Town of Richmond

Library and Town Center Building Upgrades

PROPOSAL | NOVEMBER 17, 2021

DuBois & King inc.

Submitted to

Josh Arneson, Town Manager
Town of Richmond
P.O. Box 285
Richmond, VT 05477

727631X
November 17, 2021

Josh Arneson, Town Manager
Town of Richmond
P.O. Box 285
Richmond, VT 05477

Subject: Mechanical, Electrical, and Plumbing System Design Services RFP

Dear Mr. Arneson and Members of the Selection Committee,

Please find enclosed three hard copies and one electronic copy of DuBois & King's (D&K) proposal for MEP and civil/stormwater improvements to the Library and Town Center. D&K is an employee-owned, Vermont-based firm established approximately 60 years ago. D&K's founding focus was providing direct consulting to municipalities. Municipal engineering continues to be one of the largest aspects of D&K's body of work. The assigned team understands the funding, technical, and regulatory requirements of this project and is eager to start working with you.

I will serve as Project Manager. I have over 20 years of mechanical engineering and management knowledge, including hands-on schematic, design, bid, and construction phase experience from municipal projects as well as an informing perspective from similar projects for commercial, industrial, and other government clients. I will be responsible for maintaining regular and open communication with you and other Town officials and will drive day-to-day development of D&K's services and deliverables. Alan Gould, PE, will serve as principal and electrical engineer of record. As a Vice President of D&K and electrical engineer with 30 years of experience, Alan wil assure that this project receives the in-house resources necessary for successful and timely completion. Our mechanical, civil, and engineering support team is presented in detail in our submission, as well as a list of relevant projects. I encourage you to contact our references listed to collect an independent review of our services.

D&K appreciates the opportunity to submit a proposal for this project. I look forward to hearing more and I encourage you to contact me with any questions you may have about our qualifications, schedule, and/or services. I am available at 802.882.8789 or at danderson@dubois-king.com.

Sincerely,
DuBois & King, Inc.

David Anderson
Project Manager

Process and Methodology

The Town of Richmond has requested MEP services for six projects, three within the Library and three within the Town Offices. A couple of the projects will also require the architectural and civil engineering services which we have also carried. Assuming a Notice to Proceed of December 1, 2021, D&K has capacity to complete the scope of services by January 21, 2022.

Town Offices: This project includes accessibility improvements, drainage, and HVAC changes. The front portico has issues with rain water and freezing. The section of roof sees rainfall/snowmelt from upper roof sections along with the portico roof. The drain system has had a number of temporary fixes performed over the years, which is only a few inches below grade. With the change in space use, the Town is looking for system changes to allow for better control between HVAC systems in the Town offices, including the old meeting space and the police station, which are integrated into the same control system, but have different needs. D&K understands that the meeting space fails to maintain the set temperature.

For the Town Offices project, D&K team will provide the following services:

ADA DOOR: the D&K team will work with the door and hardware supplier to coordinate power to ADA door actuators for two doors at the entry to the Library (inner and outer vestibule doors). The door and hardware suppliers are to be hired directly by the Town.

FIRST FLOOR MEETING ROOM: D&K will work with the Town to discuss various options for heating and cooling. The systems proposed will utilize existing equipment currently on site. A discussion on ventilation air requirements for the space will be part of the system option review. Once a final decision on a system is made the D&K team will develop into construction documents for bidding purposes.

PORTICO STORMWATER DESIGN: D&K will provide up to three options to the Town to mitigate the stormwater issue at the portico. Once an option has been approved, the D&K team will develop construction documents for bidding.

Library Improvements. The library needs to add ADA access to their entry. They would also like to add a hydration station on the first floor. On the third floor, the community room was enclosed a number of years ago, but was not provided with HVAC and ventilation air. The library would like to explore options to provide HVAC and ventilation to that space. For the library portion of the project, D&K will work on each phase in the following manner:

ADA DOOR: The D&K team will work with door and hardware suppliers to coordinate power to the ADA door actuators for two doors at the entry to the Library (inner and outer vestibule doors). Door and hardware supplier will be hired directly by the Town of Richmond.

HYDRATION STATION: D&K will work with Town and Library staff to choose the final location of the hydration station. During the walkthrough, there were a few options discussed that still need to be reviewed. Upon selection of a final location, the D&K team will develop the MEP documents for electrical and plumbing requirements. If additional walls are required to house the hydration station, D&K will include these details in our plans.

Firm Description, History, and Structure: Founded in 1962, DuBois & King is a multidisciplinary, professional consulting firm providing planning, engineering, and construction phase services to federal, state, municipal, institutional, and private sector clients. With offices in Vermont, New Hampshire, Maine, and New York, D&K provides professional services in civil engineering, site development, water resources, survey, water/wastewater engineering, environmental documentation, and mechanical, electrical, and structural engineering. The firm employs engineers, planners, designers, surveyors, technicians, environmental and permitting specialists, wetland scientists, and support personnel.

DuBois & King is positioned to provide professional services to support a wide variety of projects utilizing a full range of in-house technical disciplines, and we tailor teams to the particular needs of each project. DuBois & King licensed professionals and technical staff support projects associated with:

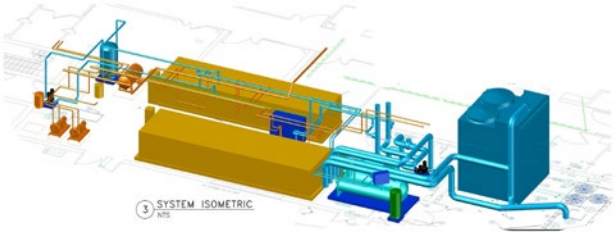
- Transportation
- Water Resources
- Public Infrastructure
- Facilities
- Site Development
- Environmental Documentation & Permitting

LOCATION: Services will be managed and provided from our Pearson and Associates office located in Waterbury, with support available from team members in South Burlington and Springfield.

CIVIL ENGINEERING: D&K extensive land development experience assures each client technical expertise in determining project feasibility, suitable site selection, and compliance with regulatory agencies. Firm civil/site engineers are supported by a team of surveyors, landscape architects, wetland scientists, and permitting specialists that provide comprehensive design services for commercial and housing developments, institutional and industrial campuses, recreational facilities, and municipal infrastructure projects.

The firm's site design assignments involve land use planning, site selection studies, site and utility engineering, stormwater management, environmental impact studies, traffic analysis, traffic design and engineering, landscape architecture, public engagement, and construction administration.

Continual quality control and constructability reviews are performed during design to ensure that plans and specifications result in quality design products. Planning documents and site designs are developed to be environmentally sound, aesthetically suited to the site, and economically feasible.



MECHANICAL ENGINEERING: D&K's mechanical engineers specialize in the design of building heating, cooling, ventilation, and plumbing systems. D&K mechanical professionals understand the special considerations and challenges inherent to building systems, including environmental controls, physical limitations imposed by building configurations, process details and code requirements, the safeguard of building occupants and equipment, energy efficiency, and the cost-effectiveness of design alternatives.

Firm professionals are experienced problem solvers who have earned a reputation for being responsive to clients and creative in their approach to the design and upgrade of mechanical and plumbing systems. They balance capital costs with future returns from energy efficient design. Their expertise encompasses new construction, as well as facility renovations and rehabilitation.

Assignments include single discipline through full-service, multidisciplinary design and construction administration. The firm is committed to integrated design of high performance buildings. Staff includes Leadership in Energy & Environmental Design (LEED) Accredited Professionals and ASHRAE Certified Commissioning Process Management Professionals.

ELECTRICAL ENGINEERING. DuBois & King's electrical engineering group consists of experienced project managers, engineers, designers, and technical staff capable of providing comprehensive services necessary for the design of electrical systems for governmental, institutional, commercial, and residential buildings.

Firm professionals perform field investigations, evaluations, and system condition assessments needed to design power, lighting, communications, and instrumentation systems. Firm engineers provide studies, computer modeling analyses, bid and construction documents, and cost estimates for a wide range of projects.

D&K electrical engineers work closely with owners, architects, and other professionals to develop assessments, recommendations, and energy efficient designs for new construction and renovation projects. With a focus on thorough assessment of electrical and communication system needs, decades of practical electrical engineering design expertise, and an emphasis on reduction of energy usage, D&K engineers develop electrical infrastructure that contribute to successful building projects.

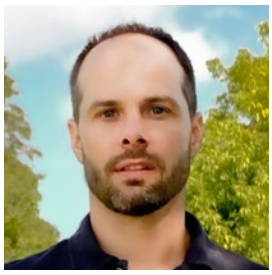
Key Staff

David Anderson, Project Manager, is a senior mechanical engineer with over 20 years of experience providing HVAC, energy, and plumbing services for commercial, resort, medical, industrial, and high-end residential and low-income residential facilities projects. He has been directly involved in all areas of project administration: initial client need definition, proposal, basis of design definition, design development and construction administration. He is knowledgeable in all aspects of MEP design, including HVAC, plumbing, piping, and controls. Projects included compressed air and nitrogen systems, specialty exhaust system, HVAC and electrical.

Alan Gould, PE, Principal/ Sr. Electrical Engineer, is the Director of D&K's Building Services Division, and manages Pearson & Associates, a division of D&K. Alan has 30 years of electrical engineering experience performing and supervising the design of electrical systems for a variety of applications, including commercial, industrial, and institutional clients. His experience includes commercial electrical design and installation, utility infrastructure design and installation, residential, healthcare, institutional, and industrial electrical installations.

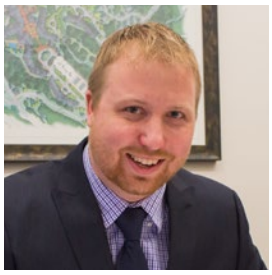
Steve Dumas, PE, Sr. Mechanical Engineer, is a mechanical engineer with 39 years of experience in project management, design, and construction administration services for projects ranging from conceptual design studies and facilities evaluations, to complex multidisciplinary design packages for multimillion-dollar projects. He has been directly involved in all areas of project administration: initial client-need definition, proposal, basis-of-design definition, design development, construction administration services, start-up/ commissioning support, and operational verification.

David Conger, PE, Sr. Civil Engineer, has 28 years of experience as a Civil Engineer and Project Manager for municipal, private, and federal clients. The Director of D&K's Site and Land Division, David's experience includes management of multidisciplinary design teams for significant term contracts and large-scale projects. His technical expertise includes stormwater utility, design, MS4 permits, an understanding of Total Maximum Daily Loads, and other engineering functions specific to the design of alternatives for stormwater management, drainage, and water quality systems. David is thoroughly familiar with the FEMA HMGP program, USACE standards, environmental permitting and NPDES stormwater program compliance.



Matt Mears, PE, Civil Engineer, has 17 years of experience with transportation, water resources, and site design projects in New England and has significant working knowledge of the following software packages: AutoCAD Civil 3D, Autodesk Storm and Sanitary Analysis, and HydroCAD. Matt has

participated as an engineer and manager in both rural and urban street/roadway design and reconstruction projects, as well as the design, permitting and implementation of many commercial and municipal site improvement projects.



Ryan Roberts, PE, Electrical Engineer, is an electrical engineer with six years of experience. His role as an electrical engineer consists of arc flash and short circuit analysis, electrical system and equipment assessments, field surveys, and design of electrical systems for all types of applications. He frequently utilizes Revit and AutoCAD software for healthcare (UVM Medical Center), educational (UVM), and industrial (Keurig) projects. He has also been working on solar designs, and assisted with the solar panels on top of the Stowe office building.

Courtney Hart, EI, Mechanical Design Engineer, has five years of experience as a mechanical engineer. She has performed mechanical design services for commercial buildings, hospitals, and hotels, and has worked on many 3D mechanical coordination projects. Courtney's responsibilities include assisting with mechanical and plumbing design and completing the mechanical Revit modeling for a variety of facilities. She is proficient in Revit, Navisworks, AutoCAD, and BIM360.

Representative Projects

Renovation, Kellogg Hubbard Library, Montpelier, VT. An Italianate-style granite building built in 1894, the Kellogg Hubbard Library is often described as the "jewel" of Montpelier. This project involved a complete restoration of the existing historic building, including seamless introductions of all new mechanical and electrical systems designed by D&K. An 8,000-SF addition was added to house the new children's library and to expand overall shelf and administrative space. Particular attention to lighting and other details maintained the historic appearance of the building.

UVM Billings Library, University of Vermont, Burlington, VT. Renovations consisted of new special collections closed stacks, special collections reading room, offices, seminar rooms, project rooms, library processing space, reading rooms, and study spaces. Firm services included schematic design, final design and construction administration. D&K provided design for electrical demolition, lighting, power, communication infrastructure, distribution, emergency lighting, and fire alarm. Estimated construction cost: $8M.

Morrisville Centennial Library, Morrisville, VT. This project involved a complete restoration of the existing 130-year-old building, including all-new mechanical and electrical systems. An elevator addition was added to provide access and to expand overall shelf space. Lighting design and other details maintained the historic appearance of the building. D&K provided mechanical and electrical design of improvements.

Hyde Park Town Office HVAC Study, Hyde Park, VT. D&K was selected to review the Town office's HVAC systems and provide recommendations for HVAC upgrades and changes to meet COVID protocols. The team completed site visit and review of current systems and provided a written report of the office's current systems and D&K's recommendations.

Mechanical Engineering Statewide On-Call Contract, NH Department of Administrative Services. Multi-year retainer contracts providing services to the Department of Public Works to address mechanical, electrical, and associated structural engineering issues for state facilities. Projects include:

- **STEAM CONVERSION PROJECT, 9 NH STATE FACILITIES, CONCORD, NH.** D&K provided civil, structural, and MEP design for the modifications of nine State of New Hampshire facilities from a citywide district steam system to a range of local heating systems,

including a new central boiler plant and a buried steam distribution system to serve select buildings. D&K designed the reconfiguration of steam delivery systems to buildings and conversion to in-house boilers. The team designed a new central steam boiler facility, which serves the State House, State House Annex, and State Library through a multiple steam vault distribution system. Waterproofing of underground structures and detailing of distribution system penetration into vaults and the existing building were designed and detailed as part of the project work. D&K designed structural elements for a new 38-ft by 52-ft single-story concrete masonry unit (CMU) building to house two steam generators serving the NHDAS campus, including pile foundations, concrete masonry unit walls, and steel-framed roof construction. Construction cost: $7.5M

References

Following are references who can speak to the responsiveness and quality of services provided by the assigned team members.

David Prince, Mechanical System Supervisor, Essex-Westford Supervisory Union
Operations, Human Resources, & Finance
51 Park Street
Essex, VT 05452
802.878.8168

Ken Bean, University of Vermont University Architect
31 Spear Street
Marsh Hall, Suite 10
Burlington, VT 05405
802.656.8753
Email: kenneth.bean@uvm.edu

Beverly Kowalik, PE, NH Department of Administrative Services
7 Hazen Drive, Rm. 250
PO Box 483
Concord, NH 03302-0483
603.271.1642; beverly.r.kowalik@das.nh.gov.

Description of work product to be delivered

Per the scope of work provided in the Town's RFP, D&K will provide the following services and deliverables.

A. Site Investigations Schematic Design – for each project: 21 Hours

1. Meetings with the Project Team and stakeholders to determine scope and coordination of each site.
2. Perform field investigations to determine existing infrastructure. This will include the site and the interior of the building.
3. Select options for the new equipment, working with fuel sources available and providing options to the owner.
4. Provide conceptual drawings for review.

B. Design Development – Content of Package determined by each Project's requirements: 23 hours

1. Attend meetings to review any changes, updates, and comments obtained from the schematic design documents.
2. Expand schematic design of renovation based on input from schematic design review.
3. Coordinate with the Town, Efficiency Vermont, and other consultants to provide an energy efficient system.
4. Develop detailed mechanical, electrical, plumbing design documents with schedules, floorplan, schematic details, and outline specifications.
5. Attend a Design Development Review meeting.

C. Construction Documents/Bidding – content of package determined by each project's requirements: 45 hours

1. Attend a design meeting(s) with the owner's representative and you to review project design and requirements for final construction documents and incorporate comments from the design development meeting.
2. Final mechanical, plumbing electrical specifications in AIA Format.
3. Electric power for mechanical equipment and/or new building doors.
4. MEP equipment schedules will be on drawings.
5. Provide stamped construction drawings for bidding and permitting purposes.
6. Attend pre-bid walk-through.
7. Answer questions from contractors concerning the project.

8. Prepare Addenda as required.
9. Prepare a limited number of bid alternates. Major bid alternates can be prepared on a time and material basis.
10. Review bids with the Town and construction manager.

D. Construction Phase Services: 46 hours

1. Make timely review of shop drawings, and other submittals of the Contractor for general conformance to design concept of the project and the construction Contract Documents.
2. Review and answer RFI's as needed.
3. Make visits, as required, to the site of construction for job meetings and to observe the progress and quality of the construction work and to determine if the work is in general conformance with the drawings and specifications. Prepare a report of site visit. A total of six site visits are included in this proposal.
4. Check that the Contractor maintains a set of as-built drawings in AutoCAD format to be submitted by the Town following construction completion. D&K will review the construction closeout documents submitted by the Contractor.

Fee Proposal

Hourly Rate Sheet

Following are hourly rates for the labor classifications that are anticipated to be engaged for this project.

Principal/Sr. Electrical Engineer:	$185
Director/Sr. Civil Engineer:	$170
Project Manager:	$145
Electrical Engineer:	$130
Civil Engineer:	$120
Senior Project Engineer/Designer:	$110
Design Engineer:	$90
Staff Engineer II:	$80
Word Processing and Clerical:	$70
Court Testimony and Depositions:	$1,500 per diem, $600 Minimum
Minimum fee for PE Stamp:	$750

Project Fee:

Schematic Design	$2,565.00
Design Development	$2,745.00
Contract Documents and Bidding	$5,925.00
Construction review	$6,660.00
Architectural Sub	$9,880.00

Project Total: $27,775.00

Client Requirements and Assumptions

D&K incorporates the scope of services in the RFP by reference as clarified by the Description of the Work to be Performed section of this document and the following:

- The portico structure is sound and no associated work is structural engineering work is required. Structural work is available as an additional service.
- Any available CAD plans of the existing facility will be provided for our use.
- Adequate power available in Library and Town Offices for potential added HVAC systems.
- D&K will have full access to all portions of the buildings for site investigation work.
- All on site investigation and meetings will be conducted during normal working hours.
- Existing conditions closely follow the drawings attached to the RFP. Any significant deviation could result in increased time.
- Environmental review or abatement will be completed by others.
- System start-up and commissioning will be completed by others. Commissioning is available as an additional service.
- Alternative designs and evaluations will be provided for the specified number of iterations as described in our Description of the Work to be Performed section of this document.
- Construction Administration & Inspection is limited to the tasks described in D. of our Description of the Work to be Performed section of this document.

Point of Contact

David Anderson, Project Manager
DuBois & King, Inc.
danderson@dubois-king.com
802-882-8789 x4907

Years of Experience: 20

David Anderson

Project Manager

Education: B.S., Architectural Engineering Technology, Vermont Technical College, 1996; A.S., Architectural Building Engineering Technology, Vermont Technical College, 1988

Mr. Anderson is a senior mechanical engineer with over 20 years of experience providing HVAC, energy, and plumbing services for commercial, resort, medical, industrial, high-end residential and low-income residential facilities projects. He has been directly involved in all areas of project administration: initial client need definition, proposal, basis of design definition, design development and construction administration. He is knowledgeable in all aspects of MEP design, including HVAC, plumbing, piping, and controls. David was responsible for facility and infrastructure projects at the seven Keurig Dr. Pepper Coffee Facility locations across the country. Projects included compressed air and nitrogen systems, specialty exhaust system, HVAC and electrical.

Burlington Public Works Offices, Burlington, VT. Senior Mechanical Engineer for HVAC and plumbing design for renovation of existing department of public works office facility. Project replaced existing roof top VAV units. Relocated and added VAVs as needed to meet the new space requirements.

Burlington Fire Station #2, Burlington, VT. Senior Mechanical Engineer for HVAC and plumbing design for renovation of sleeping quarters and shower/toilet room. New ventilation system, new roof top unit for meeting space.

Waterbury Village Water and Sewer Commissioner, Waterbury, VT. Served as the Water and Sewer Commissioner for Waterbury Village.

Burlington Fire Station #1, Burlington, VT. Senior Plumbing Engineer to complete a study of existing plumbing system to review issues with air in system and water back-up during storms. Worked with Owner and Architect to provide design for revised sanitary and storm systems within the building to alleviate issues.

Hartford School District, Various Locations in the District, VT. Project Manager working with in house resources, school district and local contractor to review school district HVAC systems and provide recommendations to meet COVID mitigation requirements. Assisted District with working with Efficiency Vermont in the evaluation of COVID funds available to assist schools in funding projects.

Rochester Elementary School, Rochester VT. Senior Mechanical Engineer. Provided HVAC system evaluation and provided recommendations to meet COVID mitigation requirements. Assisted District and worked with Efficiency Vermont in the evaluation of COVID funds available to assist the school in funding projects.

Stockbridge Central School, Stockbridge, VT. Senior Mechanical Engineering performing HVAC and plumbing system evaluation of school and associated report.

Heating Renovation, TD Bank, Montpelier, VT. Project Manager for design of a heating renovation project. The heat pump system was added to the existing back facility to provide cooling and heating. The existing electric heat was modified to provide backup heat for the facility.

National Bank of Middlebury, Middlebury, VT. Project Manager for the renovation of an existing bank facility. Work included the removal and replacement of existing air handling units and rooftop units serving the facility. New units were integrated into the existing building management system.

Timberlane Dental Group, Burlington, VT. Project Manager for renovation of an existing space to convert to a dental facility. Work included the design of a new HVAC system taking into account COVID requirements. Added a plumbing system with coordination with Patterson Dental and their system requirements.

Years of Experience: 30

Alan Gould, PE

Project Manager

Education: B.S., Electrical Engineering, University of Vermont, 1989

Registrations: Professional Engineer: VT 100299, NH 14844

Mr. Gould is the Director of D&K's Building Services Division, and he manages Pearson & Associates, a division of D&K. Alan has 30 years of electrical engineering experience performing and supervising the design of electrical systems for a variety of applications, including commercial, industrial, and institutional clients. He owned and operated a mid-sized electrical contracting firm for ten years, managing up to 20 employees. Alan has performed LEED design from Silver through Platinum along with dozens of PV solar designs from 5kVA to 2 MW throughout Vermont, New York, and Massachusetts. His experience includes commercial electrical design and installation, utility infrastructure design and installation, residential, healthcare, institutional, and industrial electrical installations.

Kellogg-Hubbard Municipal Library, Montpelier, VT. Project Manager/Sr. Electrical Engineer for the large-scale electrical renovation of a historic library, including lighting and power and distribution to replace the existing systems. The project also included security systems, fire alarm, and telecommunications.

Pope Memorial Library, Danville, VT. Project Manager for the phased renovation of a historic building, originally chartered as a state bank in 1825. Services included an MEP study and schematic design, then progressed through design and construction administration. Responsible for design for new lighting, new power design, emergency lighting, and fire alarm.

Mahady Courthouse Fire Alarm, Middlebury, VT. Project Manager for a complete removal of the existing fire alarm system and the design of a new, fully addressable, voice-evacuation, ADA compliant fire alarm system throughout the building. Services extended through the construction phase.

Middlebury Superior Courthouse Fire Alarm, Middlebury, VT. Project Manager and designer for a significant renovation and replacement of the fire alarm system throughout the historic 3-level courthouse. Responsible for electrical design and management of the consultant team through the construction phase.

Costello Courthouse, Cherry Street, Burlington, VT. Project Manager for a new back-up power generator to power the entire building, parking garage lighting renovations, and various security systems renovations.

Historic Theater Assessment and Renovation, Woodstock, VT. Senior Electrical Engineer responsible for providing a building-wide electrical systems assessment with a report identifying the code required upgrades and recommended electrical upgrades with anticipated costs.

New Town Office, Georgia, VT. Electrical Engineer and Design Project Manager responsible for electrical schematic design concepts for cost estimating to allow the town to obtain a bond for this $2M building project.

New Town Office, St. Albans Town, VT. Served as Senior Electrical Engineer and Design Project Manager for a new $3M facility that combines all Town office functions into a single building. Provided electrical schematic design concepts for cost estimating and to allow the town to obtain a bond.

Municipal Facility Assessments, Various Locations. Senior Electrical engineer responsible for assessing facilities in the following locations: (8) Addison, VT, school buildings; Danville, VT, Middle and High School; (7) Lebanon, NH, municipal buildings including library, recreation center, and airport terminal; Hardwick, VT, Historic Judevine Library.

Years of Experience: 39

Steve Dumas, PE, BCxP, CxA, LEED AP

Sr. Mechanical Engineer

Education: M.S., Mechanical Engineering, Rensselaer Polytechnic Institute, 1995; B.S., Mechanical Engineering, University of Vermont, 1982

Registrations: Professional Engineer: VT 7355, NH 16216, CT 16137 NCEES: 18-348-64; LEED Accredited Professional; CxA (Certified Commissioning Authority); Building Commissioning Professional (BCxP)

Mr. Dumas is a mechanical engineer with 39 years of experience in project management, design, and construction administration services for projects ranging from conceptual design studies and facilities evaluations, to complex multidisciplinary design packages for multimillion-dollar projects. He has been directly involved in all areas of project administration: initial client need definition, proposal, basis of design definition, design development, construction administration services, start-up/commissioning support, and operational verification. Steve provides commissioning services to a wide variety of clients and facilities primarily focusing on HVAC and specialty ventilation systems and beginning with Owner Project Requirements (OPR) development and through post-occupancy operational verification.

Essex Town Hall, Essex, VT. Senior Mechanical Engineer for boiler improvements.

Lebanon Police Department, Lebanon, NH. Project Manager to investigate HVAC systems serving the Police Department. The project included a summary of the condition of existing HVAC systems, a description of system deficiencies, an evaluation of options to upgrade and improve the equipment, an evaluation of energy conservation measures (ECMs) that will improve system operation and reduce building energy use, estimated energy savings by each ECM, and an opinion of probable construction costs for budgeting purposes to implement these measures

Morgan Orchards Senior Living Community Skilled Nursing Facility, Gifford Medical Center, Randolph, VT. Quality Control Reviewer for mechanical design of new 30,000-sf, 30-bed facility. Reviewed mechanical and plumbing plans and specifications. Project included centralized heating and cooling with 4-pipe fan-coil units, independent room HVAC, and on-site medical gas storage facility.

St. Albans State Office Building, VT BGS, St. Albans, VT. Project Manager/Engineer for an HVAC and controls upgrade to a three-story, 42,000-SF facility. Performed cost benefit/ROI analysis for all potential systems to upgrade existing building infrastructure. Developed plan and specification packages for new equipment, including energy recovery devices with integrated control sequences for new web-based system. Developed pre-purchase equipment specifications to meet the Owner's schedule. Provided complete CA services to ensure full design integration.

Mechanical Engineering Services, Statewide Term Agreement, New Hampshire Department of Public Works Design and Construction. Mechanical Services Manager working with the Department of Public Works to address mechanical, electrical, and associated structural engineering issues for HVAC for state facilities. Projects include:

- New Hampshire DOT Addition, Lancaster, NH. Project Engineer/Senior Mechanical Engineer responsible for design, construction documents, and construction administration services for a 1,500-SF office building addition. Services included design of new boiler system, hydronic system, energy recovery unit, zoned A/C units, and plumbing. Electrical design to include power, lighting controls, fire alarm, data/IT, and security system extensions.
- Steam Conversion Project, Concord. QA/QC/ Mechanical Engineer for the conversion of nine state-owned buildings from district steam to stand-alone heating systems. Provided management, and senior-level engineering to address the closing of the central steam plant within the City of Concord. This fast tracked project used variable delivery methodology.

Years of Experience: 28

David Conger, PE

Sr. Civil Engineer

Education: B.S., Civil Engineering, University of Vermont, 1992

Registration: Professional Engineer: VT 7689

Mr. Conger has 28 years of experience as a Civil Engineer and Project Manager for municipal, private, and federal clients. The Director of D&K's Site and Land Division, David's experience includes management of multidisciplinary design teams for significant term contracts and large-scale projects. His technical expertise includes stormwater utility, design, MS4 permits, an understanding of Total Maximum Daily Loads, and other engineering functions specific to the design of alternatives for stormwater management, drainage, and water quality systems. David is thoroughly familiar with the FEMA HMGP program, USACE standards, environmental permitting and NPDES stormwater program compliance.

Public Works/Fire Needs Assessment, Essex Village and Town, VT. Lead Civil/Site Engineer to work with an architect partner to review site facility needs for multiple public works and fire department sites within both the Town and Village of Essex. Provided concept reviews and schematic site designs to identify traffic circulation, material storage, parking, and fueling needs. Conceptual layouts provided for determination of needed property acquisition acreage to assist with property acquisition planning for potential future site development.

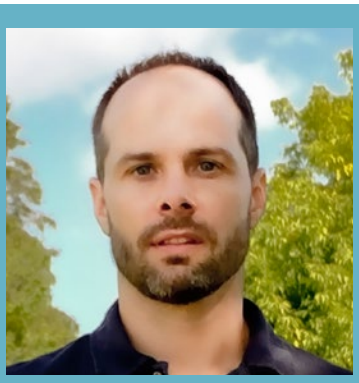
Town Hall Stormwater Ponds, Flow Restoration Plan Implementation, Williston, VT. Project Manager leading the firm's services for three stormwater ponds providing a total of 1.5 acre-feet of storage as prescribed by the Allen Brook Flow Restoration Plan. The ongoing project will accommodate stormwater entering the site from a swale and three cross culverts from Interstate 89; the pond will help the Town achieve the required TMDL goals, serving to protect Allen Brook.

Citizens Bank, Shelburne, VT. Project Manager for building assessment due to basement flooding. Due to extensive damage, investigations included demolition exposure of interior foundation walls, existing foundation drain cleaning, foundation drain camera, and test pit excavations of critical exterior system locations.

VT Stormwater Discharge General Permits. Project Manager and Engineer for the design, permitting, and construction of numerous land development projects requiring VT Stormwater Discharge General Permits. Responsible for site design modifications, site HydroCAD modeling, best management practice design, and submission of project permit applications. Individual site developments are as follows:

- Green Tree Park, South Burlington, VT. 6,000 SF Commercial building expansion.
- CAMP Precast Concrete Expansion, Milton, VT. Multi building expansion.
- Hunting Ridge, Hauke Building, Milton, VT. 72-unit residential development.
- Rutland Mall, Home Depot, Rutland, VT. 225,000 SF mall expansion with Home Depot.
- Southeast Summit, Milot Real Estate, South Burlington, VT. 200-unit residential development.
- Shelburne Road Plaza, Pomerleau Real Estate, Burlington, VT. 42,000 SF commercial expansion.
- Hannaford Plaza Supermarket, Hannaford Bros., South Burlington, VT.
- Residential Development, Greater Burlington Investment Corporation (GBIC), Milton, VT.

FRP Implementation, Sydney Drive, Essex, VT. Project Manager for conversion of an open stormwater retention pond to a subsurface manifold piping and stone retention facility with an underlying treatment media developed by University of New Hampshire Stormwater Center faculty. The project is an implementation of the Indian Brook Flow Restoration Plan and a pilot treatment study in preparation of future Lake Champlain Phosphorus TMDL requirements. Above ground, the project is designed to serve as a passive recreation area tying into a nearby park. Responsible for scheduling, budgeting, quality assurance review, and client coordination.



Years of Experience: 17

Matthew Mears, PE

Civil Engineer

Education: B.S., Civil Engineering, University of Vermont, 2004

Registration: Professional Engineer: VT 66112

Mr. Mears has 17 years of experience with transportation, water resources, and site design projects in New England and has significant working knowledge of the following software packages: AutoCAD Civil 3D, Autodesk Storm and Sanitary Analysis, and HydroCAD. Matt has participated as an engineer and manager in both rural and urban street/roadway design and reconstruction projects, as well as the design, permitting and implementation of many commercial and municipal site improvement projects.

North Country Supervisory Union Bus Maintenance Facility, Derby, VT. Project Manager for site planning and design of a new school bus maintenance facility. Work included bus turning movement analysis, grading and stormwater design, and wash bay and maintenance bay floor drain outflow discharge and storage systems. Permitting required bringing the existing Act 250, Water/Wastewater and local permits into compliance.

Central Vermont Medical Center, Various Projects, Berlin, VT. Project Engineer for multiple projects including: the recent preliminary site design for the psychiatric facility, the reconstruction of the hospital's main entrance and 700 feet of driveway, reconstruction of the main parking lot and various other parking lots, site design for the compressed natural gas distribution station, and water main and various other utility replacements. Projects all included bringing CVMC's Act 250, stormwater, and water and wastewater permits into compliance.

FRP Implementation, Sydney Drive, Essex, VT. Project Engineer for conversion of an open stormwater retention pond to a subsurface manifold piping and stone retention facility with an underlying treatment media developed by University of New Hampshire Stormwater Center faculty. The project is an implementation of the Indian Brook Flow Restoration Plan and a pilot treatment study in preparation of future Lake Champlain Phosphorus TMDL requirements. Above ground, the project is designed to serve as a passive recreation area tying into a nearby park. Responsible for design, calculations, permitting assistance, and client coordination.

New Site Development, Northfield Savings Bank Operations Center, Berlin, VT. Project Engineer for the site design and permitting of a new $4.5M, 20,800-SF office building designed for 75 employees. Site improvements include site grading, drainage, landscaping, stormwater management, parking, walkways, and water/wastewater utility services.

One Taylor Street Redevelopment, Montpelier, VT. Project Engineer for the redevelopment of the old scrap yard and train depot into a transportation and housing center.

Site Improvements, US General Services Administration Site Improvements, Champlain, NY. Project Engineer for site design improvements to the border security commercial vehicle inspection facility. The project included traffic pattern evaluation, utility extensions, stormwater management, and site grading.

Central Vermont Medical Center, Stormwater System Maintenance – Phase 1 and Phase 2, Berlin, VT. Project Engineer for stormwater collection system upgrades for the hospital's 30-inch storm main traveling under Fisher Road. The system continues through the parking area and discharges west of Woodridge Lane. The design included a study of the existing parking lot system and alternatives to trenching.

Norwich University Maintenance Facilities and Yard Renovation, Northfield, VT. Project Engineer for the site and utilities design & permitting for the construction of a pre-engineered building in Norwich's maintenance yard to serve as maintenance and storage space, an engineering/architecture lab, and temporary classrooms.

Years of Experience: 6

Ryan Roberts, PE

Electrical Engineer

Education: B.S., Electromechanical Engineering, Vermont Technical College, 2015; A.S., Electrical Engineering, Vermont Technical College, 2013

Registration: Professional Engineer: ME 16004

Mr. Roberts is an electrical engineer with six years of experience. His role as an electrical engineer consists of arc flash and short circuit analysis, electrical system and equipment assessments, field surveys, and design of electrical systems for all types of applications. He frequently utilizes Revit and AutoCAD software for healthcare (UVM Medical Center), educational (UVM), and industrial (Keurig) projects. He has also been working on solar designs, and assisted with the solar panels on top of the Stowe office building.

Pope Memorial Library, Danville, VT. Electrical Engineer for the phased renovation of a historic building, originally chartered as a state bank in 1825. Services included an MEP study and schematic design, then progressed through design and construction administration. Responsible for design for new lighting, new power design, emergency lighting, and fire alarm.

Burlington DPW 645 Pine St, Burlington, VT. Electrical Engineer for an interior office renovation project and complete building lighting replacement project.

Grand Isle Town Garage, Grand Isle, VT. Electrical Engineer for a new 9,000-SF maintenance garage.

St. Albans Town Garage, St. Albans, VT. Electrical Engineer for a new 18,000-SF maintenance garage and 6,000-SF sand and salt shed.

Georgia Town Garage, Georgia, VT. Electrical Engineer for a new 14,000-SF maintenance garage.

St. Albans Town Offices, St. Albans, VT. Electrical Engineer for a new 13,000-SF town office building.

Geokon Office Building, Lebanon, NH. Lead Electrical Engineer for the complete design of a three-story office building. Assisted with the design of the electrical design using REVIT.

194 Tilley Drive, South Burlington, VT. Lead Electrical Engineer for design services of a single-story office/commercial building. Assisted with the design of the electrical system using REVIT to LEED standards for the core shell.

Shelburne Museum, Shelburne, VT. Electrical Engineer for the design of an electrical distribution upgrade throughout the park.

VSC - Johnson State College Projects, Johnson, VT. Electrical Engineer for campus projects.

VSC - Vermont Technical College, Randolph, VT. Electrical Engineer for electrical distribution modifications.

Norwich University, Northfield, VT. Electrical Engineer for the MEP design team of a new rugby team building including team rooms, locker rooms, treatment rooms and commons space.

Bailey-Howe Facility Renovation, University of Vermont, Burlington, VT. Electrical Engineer for upgrades/additions to the lighting, power and fire alarm systems. This project received a LEED certification. Used Revit for the design.

Keurig Green Mountain Coffee P1 and P2 Building Renovation, VT. Lead Electrical Engineer for the renovation of the entire office building and cafeteria. Assisted with the design of the electrical system using REVIT.

Years of Experience: 5

Courtney Hart, EI

Mechanical Design Engineer

Education: B.S., Architectural Engineering Technology, 2015

Registrations: Engineer Intern: VT 017.0109029

Ms. Hart has five years of experience as a mechanical engineer. She has performed mechanical design services for commercial buildings, hospitals, and hotels, and has worked on many 3D mechanical coordination projects. Courtney's responsibilities include assisting with mechanical and plumbing design and completing the mechanical Revit modeling for a variety of facilities. She is proficient in Revit, Navisworks, AutoCAD, and BIM360.

MEP Services, Barry Callebaut Truck Bay, St. Albans, VT. Mechanical Designer providing mechanical and plumbing drafting and scanning for the renovations and additions to the truck bay. Responsibilities included 3D laser scanning, drafting and 3D coordination.

MEP Services, Bayview Crossing, North Hero, VT. Mechanical Designer providing mechanical and plumbing design for the new 39,000 SF multi-story senior housing building with retail and public spaces. Responsibilities included drafting and design.

MEP Services, Quail Hollow, West Lebanon, NH. Mechanical Designer assisting with the mechanical and plumbing design for the new 3-story, 32 unit apartment building including a parking garage and common spaces. Responsibilities included drafting and design.

MEP Services, St. Albans Town Hall Relocation, St. Albans, VT. Mechanical Designer assisting with the mechanical and plumbing design for the new 14,000 SF town hall building that includes meeting rooms, planning space, research space, and town official offices. Responsibilities included drafting and design.

MEP Services, Barry Callebaut Office Renovations, St. Albans, VT. Mechanical Designer assisting with the mechanical and plumbing design for the ~31,250 SF renovation and additions of the office spaces. Responsibilities included drafting and design.

MEP Services, Cottonwood Crossing Building 1 and Building 2, Williston, VT. Mechanical Designer providing mechanical and plumbing design for the new ~75,000 SF multi-story apartment buildings with retail spaces on ground level. Responsibilities included drafting and design.

MEP Services, Public Works Town Garage, Grand Isle, VT. Mechanical Designer providing mechanical and plumbing design for an 8,520 SF facility that includes office areas, maintenance, and service area with supporting equipment, and a vehicle wash bay. Responsibilities included drafting and design.

MiRRC, Middlebury, VT. Mechanical Designer responsible for Revit modeling of a new resource recovery facility. The facility will process approximately 100,000 GPD of product (with feedstock from Agrimark and Otter Creek Brewing and tanker deliveries from other sources) through a bio-reactor producing gas, with post-reactor dehydration and hydrogen sulfide (H2S) removal, to drive a 1-MW Genset. The facility will include a new 8,000-gallon receiving tank with a skid-mounted screen; three flow equalization tanks (for different product strengths); tertiary treatment, including ultrafiltration (UF), coagulant, and alkalinity control equipment; digester (bio-reactor); and post-treatment dewatering using a volute press. The facility will require a new equipment building: approximately 2,400-GSF, single-story, slab-on-grade, anticipated with sub-slab influent storage tank.

Murdough Center Renovation, Dartmouth College, Hanover, NH. Mechanical Designer responsible for 3D coordination of the renovation for the Murdough Center at Dartmouth College.