)
Prepared an inventory of equipment and led team conductiong noise modeling, impact assessment, and mitigation design for a gas plant in northern British Columbia.

Assessments, Permitting, and Compliance

Maritime Steel, New Glasgow, Nova Scotia (Manger and Consultant)
John was the manger of source testing, dispersion modelling and consultation for the repermitting of the facility in New Glasgow, Nova Scotia.

NPRI and Greenhouse Gas Studies, Neenah Paper, Pictou, Nova Scotia (Project Manager)
John managed the update of the NPRI reporting and greenhouse gas inventory for Neenah Paper, Pictou, Nova Scotia.

Sydney Tar Ponds Environmental Assessment, Sydney Tar Ponds Agency, Sydney, Nova Scotia (Principal Scientist)
John conducted noise and air quality for the environmental assessment of the Sydney Tar Ponds Cleanup.

Whites Point Quarry Environmental Assessment, Bilicon Nova Scotia, Digby, Nova Scotia (Task Manager)
John conducted noise and air quality impact assessment for the Whites Point Quarry, Nova Scotia.

Blue Atlantic Transmission System, El Paso Corporation, Halifax, Nova Scotia (Project Manager)
John set up air quality programs including modelling and monitoring for the Blue Atlantic Transmission System and the Sable Offshore Energy Program.

Michelin (Canada), Waterville, Granton, and Bridgewater, Nova Scotia (Project Manager)
John was the project manager for a series of projects for Michelin, including training programs in air quality regulations and compliance for environmental staff of all Michelin (Canada) facilities; source testing at Waterville facility; dispersion modelling and permitting assistance at Waterville, Granton, and Bridgewater plants.

Air Quality Assessment, Voisey's Bay Mine and Mill, Labrador, Newfoundland (Task Manager)
John performed air quality assessment at the Voisey's Bay mine and mill project in Labrador.

Environmental Assessment of Urban Transport Projects, World Bank, The Municipality of Shijiazhuang, China (Scientist)
John was retained by the World Bank to assist the Municipality of Shijiazhuang, China in the conduct of urban airshed modelling and other components of the Environmental Assessment of urban transport projects.

** denotes projects completed with other firms*

John I. Walker Ph.D.

Senior Associate and Project Manager

Turbine Generator Project, Maritime Electric Company Limited, Charlottetown, Prince Edward Island (Project Manager and Principal Scientist)
John conducted a study of baseline noise during operation and shutdown modes of the Maritime Electric Company Limited plant in Charlottetown, Prince Edward Island, and Principal Scientist for acceptance testing and verification.

Dispersion Modelling for the Peaking Power Turbines, Nova Scotia Power Corporation, Burnside, Victoria Junction, and Tusket, Nova Scotia (Project Manager)
John was the project manager, and conducted dispersion modelling for the peaking power turbines at Burnside, Victoria Junction, and Tusket, Nova Scotia.

Voisey's Bay Mine Environmental Assessment, Voisey's Bay Nickel (INCO), Labrador, Newfoundland (Project Manager)
John designed two meteorological and air quality stations for installation in northern Labrador during the Voisey's Bay Environmental Assessment.

Air Quality Modelling, Voisey's Bay Smelter/Refinery, Labrador, Newfoundland (Task Manager)
John performed air quality modelling for the Voisey's Bay smelter/refinery complex at Argentia.

Project Identification Mission, World Bank, Almati, Republic of Kazakstan (Scientist)
John participated in World Bank project identification mission to the Republic of Kazakstan, CIS, to develop strategies to improve urban air quality. This involved meeting with the Ministry of Environment and agencies in Almaty to review air quality monitoring activities and data.

Urumqi Urban Transport Improvement Program, World Bank and Xinjiang Environmental Technology Assessment Center, Urumqi, Xinjiang (Technical Assistant)
John provided technical assistance and review to the World Bank and Xinjiang Environmental Technology Assessment Center.

Environmental Assessment of Urban Transport Projects, World Bank, Shenyang, Fushun, and Anshan, China (Scientist)
John assisted World Bank in the direction of the environmental assessment of urban transport projects in three cities, Shenyang, Fushun, and Anshan in Liaoning province of People's Republic China.

Air Quality Issues, Department of Energy, Charlottetown,, Prince Edward Island (Project Manager)
John conducted study of the air quality issues with respect to the Prince Edward Home wood-fired system, Charlottetown, Prince Edward Island.

Shanghai Inner Ring Road Environmental Assessment, People's Municipality of Shanghai, Shanghai, China (Technical Director)
John was the technical director of the project for the People's Municipality of Shanghai to investigate the air quality and noise impacts of the Inner Ring Road.

Sydney Tar Ponds Cleanup, Province of Nova Scotia*, Sydney, Nova Scotia (Project Manager)
John designed (in conjunction with Environment Canada and the Nova Scotia Department of Environment) and managed the implementation of the air quality monitoring program for the Sydney Tar Ponds Cleanup.

Environmental Management

Air Quality Strategy, Halifax Regional Municipality, Halifax, Nova Scotia (Project Manager & Technical Director)
John has study to develop an air quality strategy for the Halifax Regional Municipality.

Iran Environment Capacity Building, World Bank, Tehran, Masshad, Arak, and Isfohan, Iran (Expert Consultant)
John was retained by the World Bank in 2002 as an expert consultant to design an approximately $10 million (capital cost), air quality monitoring program for major cities in Iran, including Tehran, Masshad, Arak, and Isfohan.

** denotes projects completed with other firms*

John I. Walker Ph.D.

Senior Associate and Project Manager

Energy Management and Climate Change
Project Appraisal Mission of the World Bank to the Syrian Arab Republic, World Bank, Damascus, Syrian Arab Republic (Scientist)
John was a member of the Project Appraisal Mission of the World Bank to the Syrian Arab Republic to develop a project to test alternate vehicle technologies in Syria as a Global Environment Facility project.

** denotes projects completed with other firms*

John I. Walker Ph.D.

Senior Associate and Project Manager

PUBLICATIONS

On-Road Vehicle Emissions in Santiago de Chile, Sao Paulo and Buenos Aires. *Presented at the 5th Conference on Urban Air Quality, Valencia Spain*, 2005.

Comparison of AERMOD, ISC3 and CALPUFF in the Environmental Assessment of a Sour Gas Plant. *Presented at the Guideline on Air Quality Mondels Conference (US EPA/AWMA) Mystic, Connecticut*, 2003.

Competition and Compromise - Environmental Factors in Waste Management. *Presented at the 22nd Canadian Waste Management Conference, Halifax*, 2000.

Air Quality Monitoring Programs at the Onshore Facilities of Sable Offshore Energy Inc. *Presented at the Offshore Technology Association of Nova Scotia*, 2000.

Urban Air Quality and Vehicle Emissions. *Presented at the First Sino-Canadian Workshop on Climate Change, Beijing*, 1999.

Motor Vehicle Control Strategies for Urban Air Quality Management. *Presented at the International Conference on Urban Pollution Control Technology, Hong Kong*, 1999.

Urban Air Quality, Greenhouse Gases, and Motor Vehicle Emissions. *Proceedings Sino-Canadian Workshop on Climate Change, Beijing*, 1999.

PAH in the Air of Sydney, Nova Scotia. *Presented at the Conference of Chemical Institute of Canada, Atlantic Chapter*, 1993.

Pollution Prevention in Action: Green Industry Analysis of a Guelph Industry. *40th Ontario Conference on the Environment*, 1993.

Software Design for the Development of Marine Weather Forecast Techniques. *Presented at the 18th Annual Congress of the Canadian Meteorological and Oceanographic Society, Halifax*, 1984.

Experiments in the Development of Marine Weather Forecasting Techniques off the East Coast. *Presented at the 18th Annual Congress of the Canadian Meteorological and Oceanographic Society, Halifax*, 1984.

Ozone Uptake by Corn. *Presented at the 75th Annual Meeting of the Air Pollution Control Association, New Orleans*, 1982.

Ozone Uptake and its Relationship to Damage in Corn. *Final Report to A.E.S. for D.S.S. Contract KM601-7-19045, p. 52*, 1979.

A Note on Temperature and Humidity Profile Measurement Over Forests Using Diodes. *J. App. Meteor - 16, 106-109*, 1977.

Role of Agrometeorology in Predicting Crop Injury by Air Pollution. *Presented at the O.A.C. Agriculture Conference, University of Guelph, Guelph, Ontario*, 1977.

David Raphael, B.A., M.L.A. | Principal/Landscape Architect & Planner

EDUCATION

M.L.A., Harvard University Graduate School of Design, 1977 *Cambridge, Massachusetts*

B.A. in English, Tufts University, Cum Laude, Minor in Ecology, 1972 *Medford, Massachusetts*

School of the Museum of Fine Arts, 1971*, Boston, Massachusetts*

Diploma, Dartmouth College Outward Bound Program, 1970, *Hanover, New Hampshire*

EMPLOYMENT HISTORY, PROFESSIONAL SKILLS, AND DUTIES

1986-present: *LandWorks,* Middlebury, Vermont; Founded the firm and has been Principal Landscape Architect & Planner for most of the company's projects.

1984 - 1985: *Alexander, Truex, deGroot, Architects,* Burlington, Vermont; Consultant and staff Landscape Architect/Planner

1980 - 1982: *Kiley-Walker,* Charlotte, Vermont; Associate Landscape Architect

1976 - 1979: *Massachusetts Department of Environmental Management,* Planner/Landscape Architect

TEACHING/ACADEMIC APPOINTMENTS

1982-present: Lecturer, Rubenstein School of Environment & Natural Resources, University of Vermont

1992-1994: Visiting Instructor, Middlebury College, Middlebury, VT

1991-1993: Adjunct Faculty Member, Vermont Technical College

1988- 1989: Director; "Design Vermont" project of the Vermont Council on the Arts and the Governor's Institute on the Arts, funded by the National Endowment of the Arts & held at Castleton State College, July 1989

1983: Visiting Assistant Professor, School of Architecture, University of Arkansas

1982-1984: Adjunct Associate Professor, Graduate Program in Urban and Environmental Policy, Tufts University

PROFESSIONAL REGISTRATIONS

- Registered Landscape Architect - State of Rhode Island
- Passed Uniform National Examination: eligible for registration in other states
- Registered with the Professional Ski Instructors of America

MEMBERSHIPS

- Member, American Society of Landscape Architects
- Member, American Planning Association
- Member, Society of Environmental Graphic Designers
- Member, Board of Trustees, Lake Champlain Land Trust
- Member, Board of Directors, Vermont State Craft Center at Frog Hollow
- Chairman, Town of Panton Planning Commission and Development Review Board 1985 - present
- Delegate, Addison County Regional Planning Commission
- Member, Agency of Natural Resources, Design Issues Study Committee
- Member, Town of Middlebury, Design Advisory Committee
- Member, Vermont Natural Resources Council

PARTIAL LISTING OF RESEARCH and PUBLICATIONS

"Aesthetics & Utilities, The Aesthetic Assessment and Mitigation Process", Presented to the IEEE Power Engineering Society, Montreal, CA, 2006

"Wayfinding Principles & Practice," American Society of Landscape Architects, Landscape Architecture Technical Information Series, 2006

“BGOC (Big Graphics on Campus) Signs and environmental graphics that impact collegiate environments” Signs of the Times, Oct. 2003

"A New Vision for Vermont," Landscape Architecture Magazine, December 1999

Special Correspondent, Burlington Free Press, Burlington, Vermont, 1994 to 1998

"Brave New Vermont," Vermont Magazine, June 1995, Contributor.

Sign Management: Aesthetics, Economics, Environment - The Vermont Experience, 1992 ("Best of the Conference" award at national conference on sign management, 1992)

"Prospect," Landscape Architecture Magazine, September/October 1985.

"Grounds for Playful Renaissance," Landscape Architecture Magazine, July 1975.

Richard P. White Award, Horticultural Research Institute, Washington, D.C., 1983-1984 Windbreaks and Shelterbelts for the Northeast

Rivers Downtown: Riverfront Revitalization in Vermont, for the Winooski Valley Park District, October 1981; funded with a Housing and Urban Development and Research Grant

"Evolutionary Trends and Essential Themes of Wilderness Preservation" in Public Space, Peter Trowbridge, Ed. and with an Introduction by J.B. Jackson; Harvard University, Cambridge 1975.

AWARDS

2010 **Vergennes Municipal Development Plan | ***Plan of the Year*
Vermont Planner's Association

2007 **Lake George Upland Protection Program | ***Award of Excellence*
Vermont Chapter American Society of Landscape Architects

2007 **Guiding Growth in Burke | ***Certificate of Merit for Outstanding Planning Project*
Vermont Chapter American Society of Landscape Architects

2005 **View From the Road | ***Public Space Award*
Vermont Chapter American Society of Landscape Architects

2005 **Island Line Sign & Amenities Plan** | *Award of Excellence*
Vermont Chapter American Society of Landscape Architects

2005 **Lake Morey Resource Conservation Project | ***Merit Award*
Vermont Chapter American Society of Landscape Architects Public Space

2005 **Danville Transportation Enhancement Project** | *Public Space Award Honorable Mention*
Vermont Chapter American Society of Landscape Architects

2004 **Manchester Design Guidelines** | *Honor Award*
Vermont Chapter American Society of Landscape Architects

2003 **The Pownal Municipal Plan & Land Use Regulations** | *Certificate of Merit for Outstanding Planning Project*
Vermont Planners Association

2002 **Danville Route 2, Danville, Vermont** | *Certificate of Merit for Engineering Excellence*
American Council of Engineering Companies

2001 **Stowe Ridgeline Ordinance: Ridgeline & Hillside Overlay District** | *Merit Award*
Vermont Chapter American Society of Landscape Architects

2001 **The University of Vermont Wayfinding System & Design Standards** | *Certificate of Merit for Outstanding Planning Project*
Vermont Planners Association