

Proposal

ROUTE ONE SOUTH INFRASTRUCTURE PLAN CONSTRUCTION DOCUMENT PREPARATION SERVICES

Town of Falmouth, Maine





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July 25, 2013

Mr. Nathan Poore
Town Manager
271 Falmouth Road
Falmouth, ME 04105

RE: RFP – Route One South Infrastructure Plan, Town of Falmouth, Maine

Dear Mr. Poore:

Fay, Spofford & Thorndike, LLC (FST) is very pleased to submit our proposal for completing the engineering services required for the Town's Infrastructure Improvements Plan along Route One in Falmouth. Planning, design, and construction phase services for municipal infrastructure improvements constitute a significant area of FST's practice. As such, we have been instrumental in working with dozens of communities throughout New England to ensure that their goals and objectives for these projects, large and small, are met. As a multidiscipline firm, FST will bring the range of expertise to address all elements of the work and the depth of resources to ensure that the project is completed in accordance with the schedule established by the Town.

We understand and appreciate the Town of Falmouth's desire to implement the roadway improvements including sidewalks, intersections, streetlights, landscaping, stormwater system and underground utility lines. FST can point to several recent projects designed with these public improvements in mind, and we will take full advantage of the lessons learned on these projects to enhance the amenities in the Town of Falmouth's Route One Corridor streetscape.

Joseph A. Laverriere, P.E. from our South Portland Office will serve as **Project Manager** for this assignment. Joe was former resident in the Town of Falmouth for more than 20 years and is very familiar with the Route One corridor. He has also completed several projects within the Town of Falmouth, including the Tidewater Farm\Tidewater Village development, which included the streetscape infrastructure improvements along Clearwater Drive. Joe has managed diverse infrastructure improvement projects for a number of Maine communities, and has the demonstrated ability to successfully manage the work of multidiscipline teams. As Project Manager, he will be the primary point of contact with the Town, and be responsible for ensuring that the work progresses on time and within budget. Joe will be assisted by a strong team of engineers experienced in designing similar roadway improvement projects in Maine, such as Main Street in Damariscotta and Newcastle and Route 1 in Yarmouth.

Fay, Spofford & Thorndike acknowledges the receipt of Addendum #1 on July 22, 2013.

We look forward to a favorable review of our qualifications and project approach, and to working with the Town of Falmouth on this important project. Please do not hesitate to contact me if you have any questions regarding our proposal.

Very truly yours,

FAY, SPOFFORD & THORNDIKE, LLC
By

William R. Moore, P.E.
Senior Vice President

PROPOSAL

FAY, SPOFFORD & THORNDIKE

July 25, 2013

Route One South Infrastructure Plan

The Town of Falmouth, Maine



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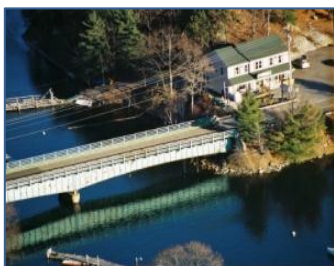
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FIRM DESCRIPTION

Fay, Spofford & Thorndike, LLC (FST) has provided comprehensive planning, design, and construction phase services for municipal infrastructure projects for almost 100 years. The great majority of our work is completed for the public sector, and New England municipalities turn repeatedly to FST to help maintain the viability of their valuable infrastructure assets.

FST is a full-service, multidiscipline consulting engineering and planning firm, founded in 1914. With offices throughout the Northeast, our corporate headquarters is located in Burlington, MA with a regional office in South Portland, ME, where this project will be managed and the majority of the work performed. FST has over 270 professionals capable of providing engineering services over a broad spectrum, including:

- Municipal engineering
- Traffic and transportation planning and engineering
- Highways and bridges
- Transportation facility planning
- Waterfront facilities
- Wastewater collection, treatment, and disposal systems
- Storm drainage
- Water supply, distribution, and treatment facilities
- Airport design
- Environmental impact document and permit preparation
- Military, municipal, commercial and industrial buildings



The professional staff at FST includes engineers, planners, and scientists with expertise in planning, design, and construction management. The staff is multidiscipline with civil, traffic, environmental, structural, marine, electrical, and mechanical engineers; landscape architects; and transportation and environmental planners.

PROJECT TEAM

FST's staff of full-time engineers and planners offers considerable depth and expertise. We are able to draw upon FST's full resources of over 270 professionals to assist as needed with the work and provide a multidiscipline array of talents.

The project team proposed by FST to work with the Town brings outstanding technical skills and a proven record of success on relevant projects. With our staff committed to this project, we are confident that our team has the depth to ensure efficient and satisfactory completion of the work. An overview of key staff members identified for this project is provided below.

William R. Moore, P.E., will be the **Principal-in-Charge**. Bill's 28 years with FST have focused on management, planning and design of transportation projects for state agencies and New England municipalities. He brings hands-on expertise both in traffic analysis and design of all elements of roadway improvements. Representative work includes his role as Project Manager for the design of reconstruction, drainage and pedestrian safety improvement Main Street in Damariscotta and Newcastle ME. He also served as Project Manager for design of traffic signal, sidewalk and drainage improvements for a 1 mile section of Route 100/26 in Falmouth. . For the Route 3 Corridor Improvements, for the City of Concord, NH, Bill served as Project Manager, which began with a comprehensive feasibility study and has continued through design and construction. Similar to the Route 1 Project, improvements to Route 3 included wider shoulders for bicycle use, grass esplanades between the roadway and sidewalks, new traffic signals and improved pedestrian crossings. Bill is currently Project Manager for the I-295 Exit 15 interchange project in Yarmouth, which is under construction and includes a 3,500 foot section of Route 1. He is currently Project Manager for design of the new Broad Street Parkway for the City of Nashua.

Our **Project Manager, Joseph A. Laverriere, P.E.** from our South Portland office has 27 years of experience and has been responsible for assignments that include review of preliminary and final design as well as permit applications for a variety of civil/site projects. His expertise includes concept planning, infrastructure analysis, civil/site design, hydraulic and hydrologic analysis. Joe was a former resident in the Town of Falmouth for more than 20 years and is very familiar with the Route One corridor. Recent relevant experience for the Town of Falmouth includes the Tidewater Farm\Tidewater Village development, which included streetscape

infrastructure improvements along Clearwater Drive, a 1,200 foot section of roadway that consisted of improvements to on-street parking, pedestrian amenities and utility infrastructure upgrades. Joe has also preformed design and construction phase services for the replacement of sanitary sewer main and service leads along lower Route 1 in Falmouth. Other relevant work includes a streetscape improvement project for 1200 feet of Main Street in Saco Maine.

As Project Manager, Joe will be the primary point of contact with the Town of Falmouth, and will be responsible for coordinating the various engineering disciplines design the project and ensuring that assignments are completed on time and within budget. Joe will also be responsible for leading neighborhood meetings.

William G. Hoffman, P.E. will provide **QA/QC** for this project. As former President of DeLuca-Hoffman Associates, Inc. before being acquired by FST, Bill provided overall design management while taking a personal interest in the development of the engineering staff and the civil and environmental engineering projects of the firm. This attention is reflected in the high quality of work provided by the firm. His expertise includes a diversified range of engineering and planning from conception through project implementation.

Mark J. Debowski, P.E. will serve as **Project Engineer**. With FST, Mark completed a number of highway and local roadway improvements under FST's on-call contract with MaineDOT. These assignments included roadway improvements in Newcastle, Damariscotta, and Falmouth, as well as improvements needed to accommodate the widening of an access road to a major cargo pier in Searsport. Other work at FST has involved, for MassDOT, design for widening a section of Route 2 in central Massachusetts, the Sagamore Rotary grade separation project in Bourne and final design of a roundabout to replace a T-intersection at a busy location on Cape Cod. Mark currently finished the designing up the I-295/Route 1 Exit 15 project in Yarmouth, ME and working on the Route 302 improvements in Bridgeton-Fryeburg for the MaineDOT. Mark will be the lead roadway designer and assist Joe with project coordination and meetings.

Handling **Drainage/Permitting** for this project will be **Robert J. Woodman, P.E.**, who is a resident of the Town of Falmouth. Rob is very familiar with the MeDEP Stormwater Law and particularly creative with the implementation of stormwater treatment systems, including underground systems as envisioned for the Route One corridor. He has performed the preparation of preliminary and final design as well as assisting with the preparation of permit applications for a variety of civil/site projects. Rob's expertise includes civil/site design, hydrologic and hydraulic analysis, and photometric analysis. Relevant experience includes the design stormwater management systems for schools, private developments, many

of which included new site circulation roadways and offsite street improvements. . He has also provided construction oversight and monitoring of the installation of these stormwater systems. Rob has also provided permitting for a number of different watershed projects throughout Maine.

Daniel P. Hallahan, P.E., LC, LEED AP, is assigned to any **Street Lighting** component of the project. He is experienced in the design and construction of medium and low voltage power distribution systems including short circuit and voltage drop studies, variable frequency drive systems, lighting systems, communication systems, fire alarm systems, and emergency power systems, including generator sizing. Relevant work includes designing new LED street lighting for the modified highway interchange and new park and ride facility at Exit 15 on I-295 and US-1 in Yarmouth. Work includes lighting calculations, fixture selection and design of the lighting power distribution system including coordinating with the electric power utility company. Dan is also working on the ornamental, period lighting design for the Broad Street Parkway project in Nashua NH.

David E. McNamara, P.E. will handle all **Utility Coordination** for this project. Dave's work at FST has concentrated exclusively on roadway planning, design, and construction projects. He brings a very strong background in working with utility companies on all types of projects, including state highways, municipal streets, airports and site facilities improvement projects for New England municipalities.. Dave led the utility coordination for the Hampton Beach, NH Infrastructure Improvement Project, which included extensive new or relocated water, sewer, gas and aerial line facilities.

Walt Woo, P.E., PTOE, Traffic Engineer, has 14 years of extensive experience as a transportation engineer, having participated in the analysis and design of dozens of signalized intersections on municipal and state roadways. He also possesses strong skills and experience in other aspects of transportation engineering, including traffic signing, pavement markings, traffic management and highway design and has also prepared numerous transportation planning studies. Recently, Walt completed the design of Route 1 pavement markings and signing for the MaineDOT's I-295 Exit 15 project in Yarmouth. Currently, he is completing the design of pavement markings, signing and five new traffic signals for the Broad Street Parkway project in Nashua NH., three of which will include ornamental period style equipment. For NHDOT, Walt is responsible for traffic engineering and signal design for improvements to the heavily travelled Route 101A corridor between Nashua and Milford, NH.

Assigned to the key role of **Pavement Design** is **William P. Scarpatti**, Pavement Design/Management Specialist at FST. Bill has considerable technical and

practical experience working with public works and engineering departments designing pavement structures for municipal streets and highways. In addition, his experience is strengthened by his extensive work developing data and implementing Pavement Management Systems in over 30 communities.

Subconsultants

Terrence J. DeWan & Associates (TJD&A) is a professional landscape architecture and planning firm in Yarmouth. The staff of eight is composed of professionals with backgrounds in land use and community planning, streetscape design, recreation planning and design, bicycle and pedestrian circulation systems, visualization techniques, public participation, permitting, and construction document preparation. Six members of the firm are licensed landscape architects.

The firm has been honored with awards from the American Society of Landscape Architects, Maine Association of Planners, the Northern New England Chapter of the American Planning Association, and the Boston Society of Landscape Architects (BSLA) for their work in community planning and design.

Tom Farmer, RLA, will serve as lead **Landscape Architect** for this project. With over 20 years of professional experience, Tom will bring to the project his expertise in streetscape related projects (design through implementation), project administration, computer aided photosimulations, community presentations, and cost estimating. Tom is on the Board of Directors and the Trails Committee of Portland Trails, and served on the Steering Committee for the Active Transportation Campaign sponsored by the Rails to Trails Conservancy. Recent projects in which Tom was the lead landscape architect include streetscape plan for Little Falls Village in Gorham and South Windham, ME, development of the Bayside Trail in Portland, ME, pedestrian and bicycle path on North Boyd Street in Portland, ME and a Village Improvement Plan in Standish, ME.

Assisting Tom will be **Matthew A. Phillips, Landscape Architect**, with over 11 years of professional experience. He is an efficient, detail-oriented professional who will assist with the preparation of plans, specifications, and presentation materials, and technical support for the project. Matt will bring to the project his expertise in project administration, site planning, landscape design, and cost estimating. His recent activities include design development for Portland's Bayside Trail, South Windham – Gorham Little Falls Streetscape Plan, and Black Bear Way at the University of Maine, Orono.

Owen Haskell Inc., with their main office in Falmouth, Maine, was started in 1964 and has become one of New England's largest full-service surveying companies.

With more than 100 years of experience, they are able to provide quality surveying services for all types of engineering and design projects. This includes highways, bridges, airports, pipelines, transmission lines, paper mills, industrial and commercial developments, as well as offering a full spectrum of services to waterfront developments, pier facilities and related rehabilitation projects.

Their expertise in surveying permits them to provide a full range of services including boundary, topographic, hydrographic, land title surveys and GPS services. Their Land Surveying staff uses cutting edge equipment and software to complete all of your projects. In the field, they use fully automated surveying equipment such as robotic total stations and data collectors for quick and easy transfer of data to PC's. Owen Haskell's uses GPS equipment, which allows them to offer other land surveying services including high precision surveying, large topo surveys and large boundary surveys.

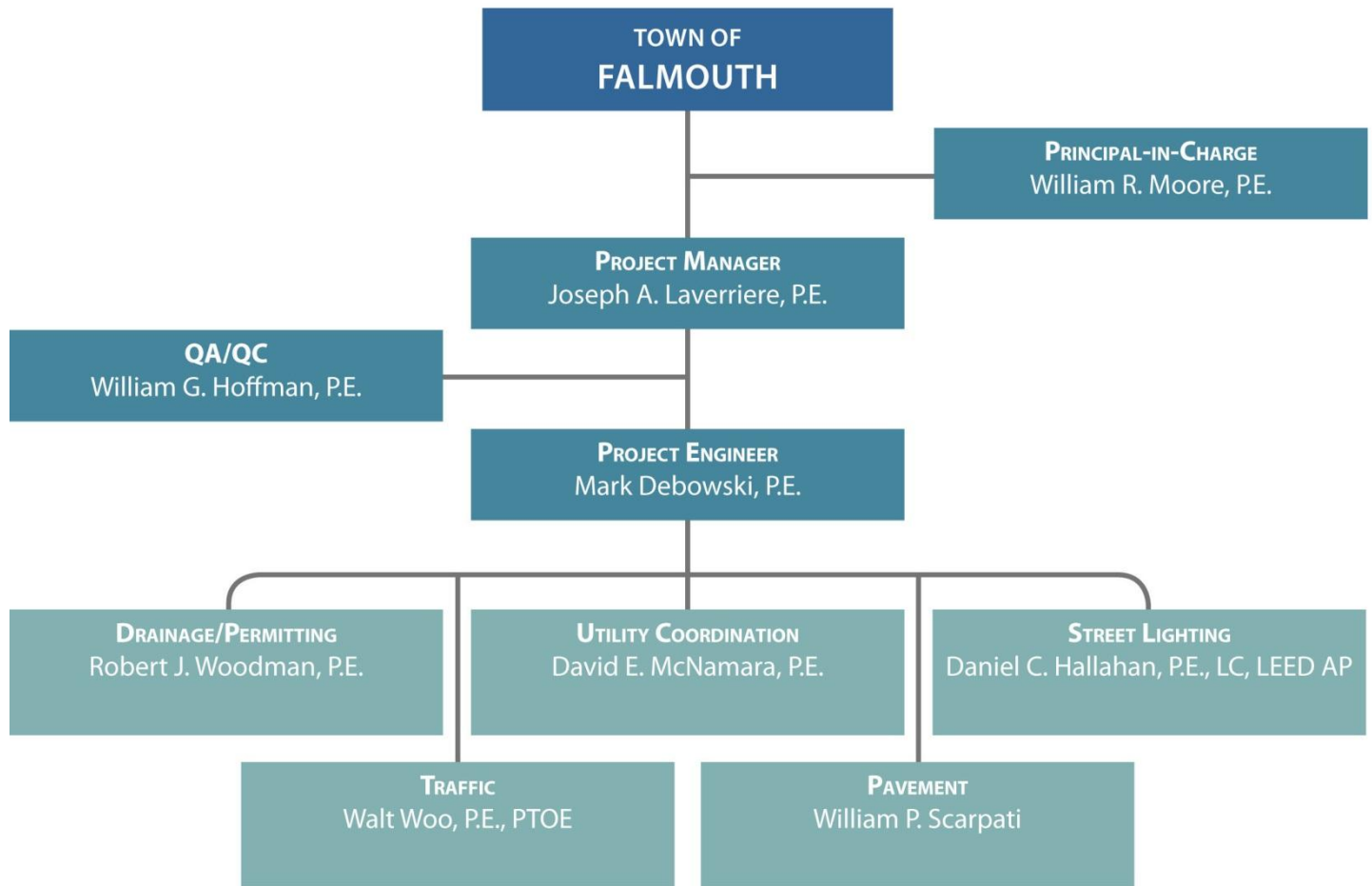
John W. Swan, Managing Principal and CFO of Owen Haskell, Inc. will handle all surveying components related to this project. John has been with Owen Haskell, Inc. for over 42 years, where he has been in charge of all survey operations and has performed boundary, topographic, design and quantity engineering surveys. He has also performed and supervised hydrographic surveys in rivers and harbors and conducted numerous surveys for subdivisions, commercial and retail sites, airports, municipal facilities and private landowners.

Assisting John will be **John C. Schwanda**, Principal and VP of Quality Assurance. John has over 34 years of experience and has been with Owen Haskell, Inc. for over 27 years. He has served as project manager and performs and supervises all phases of boundary, topographic, engineering and construction surveys. In addition to his regular survey duties, John is responsible for the implementation of the company's quality assurance program. This includes both office and field procedures as well as checking final drawings.

Also assisting John Swan will be **Ellen Brewer**, Director of Field Operations at Owen Haskell, Inc. Ellen has over 25 years of experience in the surveying field and has been with Owen Haskell, Inc. for 17 years. As the Director of Field Operations, her duties and responsibilities include scheduling and assisting field crews with computations and problem solving, researching and obtaining information from utility companies and municipalities and interfacing with field crews, clients and management to assure surveys are completed correctly in a timely manner and within budget.

On the following page is our project organization chart. Complete resumes for these individuals can be found in the appendix.

ORGANIZATION CHART



SUBCONSULTANTS



PAST RELEVANT EXPERIENCE

Both the firm and the individuals assigned to the project offer extensive experience on relevant roadway infrastructure projects. The following is an overview of completed and ongoing projects that illustrate our qualifications to perform tasks associated with this work for the Town of Falmouth.

Route 26/100 Roadway & Sidewalk Improvements, Falmouth, ME, MaineDOT

FST was asked by MeDOT to design roadway, intersection, and sidewalk improvements for a 1-mile segment of Route 26/100 in the Town of Falmouth.

This stretch of roadway is in need of repair but more importantly, measures are needed to accommodate the changing nature of the area as nearby commercial development expands. The design was completed and included two new traffic signals, wider shoulders for bicycle use and new sidewalks.

During the design process, FST worked closely with the Department of Transportation, the local residents and Town officials to develop the appropriate level of improvements. Unfortunately, due to State budget constraints the project was postponed indefinitely.



Key Personnel: William Moore, Mark Debowski

Reconstruction of Main Street, Damariscotta and Newcastle, ME, MaineDOT



FST finalized design for reconstruction of historic Main Street through downtown Newcastle and Damariscotta. Tourism during summer months is an important element of both towns' economies and strains local road and pedestrian facilities. FST's design provides new sidewalks with pedestrian amenities, sidewalk bump out areas for traffic calming, parallel parking lanes, a new period style signalized intersection, and new drainage system.



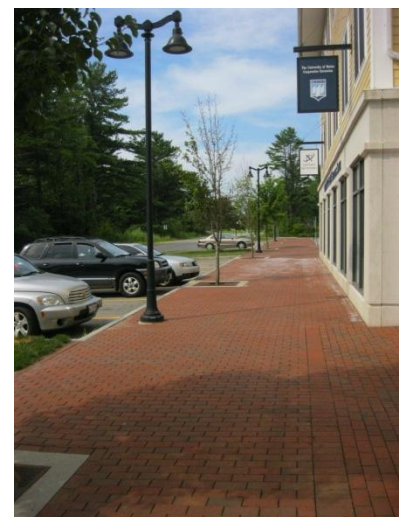
Main Street in both towns is in historic districts, and it was critical that impacts be avoided or minimized. To accomplish this, FST adopted a collaborative approach that would ensure understanding of the design issues, not only from the perspective of design standards but also from the interest of MDOT, local officials, business owners/operators, and Maine Historic Preservation Commission (MHPC) reviewers. Design of this transportation facility had to fit its physical setting; preserve scenic, aesthetic, and historical resources; and maintain safety and mobility. Standards for vehicle sizes at intersections, driveway widths, and the location and number of crosswalks were considered within the context of the historic district.

Since the project is locally considered a downtown revitalization, MeDOT directed FST to facilitate the Town's decision process and include their special requests in the project. Tasks ranged from evaluating sidewalk types and crosswalk needs to providing textured pedestrian ramps and improving access to local businesses. In addition, all project elements including traffic signal types and locations, retaining walls, and sidewalk surfaces were designed to meet Historic Commission approval.

Key Personnel: William Moore, Mark Debowski

Clearwater Drive Reconstruction, Falmouth, ME

FST staff provided design and permitting services associated with the reconstruction of approximately 1,200 linear feet of Clearwater Drive in conjunction with the mixed-use Tidewater Village Development. The project also included development of an urban streetscape setting with on-street parking, curb and sidewalk including pedestrian amenities. Utility infrastructure improvements (sewer, water, stormdrain and underground electric, etc.) were also completed to support the future development needs of Tidewater Village. The total cost of construction was approximately 1.3 million dollars.



Key Personnel: Joseph Laverriere

Main Street Streetscape Improvements, Saco, ME



FST staff provided design and construction phase services associated with the construction of approximately 1,200 linear feet of Main Street in Saco, Maine. The project was performed as part of the City's long range planning efforts to revitalize the downtown urban streetscape. The project included reconstruction of concrete and brick sidewalks, replacement of granite curb, implementation of pedestrian crosswalks, as well as integration of public streetscape amenities including unified signage, etc. Utility infrastructure improvements included installation of underground

primary and secondary electrical systems, as well as installation of a decorative street lighting system. The project required careful coordination with existing businesses throughout the construction process to minimize impacts to business operations, customer access, etc.

Key Personnel: Joseph Laverriere

Route 3 Corridor Improvements, Concord, NH



FST's work for the Route 3 corridor improvement project in Concord began with a study for improvements to a 5.4 mile stretch of this highway. The study involved preparation of improvement alternatives and their impacts/costs, monthly coordination with a project Steering Committee and neighborhood public meetings. The study cumulated with a recommendation to divide the corridor into nine priority areas that could be scheduled to meet the City's capital improvement plan. The study and its recommendations were approved by the City Council and adopted as the primary planning tool for the implementing construction projects along the corridor.

FST subsequently designed the first three segments recommended by the corridor study. Construction of the segments was completed

in the fall of 2011. Each included a new traffic signal, sidewalks, bicycle lanes, new drainage systems and bus stops. The improvements required substantial coordination with utility companies and project abutters throughout design and construction.

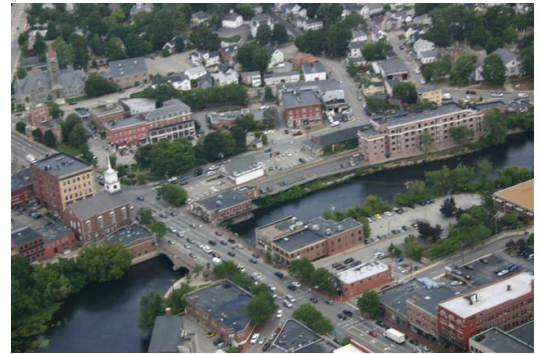


Key Personnel: William Moore

Broad Street Parkway, Nashua, NH, NHDOT

FST is preparing final design plans and specifications for the Broad Street Parkway, a project FST has held a key role for many years. The new urban arterial is a 2-mile long, 2-lane facility and will be advertised in the summer of 2013.

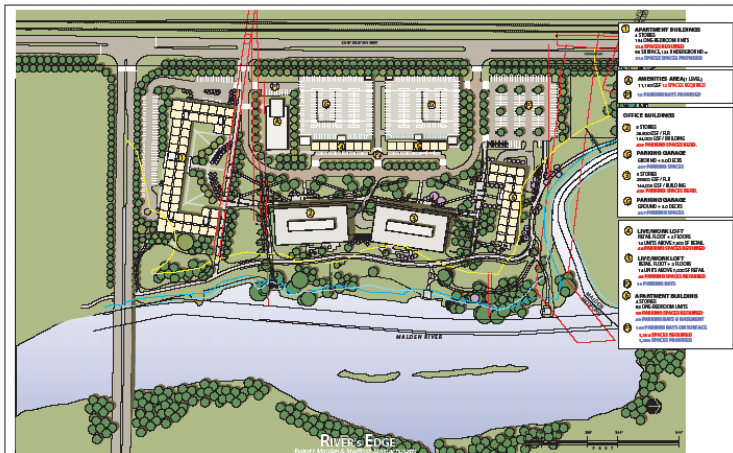
The design includes six signalized intersections, period style lighting, extensive utility relocations and pedestrian amenities. FST has coordinated with local businesses to adjust driveways and property fronts to accommodate the roadway improvements and in some cases developed designs for the owners as part of the negotiation process. Like Route 1 in Falmouth, the final design of the project has been on a fast track to meet the City' objectives to improve vehicle and pedestrian access in this vital part of the Nashua.



Key Personnel: William Moore, Mark Debowski, Dave McNamara, Dan Hallahan, Walt Woo

Rivers Edge, Malden, Medford and Everett, MA, Malden Redevelopment Authority

FST provided complete engineering services for a massive proposed development on underused land in three cities along the Malden River. A visionary project for the 21st century, this development will occupy a 200-acre site.



River's Edge was the new name for a project that had been known since 1996 as TeleCom City. Malden, Medford, and Everett formed an innovative tri-city partnership to create a regional, mixed-use technology development. As envisioned, it is one of the most significant economic development initiatives of its kind in the country. It involves several area universities, federal and state government agencies, and private companies in an

effort to reposition an abandoned, manufacturing-based economy into a new global technology-based economy. In addition to office, research, and manufacturing facilities owned or leased by telecommunications companies, it will include special facilities designed for entrepreneurs, multi-company collaborations, and for nurturing technological innovation.

This development initiative has statewide as well as national implications, in that it may serve as a model for how mature urban areas collaborate to expand their tax base and create jobs. The Mystic Valley Regional Development Commission was created to oversee the implementation of a development plan.



FST developed an urban renewal plan for the entire park. Among other elements by FST are regional, local, and onsite roadways, including examination of regional needs and roadway design, environmental documentation, and other services.

STATEMENT OF PROJECT UNDERSTANDING

The Town of Falmouth has had a long-term goal of revitalizing the Route One corridor in an effort to better define the identity of the Town and its “sense of place.” The goals of the revitalization project are to work collaboratively with the existing development (largely commercial in nature), coupled with zoning amendments to create a more mixed-use and vibrant pattern of development along the corridor that will create a more attractive village setting for the residents and visitors to the Town of Falmouth.

Understanding of Existing Conditions and Identified Areas for Improvement



The Town has performed several surveys, public meetings and planning studies to focus the vision of the Route One revitalization efforts. The “Route One South Infrastructure Plan, Existing Conditions Technical Memorandum” (dated March 2012) provides a detailed summary of the current conditions throughout the project area. As outlined in this document, there are several identified areas of improvement in the Route One infrastructure to address:

Transportation Infrastructure

1. Pedestrian sidewalks vary in materials, design and location. In addition, there are gaps in the sidewalk system that should be filled.
2. Pedestrian crosswalks vary in style and not all sidewalk curb ramps comply consistently with the ADA guidelines. It is also noted that several mid-block crosswalk exist that traverse the 40’ expanse of pavement without any center median refuge.
3. There are no specific provisions for bicycles.
4. Traffic signals are span wire design, do not include pedestrian signal phasing, and are not coordinated throughout the corridor.
5. Roadway pavement width is approximately 40’ (two 11’-6” wide travel lanes with 2’ wide paved shoulders and 13’ wide center left turn lane).

There is potential to narrow travel lanes and provide wider shoulder for traffic calming and potential bicycle lane.

6. There is potential to modify access management to abutting private properties along with driveway curb radii modifications to effectively narrow curb cut openings.

Utility Infrastructure

1. The existing sanitary sewer system has sufficient capacity. Three segments of Route One were identified as not currently having direct access to the municipal gravity sewer system. Two of these segments are within the currently developed portion of Route One; however, the existing developments have installed cross-country service mains that are currently adequate.
2. The Route One storm drain system discharges at five (5) outfall locations that are tributary to Mill Creek and Mussel Cove, which is identified as a priority watershed in the Town's Stormwater Management Plan. Currently there are no formal stormwater quality treatment measures in place within the existing Route One stormdrain system.
3. The existing water distribution system has adequate capacity.



4. The existing power and communications systems have sufficient capacity. The existing primary utilities are located above ground with a mixture of above ground and underground secondary lines providing services to the abutting properties.
5. Natural gas is currently not available within this area.

Streetscape

1. Sidewalks

Generally, the existing sidewalks are curvilinear in nature with a varying width esplanade. Many of the sidewalks do not have well-designed and safe connections to the abutting uses along the corridor.

2. **Lighting**

In general, there are no existing pedestrian scale lighting fixtures. Much of the lighting along the corridor is provided via high-pressure sodium “cobra head” fixtures mounted on utility poles, which is not aesthetically pleasing.

3. **Landscape**

The existing corridor contains extensive landscape buffering to the abutting uses.

4. **Amenities**

With the exception of sidewalks, the corridor does not contain any traditional streetscape amenities, such as benches, lights, bus shelters,



trash receptacles, bicycle racks, etc. There are several parks and public spaces in close proximity to the Route One corridor that offer an opportunity pedestrian linkages and expansion of public amenities.

5. **Wayfinding**

The existing signage along the corridor is not cluttered; however, there is no unified wayfinding signage along the corridor. The existing wayfinding signage is in poor condition and auto-oriented.

Understanding of Proposed Infrastructure Improvements

After careful review of the existing corridor conditions and future planning efforts, the Town prepared a conceptual improvement plan along the Route One South corridor. This concept plan presents the vision for the future upgrades that will create a more attractive, cohesive, functional and pedestrian friendly streetscape environment and serve as an economic catalyst for future development along the corridor. The Town’s vision for the corridor is captured in the “Route One South Concept Infrastructure Plan” (dated January 2013), which identifies the following proposed improvements:

Transportation Infrastructure

It is our understanding that this project will be constructed in 2014 in preparation of a “mill and fill” pavement overlay to be performed by MDOT in 2015. Coordination with MDOT will be necessary to ensure the center medians and catch basin grates are set to the match the final pavement grades.

1. **Pavement Markings**

Restriping of the roadway surface to create two 11' wide travel lanes with approximately 4' wide paved shoulders and center left turn lane. In addition, pedestrian crosswalks will be standardized to provide a uniform block style crossing consisting of 2' by 8' painted rectangles.

The current roadway pavement width is approximately 40' from curb to curb. The center left turn lane will likely need to be 11' to 12' in width; therefore, the shoulder width will likely need to be reduced to 3' or 3'-6" unless roadway widening and curbline adjustments are incorporated into the plan.

A temporary striping plan will be required as part of the Town's 2014 project. Final pavement markings will be performed as part of the 2015 MDOT overlay project.

2. **Traffic Signal Upgrades**

All traffic signals will be upgraded to ornamental mast arm supports with signal actuated control equipment. Potential for coordinating traffic signal operation throughout the corridor will also be considered or planned for.

The traffic signal designs will need to consider current roadway intersection geometry and attempt to provide flexibility for future intersection geometry changes that may not be completed as part of this project.

3. **Roadway/Intersection Geometry Improvements**

Intersections should be designed to incorporate pedestrian crosswalks on all approaches. In addition, two specific geometric modifications were identified:

- Eliminate and replace the dedicated right turn lane with channelized island at the intersection of Route One and Bucknam Road
- Eliminate dedicated right-turn lane entering the Wal*Mart shopping center.

4. **Median Islands**

Eleven (11) median islands are proposed throughout the corridor that will serve as traffic management and calming measures. The median islands range from flush to raised. Several of the raised median islands will also provide pedestrian refuge when located at mid-block crossings and provide opportunities for landscape plantings to improve the visual aesthetics and "greening" of the Route One corridor.

Detailed design of the center median islands will attempt to enhance the overall size of the median and incorporate durable materials to minimize long-term maintenance requirements.

5. **Driveway Modifications and Inter-Parcel Connections**

Eleven (11) driveway curb cut modifications are proposed along the corridor, which are designed to improve access management from Route One. The driveway modifications include six (6) driveway closures; two (2) driveway modifications to restrict turning movements; one (1) driveway modification to create full access; and creation of two (2) shared driveways. In addition, inter-parcel driveway connections are proposed that will enable vehicular cross traffic between parcels without the having to access Route One. Several of these inter-parcel driveway connections are essential to enabling the driveway modifications.

It is noted that the preliminary plans contained within the RFP do not graphically represent all of the driveway modifications and inter-parcel connections as contained within the January 2013 report.

It is our understanding that the Town has presented the conceptual plan to the abutting property owners and will continue to work with these owners to secure the necessary rights and easements to construct the proposed driveway modifications and inter-parcel connections.

Utility Infrastructure

1. **Sewer**

The proposed gravity sewer system will be extended approximately 500' north of Route One and Bucknam Road intersection to accommodate potential future development. The design of the gravity sewer extension will be coordinated with the Town's Wastewater Department.

2. **Stormdrain Collection and Conveyance**

The stormwater collection system will be modified to accommodate intersection improvements. Catch basin grates will be adjusted to improve bicycle safety in the shoulder and several casting grates have been recommended for replacement with cascade grates. In addition, there are three (3) critical portions of the stormdrain system that have been identified for upgrades to enlarge the pipe size and capacity of the system in order to adequately handle existing and future flow conditions.

While not specifically referenced in the report, the poor condition and need for replacement of the existing corrugated metal stormdrain pipe was discussed during the Mandatory Pre-Bid meeting. An inventory of the stormdrain pipe system was not provided; however, typical curblin drainage on MDOT roadways, such as Route One, is usually corrugated metal pipe (CMP). Replacement of the CMP pipe will require removal and resetting of the granite curb and may provide an cost effective opportunity for curblin adjustment to provide a wider shoulder for bicycle traffic.

3. **Stormwater Treatment**

The proposed stormdrain system improvements will incorporate provisions for stormwater treatment to provide water quality enhancement before discharging to Mill Creek and Mussel Cove. As currently envisioned, there will be eleven (11) treatment systems provided as part of the stormdrain improvements.

4. **Power/Communications**

The proposed improvements should consider installation of all existing aerial power and communications lines within underground duct bank systems designed by each of the franchise utility companies. It is anticipated that the new underground systems will be installed within the proposed esplanade or sidewalk areas to avoid significant utility construction within the Route One roadway surface.

It is noted that the installation of power and communications systems underground may not be part of the final construction plans. This decision is largely due to the financial implications of placing these utilities underground and will be made by the Town during the design process.

5. **Natural Gas**

Provisions for future underground natural gas will be incorporated into the proposed infrastructure improvement plan. Recently, the Towns of Falmouth, Cumberland and Yarmouth have collaborated in an RFP process to extend natural gas into each of the communities. As a result of this proposal process, it is our understanding that the communities have entered into a Memorandum of Understanding with Summit Natural Gas of Maine, Inc.

It is our understanding that the sizing of the natural gas distribution system, including any services, will be provided by the natural gas supplier. The location of the natural gas main will likely be beneath one of

the newly constructed pedestrian sidewalks; however, lateral crossings of Route One will need to be planned as part of the project to provide service to the businesses and users on the opposite side.

Streetscape Infrastructure

1. **Sidewalks**

New multi-use 10' wide sidewalks will be provided along each side of the Route One corridor. The new sidewalk will include sidewalk ramps in accordance with the ADA requirements and incorporate connections to abutting properties as well as provisions for streetscape amenities.

2. **Lighting**

The existing "cobra head" lighting fixtures will be removed and replaced with LED lighting. Decorative, pedestrian scale light fixtures will be installed along the sidewalks. In the areas where street lighting is required, such as intersections, taller lighting fixtures will be provided. In addition, opportunities for banner poles will be incorporated into the design.

3. **Landscape**

To the extent possible, the existing mature landscape vegetation will be maintained and incorporated into the new streetscape plans. Additional street trees and landscape plantings will be included within the esplanade and center raised medians to create a more attractive corridor while maintaining safe sight lines to vehicular and pedestrian activities.

4. **Amenities**

Amenities such as bicycle racks, benches and trash receptacles will be added to the proposed streetscape to improve the aesthetics and functional use of the Route One corridor.

5. **Wayfinding**

A distinctive and coordinated wayfinding signage system should be incorporated into the plan, which should be coordinated with other Town regional planning efforts.

SCOPE OF SERVICES/APPROACH

The FST Team will take a systematic approach to the project based upon the implementation of the “Route One South Conceptual Infrastructure Plan” work plan that will deliver quality construction contract documents to meet the budgetary and timing constraints as outlined in the Town’s RFP.

Our office has prepared the following scope of services for this project in accordance with the tasks outlined in the Town’s RFP:

Task 1 – Supplementary Survey

It is our understanding that the previous topographic and right-of-way survey performed by Northeast Civil Solutions (NCS) will be provided in electronic (dwg) format and will be adequate for performing the final design of the roadway and streetscape infrastructure improvements; however, supplemental survey will be required to augment this as well as obtain detailed subsurface utility information.

Once a digital copy of the NCS survey is received from the Town, then our office will review the level of detail and identify areas where supplemental topographic survey may be needed. Review of the concept plan provided in the Town’s RFP, FST has identified the following areas likely to require additional topographic survey:

- Extension of existing conditions survey along Route One north of Bucknam Road to accommodate the proposed 500’ sanitary sewer extension.
- Extension of existing conditions survey along Bucknam Road to encompass the areas associated with the proposed surface water quality treatment systems.
- Supplemental existing conditions survey in the areas of the proposed inter-parcel driveway connections.
- Establishment of the MaineDOT baseline stationing throughout the project area.
- Detailed utility survey to locate underground utility infrastructure marked-out by the utility companies (water, underground electric, underground telephone, underground communications) as well as survey location of sanitary sewer and stormdrain system appurtenant

structures (including rim and invert elevations as well as pipe sizes, materials and direction of flow).

FST will request the utility companies to mark-out the underground utilities throughout the project area as part of the Dig Safe and utility coordination process. We will perform a visual inspection of each appurtenance structure to assess the condition and need for remedial repairs so as to avoid costly changes during the construction phase. The results of this investigation will be reviewed with the Town's project team as well as the Public Works and Wastewater Departments.

Our team member, Owen Haskell, Inc. of Falmouth, Maine will complete the supplemental survey outlined above for this project.

Task 2 – Final Design Plans and Specifications

It is our understanding that the conceptual Route One South Infrastructure Plan prepared by T.Y. Lin and Woodard & Curran will be provided in electronic (dwg) format. Furthermore, it is our understanding that the previous traffic analysis and modeling performed by T.Y. Lin will be provided for use in the final design process.

In an effort to expedite the final design process, this phase of the project has been broken down into several design process steps.

Step 1 – Preliminary Design Phase

FST will prepare a preliminary design for the project that will incorporate refinements to the conceptual design as well as reflect the further design efforts for the utility infrastructure and streetscape infrastructure improvements, which will be performed in two parallel review processes. The first will be the streetscape amenities review and selection process and the second will be the technical design of the roadway and utility infrastructure improvements.

Streetscape Amenities Review and Selection Process

For the Route One project we will prepare a number of PowerPoint presentations that illustrate various elements that are still open for discussion, i.e., the lighting, amenities, bus stop treatments, surface treatments, and signage. We will use the following approach in this process that will be presented to the Town Council and CDC:

Landscape Palette. Recommendations for plantings will emphasize native, non-invasive species with low maintenance requirements. We will look for opportunities to integrate special plant collections in appropriate locations to add variety and interest to Route One, i.e. in stormwater filter areas or where abutting property owners already have significant plantings. Plantings should be selected for urban conditions: nothing fragile! Mass plantings of perennials and grasses have proven to be relatively easy to establish and may be used to provide color and seasonal interest.

Wherever possible, existing healthy trees will be preserved. New deciduous street trees will be planted approximately 30' on center, taking into consideration light poles, driveway entrances/exits, and views to business signs and facades. Street trees will also be planted in the center medians, creating a more attractive corridor while still maintaining safe sight lines for vehicular and pedestrian movements and unobstructed views of businesses.

For the Falmouth Route One esplanade and median trees, TJD&A will come up with several species that are suitable in a roadway environment. We will present our selection, with picture representations, to the Town Staff and Council in order for the Town to make a proper, informed decision.

Lighting. Of particular focus will be the options the Town has regarding the new light fixtures, poles and bases. We will prepare a pictorial slide show presentation with several LED fixtures, poles, and base variations. The options would include any advantages, disadvantages and general costs for each element. We will coordinate with the Staff and Town Council to gather input, refine the number of options, and eventually select the lights, pole heights and spacing to be used for the project. We have performed this process on several past projects and the end result is broad stakeholder acceptance, making for a successful end product.

Amenities. While sidewalks can be fully functional by themselves, certain amenities can increase their use, visibility, visual and cultural interest, and give a personality that is unique to Falmouth Route One. Amenities can include plantings for seasonal color, seating areas, interpretive signage, trail markers, directional signs (especially at intersections), artworks, and detailed surface treatments. Bus stops will receive particular attention. Benches, shelters, lighting and signing can add to the visual appeal and encourage the use of public transit. We will prepare a slide show of various amenities that may be appropriate for Falmouth Route One. Some amenities will be considered as "Add Alternates" if the construction budget allows.

Safety. One of the primary reasons the Route One improvement are being built is to provide safer routes for walkers, joggers, strollers, and others who will utilize the walkways for shopping, commuting, or recreating. Safety and visibility will be a major consideration in all aspects of the planning and design. Special consideration will be given to road crossings, driveway openings, slopes, and other challenging locations. Plantings in the center medians will need to consider pedestrian visibility especially at crosswalks and near driveway entrances/exits. Any shrub or perennial plants in the medians should be less than 24" in mature height.

Accessibility. The sidewalks and crosswalks will be accessible to all users, i.e., compliance with Americans with Disabilities Act (ADA). There will undoubtedly be challenges along the way that will be dealt with through proper grading, and detailing.

Connectivity. There will be many opportunities to connect to existing sidewalks on abutting properties to create a more convenient village setting and promote walkability. These connections from the Route One sidewalk to internal sites will be very important to the success of the project from a pedestrian viewpoint. Connections to and from the bus stops will be another important factor. Visibility, safety and convenience will be a high priority. Our team will assess internal sidewalk connections, make quick recommendations to the Town staff, and include these connections in the project, wherever feasible.

Abutters. Many of the existing trees and shrubs within the corridor have been planted by the abutting property owner and consideration should be given to their preservation or in-kind replacement. The same treatment will be given to other individual improvements that fall within the right of way, i.e., fences, gates, signs, etc. We will work with the various property owners with existing landscape and amenities within the Route One right of way that may be affected.

Wayfinding. Wayfinding is more than simply banners and directional signs. When properly conceived, environmental graphics can help set the tone for the Route One corridor as a whole. We will prepare several recommendations for a unified wayfinding signage system for the Staff and Councils consideration. As Route One is the central spine for the Town of Falmouth, there should be eye-catching and colorful signage that directs tourists and visitors to facilities along the corridor but also other parts of the town, i.e., Town Hall, the Library, Town Landing, the Public Safety building, etc. Simplicity in form, colors, and message are preferred.

Technical Roadway and Utility Infrastructure Improvement Design Process

The technical design efforts performed during the preliminary phase of the project will start with the conceptual design plan contained within the Town's RFP and refine the design based upon further engineering analysis. The major work tasks for this include:

Transportation Infrastructure

1. Traffic Sign and Pavement Markings

FST will identify locations for all proposed warning, regulatory, guide and route marker signs on a traffic signing and pavement marking plan. The disposition of all existing signs within the project limits will be noted on the plan. A separate traffic sign summary plan will be prepared showing the dimensions, colors, legends, quantities and supports for all proposed signs.

New guide signs are not anticipated to be required for this project.

FST will design and layout the roadway pavement markings. The plan will include dimensioning and stationing of proposed pavement markings.

2. Traffic Signal Upgrades

Three intersections within the Project limits, each with existing traffic signal installations, will be reconstructed:

- Route 1 at Clearwater Driver
- Route 1 at Depot Road
- Route 1 at Bucknam Road

Each existing traffic signal installation consists of traffic signals supported by span wire. Under the proposed reconstruction, the traffic signal span wires at each location will be replaced by ornamental traffic signal mast arms. FST will coordinate with the Town on the style of ornamental mast arms and poles to be used on the Project. Additionally, all traffic signal equipment, supports, control box and conduit will be replaced as part of the work. The proposed signal equipment will be staged and located such that existing equipment can remain in service until the new equipment is installed and placed into service. The new mast arms structures will be proposed in locations such that conflicts with utility lines will be avoided. The design will include new mast arms at each intersection quadrant (as is the current best practice), new L.E.D. traffic signal housings, new vehicle detectors (video). Traffic signal backplates will be proposed to further increase the visibility of each signal. The use of low mounted signal heads to supplement the heads

mounted overhead on the mast arm have also been demonstrated to increase the visibility of the signal and provide safer operations. These low mounted signal heads are typically placed on the mast arm post (as opposed to the overhead arm) or on a separate signal post.

Proposed crosswalks, at the intersections, will be supplemented by pedestrian push button detectors and pedestrian signal heads. Pedestrian signal heads will be both audible and visual and will include a countdown display, as required by the MUTCD.

FST will evaluate the location of new mast arms at each intersection and, where feasible, the mast arms will be proposed in locations set back from the roadway curbline such that, even though they are not part of the current Project scope, intersection improvements can be constructed in the future without having to relocate these traffic signal structures. A limiting factor is the length of the mast arm that can be reasonably installed.

All elements of the proposed traffic signal design at the intersection will be consistent with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD) and standard MaineDOT and industry practices, to ensure that the intersection operates in a safe and efficient manner. Signal clearance intervals (yellow and all-red) will be recalculated to determine if they are sufficient to clear vehicles out of the intersection before conflicting traffic is released.

The three traffic signals will be hardwire interconnected and coordinated. Coordination of the traffic signals is expected to minimize delays due to each traffic signal along the corridor through the synchronization of the operation of each traffic signal with adjacent traffic signals. This coordinated operation is expected to result in more efficient traffic operations along Route 1, as the objective of coordinated operations is to maximize the amount of green signal time for platoons of vehicles travelling along a corridor (and minimize the number of vehicles stopping at each intersection).

Traffic Signal Plans, at a 1"=20' scale, will be prepared for each intersection. These plans will include the proposed location of traffic signal heads, mast arms, posts, traffic detectors, pull boxes, signal conduit, traffic control cabinet and service connections. It is assumed that the soil borings for traffic signal mast arm foundations and the foundation design will be completed by the Contractor.

Traffic signal sequence and timing plans will be prepared for each of the three traffic signals. The traffic signal sequence and timing plans will include a sequence and timing chart, phasing sequence, detector operation chart, and signal head assignments.

Traffic signal coordination plans will also be provided for each of the three intersections within the project area. Coordination timing plans will be prepared for mid-day, evening and Saturday peak hours. Time-space diagrams that include the three intersections will also be prepared to support the proposed coordination settings/timings.

In order to support the development of traffic signal timing plans, FST will review and modify (as necessary) the traffic capacity model developed by the Town's consultants (as part of the conceptual design). Traffic capacity analysis used for the development of traffic signal timing plans will be summarized in a technical memorandum.

FST will collect additional Saturday peak hour traffic data to support the development of coordination data for the Saturday peak hour. FST will use these traffic volumes as inputs into the intersection traffic capacity model to develop coordination data.

3. **Roadway/Intersection Geometry Improvements**

Roadway typical sections, plans and profiles (at a 1"=20' scale), special details, notes, grading plans, geometric layout plans, and cross sections (at 50' intervals and critical locations) will be prepared for the entire project area. These plans will depict all roadway and sidewalk improvements with sufficient dimensions for construction layout. These plans will also serve as a base plan for further utility infrastructure and streetscape amenities plans.

In areas where the proposed infrastructure improvements or construction grading requirements extend beyond the public right-of-way, our office will develop deed exhibits for any affected private property that indicate the extent of temporary grading easements and/or access easements.

Because the design schedule is very aggressive, close coordination with MaineDOT and conformity to their design standards for roadway and intersection improvements are necessary. Our team has good working relationships with many people at MaineDOT and feels confident in our ability to facilitate communication between the State and Town. Also, as has been done on several highway design projects for MaineDOT, FST will

fully utilize MaineDOT's standards to develop a 3D model of the project that will be used to develop construction plans. This model can also be used during the construction period to expedite construction layout.

Intersection improvements will be fine-tuned to maximize vehicle, pedestrian, and bicycle safety and efficiency. Sight lines for all modes of transportation will be evaluated and improved where possible. Outside curb and island geometries will accommodate turning vehicles as specified in MaineDOT's design standards. Encroachment into adjacent lanes by large turning vehicles will be evaluated and minimized. Auxiliary vehicle turning lanes will be evaluated. Pedestrian cross walks, refuge areas, signage, and ADA compliant ramps will be provided in order to maximize pedestrian safety and mobility. Based upon the concept provided in the proposal, there are several intersection areas where our team can propose improvements to reduce the encroachment into adjacent travel lanes for large turning vehicles, where pedestrian safety can be improved by reducing crossing distance, and where sidewalk areas at intersection corners can be modified to enhance aesthetics and clarify intended movements for all modes of transportation.

The overall roadway width of US Route 1 outside of the intersections will remain the same. Pavement striping will be altered to provide for a safe continuous two-way left turn lane, 11' travel lanes, and shoulders with as great a width as possible.

Safe and efficient passage of the public transit system (Metro) through the project area is an important component of the overall traffic function. Intersection geometry will be designed to provide appropriate turning movements for the public transit system. Furthermore, roadway geometry modification at bus stop areas may facilitate traffic flow around stopped buses as well a visual indication of such areas to pedestrians.

Pedestrian crossings across driveways and US Route 1 at locations other than intersections will be carefully considered to improve visibility and safety.

4. **Median Islands**

The locations of the center medians will be refined based upon the final driveway modification and inter-parcel connections (discussed below). In addition, the center media layout, materials and construction details will be reviewed with the Town and MDOT.

5. Driveway Modifications and Inter-Parcel Connections

At the onset of the project, it will be important for the Town to orchestrate the scheduling of the meetings with the private property owners to review and select the driveway modifications and inter-parcel connections that will be incorporated into the final design plans. Our approach is to meet with the private property owners in groups with common inter-parcel connections as follows:

- Falmouth Veterinary Hospital and Waldo's
- Allen, Sterling & Lothrop and Falmouth Inn
- Bangor Savings, Subway\ Dunkin Donuts, 5 County Credit Union and McDonald's
- Shaw's Plaza and Bath Savings Bank

Additional private property owner meetings will need to be held as well for the isolated driveway modification proposals as follows:

- Wal*Mart and Carriage House
- Falmouth Village

To assist the Town in the effort, our office will develop traffic access and internal vehicle maneuvering diagrams for each affected property, which will be used during the private property owner meetings to articulate the proposed access changes. Our office will utilize AutoTurn software to analyze the turning maneuvering requirements for various design vehicles, including delivery and emergency vehicles. Based upon these initial private property owner meetings, the concept plan will be refined to reflect any agreed upon changes to the driveway modifications and inter-parcel connections. This is an extremely time sensitive activity as this affects the final configuration of the center median islands as well as permit amendment process with regards to Site Plan Approval and the various MaineDOT Traffic Movement Permits for several of the sites.

Once the driveway modifications and inter-parcel connections are agreed upon, then our team will refine the concept plan to reflect any changes in the roadway curbline, sidewalk and center median layout. FST will also review minor refinements to the bus stop locations with respect to the center median islands to avoid conflicts with through traffic flow patterns and recommend changes where moving a stop could be beneficial to the entire corridor without diminishing the service. In addition, the plan will also be updated to reflect further refinements to the sidewalk layout to indicate streetscape amenities planned at bus stops, etc.

During this process, our team will maintain open communications with the Town and MaineDOT for issues and areas of concern. Once this plan refinement process is complete, FST will review the updated roadway infrastructure improvement plan with representatives from MaineDOT to finalize input and concurrence on the lane widths, center medians and changes to the traffic patterns that affect sites with existing Traffic Movement Permits. Early and frequent communications should facilitate expedited approvals from MaineDOT.

Utilities

1. Sewer

FST will meet with representatives from the Town of Falmouth Wastewater Department to discuss the results of the underground utility survey, manhole inspections and the proposed sewer extension. The preliminary plan will reflect the results of these surveys, including recommendations for any remedial measures to the existing manhole structures as well as alignment for the proposed sewer extension.

2. Stormdrain Collection and Conveyance

Based upon the underground utility survey, our team will also develop a summary of the recommended improvements for the stormdrain system to replace existing corrugated metal pipes as well as remedial measures to existing catch basin and stormdrain manholes. This will also include adjustment to casting rim elevations and repair of existing castings to improve bicycle and pedestrian safety. The results of this investigation will be reviewed with the Public Works Department.

It is our understanding that the previous stormwater model prepared by Woodard & Curran will be provided for our use in performing the hydrologic and hydraulic analysis necessary to evaluate requirements for improved stormdrain system capacity that will be incorporated into the overall stormdrain system infrastructure improvement plan.

3. Stormwater Treatment

The stormdrain system design will be integrated with the proposed stormwater quality treatment measures indicated on the concept plan. Our office will also evaluate potential alternatives for providing stormwater quality treatment that may not have been considered during the conceptual design phase. It is understood that the implementation of water quality treatment measures within a confined right-of-way with closed stormdrain system is difficult and often leads to more expensive, underground treatment system; however, we will evaluate other potential

options as part of the preliminary design process in an effort to balance upfront costs with both short and long-term maintenance responsibilities.. The goal of this effort will be to assess the ability to integrate cost effective stormwater BMP measures.

4. **Power/Communications**

FST will contact each of the franchise utility companies (electric, telephone, and cable television) to review and discuss the requirements and budgetary cost for installing all overhead utilities within underground duct bank systems. It is our understanding that the utilities will provide the sizing and number of conduits along with requirements for splice and/or pull box manholes that we in turn will incorporate into the preliminary utility infrastructure improvement plan.

5. **Lighting**

Prior to starting the proposed lighting layout, the lighting designer will review the proposed roadway alignment. FST will do a site inspection and verify the physical lighting layout as compared to the new plans and record observations.

Using the roadway base plans, the lighting designer will develop lighting calculations to assure the proposed design provides sufficient illumination levels. Lighting calculations will be provided using AGI32 lighting software. Calculations will conform to the lighting design standards of the Illuminating Engineering Society of North America (IESNA) and the Maine DOT.

The lighting will be designed to minimize operating costs. LED lighting will be provided to minimize energy usage and maintenance. Lighting will be photocell and astronomic time clock controlled. Smart technology including remote monitoring and control will be discussed with the Town. Presently, smart technology is not included in the lighting design scope.

6. **Natural Gas**

A similar approach will be performed with the proposed natural gas supplier selected by the Town of Falmouth for providing service into this area. The proposed natural gas line infrastructure improvements will be incorporated into the preliminary design plans based upon external engineering design data provided by the natural gas supplier.

Upon completion of the Preliminary Design Phase, an updated set of plans along with updated opinion of construction cost will be provided to the Town, MaineDOT and the utility companies for review.

Step 2 – Final Design Phase

After receiving comments on the Preliminary Design Phase, FST will immediately begin to finalize the design and preparation of the bid documents, which will incorporate specifications and construction detail requirements provided by each of the utilities. The final design plans, specifications and engineer's opinion of cost will be provided to the Town for review and approval prior to issuance for bidding.

Task 3 – Meetings

Our team stresses community interaction throughout the process. We cannot stress enough that the community, staff and private property meetings and interaction must commence at the very beginning of this project to be successful.. The FST team is well known for its visualization techniques, which include use of photo simulations, PowerPoint presentations, and computer-generated and hand drawn graphics. For the project to move quickly through the relatively tight timeframe there will need to be highly interactive meetings with Town Staff, stakeholders, CDC and Town Council, as well as ongoing dialogues with the utilities and MaineDOT. The following is a summary of the meetings our team will perform as part of this project:

1. Twelve (12) meetings with private property owners to review driveway modifications and inter-parcel connections
2. Two (2) joint meetings with utility companies within the Route One corridor
3. Five (5) meetings with Town Council, CDC and Public as follows:
 - Two (2) meetings associated with the Streetscape Amenities Review and Selection Process during the Preliminary Design Phase
 - Two (2) meetings associated with the Technical Roadway and Utility Infrastructure Improvement Design Process during the Preliminary Design Phase
 - One (1) meeting to review and present Final Design Plan

FST will prepare formal written meeting minutes with a summary of action items for distribution to attendees and Town staff.

Task 4 – Permitting and Coordination

It is our understanding that the proposed driveway modifications and inter-parcel connections will require amending any previous approved site plan approvals from the Town of Falmouth as well as Traffic Movement Permits (TMP) issued by the MaineDOT. Furthermore, it is our understanding that the Town's approach will be to prepare joint site plan and TMP amendment applications for all affected properties. It is our understanding that the Town will prepare the majority of the permit amendment applications with technical assistance from the selected design firm.

FST will meet with Town staff to review the permit amendment applications and assist the Town with providing all necessary technical data and plans required by the Town staff. It is our understanding that plan exhibits generated from the Route One roadway improvement plan; traffic turning movement diagrams and supplemental traffic movement analysis will be necessary for this effort.

Task 5 – Bid Process

FST will provide the following services during the bid process:

- Prepare and issue legal advertisement containing the invitation to bid;
- Schedule and conduct a mandatory Pre-Bid Conference;
- Review questions or comments raised by any potential bidders during the bid process. Prepare and issue any necessary addendums to the bid documents in response to questions or comments raised by potential bidders.
- Perform a review of the bids received by the Town and prepare a recommendation of award.

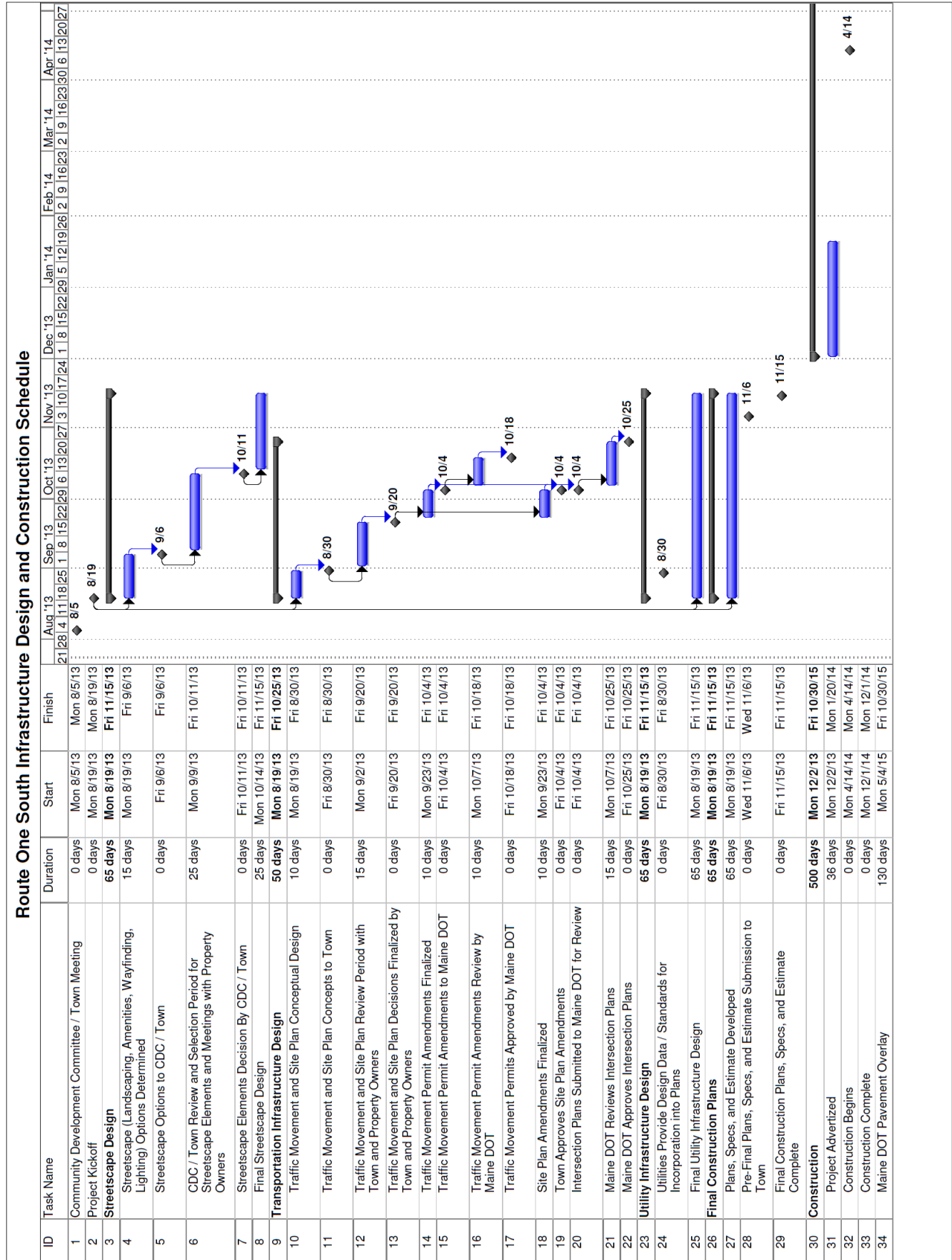
Task 6 – Construction Phase

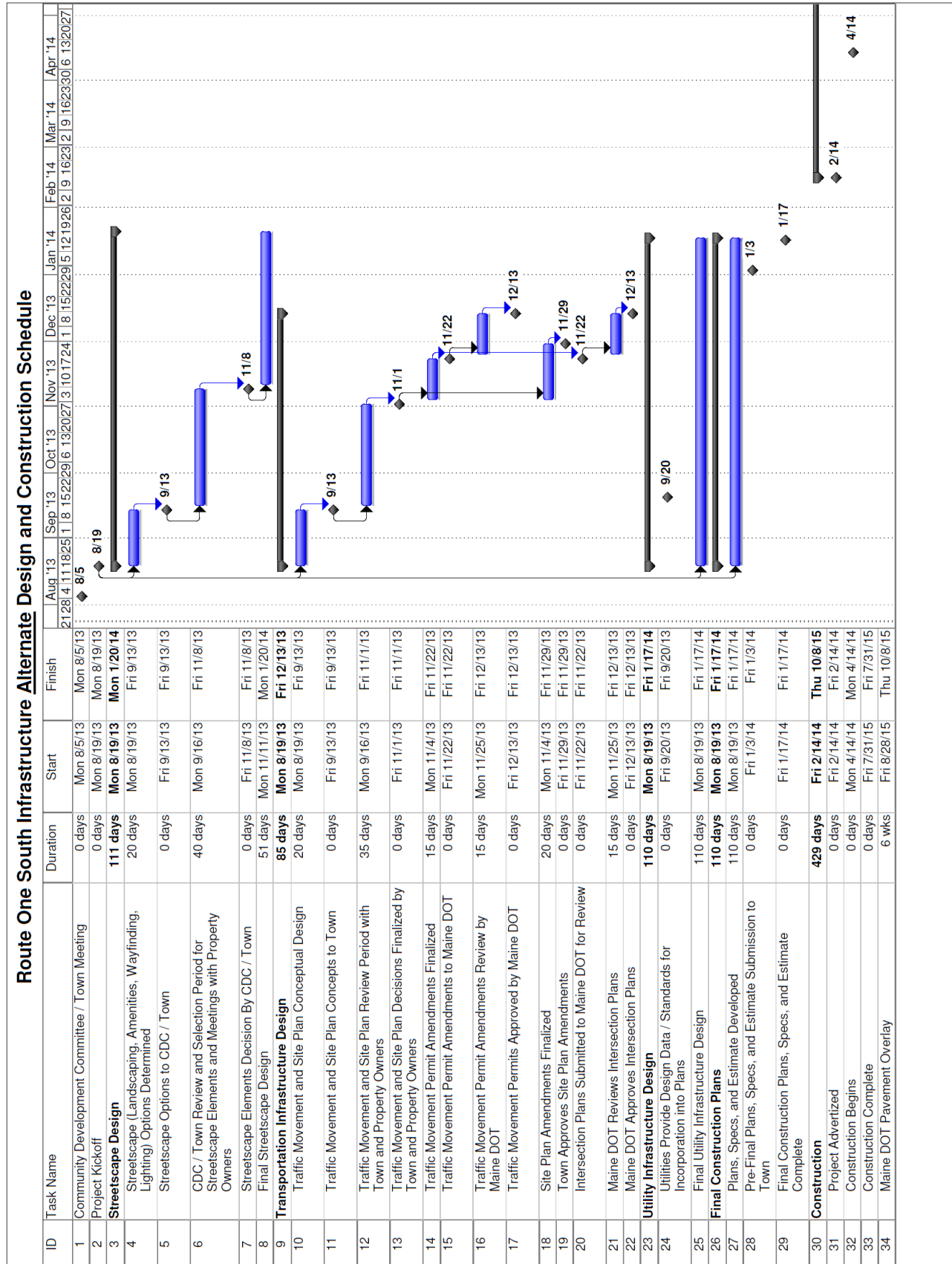
While this task has not been requested at this time, FST has the experience and staff to provide engineering support during the construction phase as well as provide part time or full time construction inspection. This effort can be added in at a later date if desired by the Town via a contract amendment or FST can provide a proposal for this effort for the Town to consider along with other proposals.

Schedule

In preparation of this proposal, FST has reached out to MaineDOT to determine if there was any flexibility in their 2015 project schedule. They are willing to work with FST and the Town to maximize the construction window for the work that the Town desires to accomplish under this proposal. The duration of the DOT project is expected to be approximately six weeks and it could start in the later part of August and still be completed before the paving window closes for the season. This extra time while not adversely impacting the DOT work, would allow more time to properly schedule and install all of the underground utility work and could potentially keep construction cost down by avoiding expensive extended days and construction element conflicts. Some of the construction elements like landscaping and sidewalk work behind the curb could be done simultaneously with the DOT work. This extended time could also provide for some additional time to work with adjacent businesses to achieve the desired outcomes of the CDC and the Town, avoiding what might seem like forced decisions and allow better design coordination and review times. The design package could still be advertised such that work would begin as early as practical in 2014, but some longer lead time materials would have the time to be delivered without impacting the completion date.

Two schedules are provided on the following pages. The first schedule illustrates the milestones that need to be met in order to have the design done by November 15, 2013. The second schedule illustrates the scenario described above to that provides more flexibility for coordination between the design, the Town staff, local businesses and utilities.





PROJECT BUDGET

As requested in the Town's RFP, FST has prepared the following fee schedule for this project, which represent a fixed-fee lump sum amount for each of the major scope work tasks:

Task 1 – Supplemental Survey \$25,000

Task 2 – Final Design Plans and Specifications \$232,550

Task 3 – Meetings \$21,400

Task 4 – Permitting and Coordination \$20,250

Task 5 – Bid Process \$15,300

Total Price \$314,550

An hourly rate sheet for each member of the FST team is contained in the Appendix

REFERENCES

Ernest Martin, Project Manager

Maine Department of Transportation
16 State House Station
Augusta, ME 04333
207.624.3381

Clearwater Drive Reconstruction, Falmouth, ME

Nathan Bateman, Vice President
Bateman Partners LLC
P.O. Box 3572
Portland, Maine 04104
207.772.2992

Pete Clark, Superintendent Wastewater Treatment Facility
Town of Falmouth
271 Falmouth Road
Falmouth, Maine 04105
207.781.5253

Main Street Streetscape Improvements, Saco, ME

Peter Morelli, Economic Development Director
City of Saco
300 Main Street
Saco, Maine
207.282.3487

Route 3 Corridor Improvements, City of Concord, NH

Edward Roberge, P.E., City Engineer
City of Concord
41 Green Street
Concord, NH 03301
603.225.8520

APPENDIX

Resumes

Years of Experience: 28

Years with FST: 28

WILLIAM R. MOORE, P.E.

PROJECT ROLE: Principal-in-Charge

Senior Vice President & Director

Bill Moore specializes in design of highways, roadways, and other civil engineering assignments. His work has concentrated on the design of major highway projects and includes extensive experience in highway geometrics; utility coordination; specifications; cost estimates and traffic studies.

EDUCATION

B.S., 1985, Civil
Engineering, Washington
State University

Route 100/26, Falmouth, ME.

Project Manager. Design of reconstruction and safety improvements for 1 mile of urban connector road, including traffic signals, sidewalks, drainage, removal of concrete pavement and shoulder widening.

Route 1B Main Street, Damariscotta and Newcastle Maine, MaineDOT.

Project Manager for intersection sidewalk and drainage improvements for the historic section of Main Street in Damariscotta and Newcastle. The project required substantial public outreach, coordination with local and State agencies and advance utility relocation to establish a buildable design. Bill led this project from its inception through construction, which was completed in the fall of 2007.

PROFESSIONAL AFFILIATIONS

Member:
Board of Directors New
Hampshire: American
Council of Engineer
Companies (ACEC)

I-295 Exit 15 Yarmouth ME, MaineDOT.

Project Manager for upgrade of Exit 15 to include a new northbound on ramp and improvements to all three of the existing ramps. Project also includes design of a 300 space park and ride lot and improvements to the Route 1 cross road to include wider shoulders and additional lanes for various turning movements. Also involves interchange and park and ride lot lighting and low impact drainage systems.

PE REGISTRATION

NH, Civil, 1995, #8750

Broad Street Parkway, Nashua, NH.

Project Manager for design of new two mile long parkway involving two bridges over the Pan Am railroad and a bridge over the Nashua River. The municipally managed project is being completed under full FHWA oversight and involves traffic signalization, high retaining walls, bio retention stormwater treatment, lighting, utility relocations, geotechnical investigations, and environmental permitting.

Route 3 Corridor Improvements, Concord, NH.

Project Manager for design, permitting, and construction services to implementation of the improvements recommended by the corridor study prepared by FST. Construction of the first two of nine segments was completed in 2010 and included two new traffic signals, sidewalks, bicycle lanes, a new drainage system and bus stops. Project involved removal and re-use of underlying concrete pavement. Improvements required substantial coordination with utility companies and project abutters throughout design and construction.

Route 101A Milford-Nashua, NH, NHDOT.

Project Manager for preliminary design for capacity and traffic calming improvements to a busy stretch of Route 101A. Design also includes upgraded traffic signals, new sidewalks and stormwater management. Project is currently being studied and designed in preparation for an upcoming Public Hearing.

FAY, SPOFFORD & THORNDIKE



JOSEPH A. LAVERRIERE, P.E.

PROJECT ROLE: Project Manager

Mr. Laverriere is the firm's Director of Engineering and Engineering Manager. He is responsible for assignment of engineering projects within the firm and directs the preparation and review of preliminary and final design as well as permit applications for a variety of civil/site projects. Mr. Laverriere's expertise includes concept planning, infrastructure analysis, civil/site design, hydraulic and hydrologic analysis.

EDUCATION

BSCE – University of Maine
Orono, ME

Clearwater Drive Reconstruction, Falmouth, ME

Design and permitting services associated with the reconstruction of approximately 1,200 linear feet of Clearwater Drive in conjunction with the mixed-use Tidewater Village Development. The project also included development of an urban streetscape setting with on-street parking, curb and sidewalk including pedestrian amenities. Utility infrastructure improvements (sewer, water, stormdrain, underground electric, telephone, communications, etc.) were also completed to support the future development needs of Tidewater Village. The total cost of construction was approximately 1.3 million dollars.

REGISTRATIONS

Licensed Professional
Engineer, Maine #7417

Active In Private Practice
Since 1986

MDOT Certified LAP
Coordinator

Main Street Streetscape Improvements, Saco, ME

Design and construction phase services associated with the reconstruction of approximately 1,200 linear feet of Main Street in Saco, Maine. The project was performed as part of the City's long range planning efforts to revitalize the downtown urban streetscape. The project included reconstruction of concrete and brick sidewalks, replacement of granite curb, implementation of pedestrian crosswalks, as well as, integration of public streetscape amenities including unified signage, etc. Utility infrastructure improvements included installation of underground primary and secondary electrical systems, as well as installation of decorative street lighting system. The project required careful coordination with existing businesses throughout the construction process to minimize impacts to business operations, customer access, etc. The total cost of construction was approximately 2 million dollars.

Route 1 Sewer Improvement Project, Saco, ME

Design and construction administration of a 9.5 million dollar sewer improvement project as part of a long range plan to provide sewer along Route 1 from the I-195 interchange to the Scarborough line. Included within this project were over 9,000 linear feet of force main, 25,000 linear feet of gravity sewer main, 7,500 linear feet of sewer and storm drain service leads, and 7,600 linear feet of storm drain. The project also included the construction of three new municipal wastewater pump stations. The overall sewer infrastructure work was performed under eight (8) separate construction contracts commencing in 1995 and completed in 2010. This project has served as a catalyst to economic development in the region along the Route 1 corridor for commercial and industrial development.

Medical Office Building, Falmouth, ME

Design and permitting assistance for a 6,000 s.f. medical office building on Lot 7 of the West Falmouth Crossing (WFC) development. The project was served by connection to existing sewer, water, and storm drain stubs installed as part of the WFC Master Development Plan. The project was designed in accordance with the design guidelines established for the WFC development.

Tidewater Farm, Falmouth, ME

Design and permitting services for a 50-unit residential development located on approximately 51 acres of land located on the Presumpscot River Estuary in Falmouth, Maine. The project included the construction of 4,600 linear feet of residential access road with curb and sidewalks along with underground utility infrastructure to support the development.

Lower Route 1 Infrastructure Improvements, Falmouth, ME

Design and construction phase services for the replacement of sanitary sewer main and service leads along eight residential streets in Falmouth. The project also included the installation of a new storm drain system designed with service leads to receive illicit inflows from residential home foundation drains and sump pumps. The primary purpose of the project was to reduce the amount of infiltration and groundwater into the sanitary sewer system. The project was completed in four phases with a total cost of construction of 1.5 million dollars.

Mill Brook Business Park, Saco, ME

Design and permitting for the development of a 70-acre business park located on Route 1 in Saco, Maine. The business park consists of the creation of 10 lots with the construction of 2,650 linear feet of access road, two water quality retention ponds, and utility infrastructure improvements. The total cost of construction was approximately 2 million dollars.

Saco Industrial Park Expansion, Saco, ME

Design, permitting, and construction administration services for the development of a 124-acre expansion to the Saco Industrial Park. The industrial park expansion consists of the creation of 24 industrial lots with the construction of 6,600 linear feet of access road, two water quality retention ponds, and utility infrastructure improvements. The new access road provides a direct connection between the existing Industrial Park Road and Portland Road (Route 1). The total cost of construction was approximately 2.5 million dollars.

WILLIAM G. HOFFMAN, P.E.

PROJECT ROLE: QA/QC

Vice President

Mr. Hoffman as President of DeLuca-Hoffman Associates, Inc. prior to May 2013 provided overall design management of the firm while taking a personal interest in the development of the engineering staff and the civil and environmental engineering projects of the firm. This attention is reflected in the high quality of work provided by the firm. Mr. Hoffman's expertise includes a diversified range of engineering and planning from conception through project implementation.

EDUCATION

BSCE, University of Rhode Island, Kingston, Rhode Island

MSCE, Rensselaer Polytechnic Institute, Troy, New York

Hydraulics and Hydrology (H&H).

Mr. Hoffman's primary interest and focus is on stormwater planning, design, permitting, and implementation. Major projects include management and design overview of H&H for the Highland Commons Project in Hudson/Berlin, Massachusetts; green infrastructure designs for commercial projects in Vermont and New York; the Ferry Creek H&H study for the redevelopment of the Raymark Site in Stratford, Connecticut; and the Sawyer Brook studies in Portland, Maine.

REGISTRATIONS

Civil Professional Engineer: Maine, New Hampshire, New York, Connecticut, Massachusetts and Rhode Island

Certified Professional in Erosion & Sediment Control

Member ASCE, ITE

Water Quality Design.

Mr. Hoffman has a strong interest in water quality for stormwater management and was involved with the Maine Department of Environmental Protection (MeDEP) in development of the Phosphorous Control Manual for lake watersheds, has completed design under the state of New York's recent green infrastructure roles, and managed several dozen water quality projects in New England and New York.

Environmental Permitting.

Mr. Hoffman has prepared full Site Location of Development Permit Applications for many projects in the State of Maine, as well as similar permit applications in other New England states and New York. The firm is well respected by the regulatory community and has received awards for environmental sensitivity. Mr. Hoffman assisted in the development of the original phosphorus control manual for the State of Maine in the 1980's, has been retained as a specialty consultant for numerous lake protection projects, and has recently been engaged on several LEEDS projects, including the East End School in Portland, Maine.

Water and Wastewater Designs.

Mr. Hoffman was the Principal for the City of Saco's Bear Brook and Route 1 Sewer and Pump Station project in Saco, was the principal author of the City of Saco's award winning Combined Sewer Overflow Abatement Plan that has now been fully implemented, consulted to the City of Portland for their combined sewer project, and has recently designed a new 1.8 MG Elevated Water Tank for the Highland Commons project. His early professional experience included the design of the Waste Treatment Plants for Cape Elizabeth, Maine.

Years of Experience: 10

Years with FST: 7

MARK J. DEBOWSKI, P.E.

PROJECT ROLE: Project Engineer

Engineer

Mark Debowski is a licensed professional civil engineer experienced in design and modeling for all aspects of roadway and highway design utilizing the latest software with expertise in Microstation and InRoads.

EDUCATION

BS, Civil Engineering, 2000,
Illinois Institute of
Technology, Chicago, IL
BA, Liberal Arts /
Engineering, 2000,
Wheaton College,
Wheaton, IL
M.Div. and Th.M., 2005,
Gordon-Conwell
Theological Seminary,
South Hamilton, MA

PE REGISTRATIONS

ME, Civil, 2001, #10940
PA, Civil, 2006, #073762
NH, Civil, 2012, #13899

PROFESSIONAL AFFILIATIONS

American Society of Civil
Engineers – Maine Section

Maine Route 100/26 Highway Improvements, Falmouth, ME, MaineDOT.

Project engineer for preliminary design for a full-depth reconstruction for 1 mile of roadway. Design work for alignment improvements, roadway widening, driveway and intersection improvements and realignment, storm sewer and culvert rehabilitation, the addition of sidewalk, and other safety improvements was completed in Microstation and MX Roads. The design process also included the design and evaluation of 4 different roadway widening alternatives.

US Route 1B Highway Improvements, Newcastle and Damariscotta, ME, MaineDOT.

Project engineer for preliminary design of 3 ½ miles of roadway reconstruction and final design for ½ mile of roadway reconstruction in a historic, urban location in order to improve drainage, parking, and pedestrian safety. Using Microstation and MX Roads, designed alignments, sidewalk, driveways, parking, drainage, fostered utility coordination, and provided design for two intersection studies which evaluated seven options including a roundabout.

US Route 1 and Belvedere Road Intersection Study, Damariscotta, ME, MaineDOT.

Design Engineer for safety improvements to a high-accident intersection along US Route 1. Performed preliminary intersection design for two alternates and final design for the selected safety improvement.

Exit 15, I-295 and US-1 Interchange and Park and Ride Facility, Yarmouth, ME, MaineDOT.

Project Engineer for final design of highway interchange and new park and ride facility. Utilizing MaineDOT's configurations of InRoads and Microstation, conducted and supervised highway design including highway and ramp designs, intersections, grading, storm water management, traffic, plan set development, cost estimate, utility coordination, and construction details.

Broad Street Parkway, Nashua, NH.

Design of 1.3 miles of new roadway and 0.7 miles of roadway reconstruction through Nashua's old millyard district for city improvement. Designed typical sections, drainage summary sheets, and completed 75% cost estimate.

Route 302 Reconstruction, Bridgton and Fryeburg, ME

Project engineer for 5.14 miles of highway reconstruction to correct deficiencies in pavement structure, improve subsurface and surface drainage, and increasing roadway safety and ride quality. The existing roadway consists of two twelve feet wide travel lanes with variable width gravel shoulders. The proposed roadway will consist of two eleven feet wide travel lanes with six feet wide shoulders.

ROBERT WOODMAN, P.E.

PROJECT ROLE: Drainage/Permitting

Mr. Woodman is a Project Engineer with DeLuca-Hoffman Associates, Inc.'s Land Design and Engineering Services Group. He performs the preparation of preliminary and final design as well as preparation of permit applications for a variety of civil/site engineering and environmental projects. Mr. Woodman's expertise includes concept design, design development and development of stormwater management systems for complex sites.

EDUCATION

BSCE – Honors Div 1 –
University of Wollongong,
NSW, Australia

REGISTRATIONS

Licensed Professional
Engineer, Maine #12442

Certified Professional in
Erosion & Sediment Control
(CPESC)

Member ASCE, IEAUST

In Private Practice Since 2004

Stormwater Management Design

Designed and experienced with several stormwater management systems from the Maine Department of Environmental Protection BMP Manual and compliant with sizing and standards in Chapter 500 including:

- Wetponds: Hospice of Southern Maine (Scarborough); Hannaford Supermarket (Buxton); Lake Region, Norridgewock, Peru & Dexter Schools.
- Underdrained Soil Filters: Fairview School (Auburn); Nortrax Expansion (Westbrook); Greely School (Cumberland)
- Infiltration: Hannaford Supermarket (Windham); Brunswick Elementary School
- Proprietary Devices: Farmington Elementary School; Intermed parking addition (So. Portland); Brunswick School, Hannaford Supermarket (Winthrop)
- Subsurface Sand Filters: Saco & Biddeford Savings (Westbrook), Hannaford Supermarket (Augusta)

Stormwater Management Systems: Construction Oversight and Monitoring

Construction oversight and monitoring of the installation of the following stormwater system:

- Brunswick Elementary School (Harriet Beecher Stowe) – System included a dry pond, 2 infiltration areas, 14 StormTreat™ units and subsurface chambers.
- Farmington Elementary School (Mallett School) – System included 8 StormTreat™ units, 3 Filterra® units, subsurface chambers and proprietary pretreatment devices.
- Parking additions at 100 Foden Road (Intermed) – System included a Filterra® unit, isolator row and detention sump.
- Long Creek Restoration Project A1-05 – Oversight of underdrained soil filter installation.
- Fairview School (Auburn) system included an underdrained soil filter and catch basin pretreatment.
- 396 County Road Expansion (Nortrax) system included an underdrained soil filter.

Involvement in Local Watershed Projects

- Assisted with the site grading and drainage, erosion control, project management, permitting and oversight/inspection for the catchment A1-05 Long Creek Restoration.
- Red Brook Watershed Project. Developed potential structural retrofit concepts for six sites within the watershed for inclusion in the preliminary Red Brook Watershed Management Plan published by the Cumberland County Soil & Water Conservation District.
- Provided guidance (design & cost) to several landowner's within the Long Creek Watershed as they made a decision whether or not to join the General Permit or to seek an Individual Permit.

Years of Experience: 13

Years with FST: 13

DANIEL HALLAHAN, P.E., LC, LEED AP

PROJECT ROLE: Street Lighting

Senior Engineer

Daniel Hallahan has experience in electrical engineering, including lighting design, power distribution, fire alarm and hazardous location electrical systems. He has extensive experience with Computer Aided Design, Lighting Calculation software and engineering systems software. Dan has design experience with lighting, wastewater and water treatment facilities, pumping stations, schools, roadways and airports.

EDUCATION

B.S., 2000, Electrical Engineering, University of Massachusetts

Exit 15, I-295 and US-1 Interchange and Park and Ride Facility, Yarmouth, ME, MaineDOT.

Lighting Engineer for the lighting component of the final design of highway interchange and new park and ride facility. Work includes lighting calculations, fixture selection and design of the lighting power distribution system including coordinating with the electric power utility company. FST, conducted and supervised highway design including highway and ramp designs, intersections, grading, storm water management, traffic, plan set development, cost estimate, utility coordination, and construction details.

PROFESSIONAL AFFILIATIONS

Member:
Illuminating Engineering Society of North America (IESNA)

Nonantum Road, Boston, Newton & Watertown, MA.

Provided decorative LED lighting layout and electrical design for Nonantum Road, approximately 1.5 miles.

REGISTRATIONS

P.E., MA, 2012, Electrical, #49860

Lighting Certified from the National Council on Qualifications for the Lighting Professions (NCQLP)

A LEED Accredited Professional (LEED AP) from the Green Building Certification Institute (GBCI)

Highway Lighting, I-93 – Medford to Woburn, MassDOT.

Electrical engineer on project involving inspection and replacement of high mast and standard pole lights along approximately six miles of highway. Work includes inspection of existing systems, photometric calculations and development of new electrical distribution systems.

Sagamore Rotary Reconstruction, Bourne, MA, MassDOT.

Electrical designer of lighting for highway interchange, parking lots, and underpass.

Cambridge St. Improvements, Cambridge, MA.

Design engineer of the street lighting power distribution system for 1½ miles of street light improvements (designed by others). Work included design of lighting control cabinets; and coordinating with the electric power utility company.

Route 101 Traffic Calming, Dublin, NH.

Designed street lighting for historic Dublin Village area. Project involved period lighting fixtures and special considerations to preserve rural night sky.

Hampton Beach Infrastructure Improvements, Hampton, NH.

Electrical designer of street lighting infrastructure on Ashworth Ave and adjacent side streets.

Cambridge Street, Boston, MA., MassDOT- Transit Division.

Provided lighting layout and electrical design for streetscape improvements at Scollay Square.

Years of Experience: 14

Years with FST: 14

DAVID E. McNAMARA, P.E.

PROJECT ROLE: Utility Coordination

Senior Principal Engineer

Dave McNamara is a civil engineer with considerable experience on roadway design, reconstruction, and site development projects.

EDUCATION

B.S., 1999, Civil Engineering,
University of New
Hampshire

PE REGISTRATIONS

NH, Civil, 2004, 11241

Broad Street Parkway, Nashua, NH.

Project Engineer for design of new two mile long parkway involving two bridges over the Pan Am railroad and a bridge over the Nashua River. David is responsible for roadway design, as well as coordinating numerous design elements, including, new bridge construction, traffic signalization, high retaining walls, bio retention stormwater treatment, lighting, utility relocations, geotechnical investigations, and environmental permitting.

Bennington Village Safety Improvements, Bennington, NH.

Project Manager for construction phase of municipally managed TE/CMAQ Program project. David oversaw FST's construction inspector, provided coordination between the Town, FST, and the NHDOT, ran weekly project meetings, provided final review for change orders, pay requisitions and Contractor RFI's.

Chocorua Village Safety Improvements, Tamworth, NH.

Project Engineer for the construction phase of Safety Improvements Project. Work entailed the addition of sidewalks, drainage, minor roadway realignment, addition of on-street parking, three retaining walls, amongst other elements. David oversaw the construction portion of the project, including inspection, submittal review, RFI responses, project meetings, Contractor pay requisitions, and change orders.

Hampton Beach Infrastructure Improvements, Hampton, NH.

Project Engineer/Chief Resident on a fast paced \$12 million modified design build sewer and infrastructure improvement project. David developed preliminary plans and cost estimates prior to becoming Chief Resident and working on-site to complete this project. While on site, oversaw construction, while completing field design to keep the project moving forward. In addition, he worked extensively with the contractor and utility companies to coordinate the work of over 20 construction crews within the Project Area. Negotiated change orders directly with the contractor, on behalf of the Town.

Route 101 Traffic Calming, Dublin, NH.

Contributing civil engineering design on project involving studies of alternatives for improving operations and safety of Route 101 through the Town Center.

Route 4 Bridge Replacement, Lebanon, New Hampshire DOT.

David served as Project Engineer and lead roadway designer for approach roadway work for this bridge replacement project. The bridge design was completed in-house by NHDOT, requiring extensive coordination efforts between FST and NHDOT. David's responsibilities expanded to include additional approach roadway and utility work for the City of Lebanon. Utility work involved sewer and water replacements, additional drainage, as well as bridge lighting.

WALT WOO, P.E., PTOE

Principal Engineer

Walt Woo has extensive practical experience as a transportation engineer, having participated in the analysis and design of dozens of signalized intersections on municipal and state roadways. He also possesses strong skills and experience in other aspects of transportation engineering, including traffic signing, pavement markings, traffic management and highway design and has also prepared numerous transportation planning studies.

EDUCATION

M.S., 2001, Civil Engineering,
McGill University
B.S., 1996, Civil Engineering,
McGill University

PROFESSIONAL REGISTRATIONS

P.E., MA, 2004, #46083

Professional Traffic
Operations Engineer, 2009

PROFESSIONAL AFFILIATIONS

Member:
Institute of Transportation
Engineers

NH Route 101A Improvements, Milford-Nashua, NH, NHDOT.

Responsible for traffic engineering design for improvements to heavily travelled Route 101A corridor between Nashua and Milford, NH. Improvements include the addition of travel lanes along Route 101A and the reconstruction of three signalized intersections. Reconstructed signals will have to be integrated into existing coordinated signal subsystems. Traffic signal timing improvements will also be made in order to account for future traffic demand on the busy Route 101A commuter and commercial corridor.

Massachusetts Avenue Reconstruction, Town of Arlington, MA.

Responsible for traffic engineering design on mile-long corridor improvement project. This Complete Streets project includes the addition of bicycle lanes and sidewalk improvements along this arterial roadway. In conjunction with these multi-modal improvements, the four signalized intersections within the corridor are to be reconstructed and the traffic signal timing reconfigured to optimize traffic flow based on reconstructed roadway geometry.

Lincoln Street Improvements, City of Worcester, MA.

Senior Traffic Engineer contributing to the design of highway and traffic improvements to Lincoln Street in the City of Worcester, MA. Oversight of overall traffic engineering design components, including pavement markings, signs, traffic signals and maintenance of traffic during construction. Ensures conformance with the latest standard traffic engineering practices.

Highland Avenue Reconstruction, Town of Needham, MA, MassDOT.

Senior Traffic Engineer contributing to preliminary design of this highway and traffic improvement project. Provided oversight for the design of the project's three signalized intersections, ensuring that the design provides safe and efficient operations and ensuring conformance with the latest standard traffic engineering practices. Technical review and input to the Functional Design Report for this improvement project.

I-495 at Route 105 Improvements, Middleborough, MA, MassDOT.

Responsible for traffic engineering on this highway and traffic improvement project. Handled design of project's two signalized intersections at the Route 105 ramps to I-495 and oversight of traffic signs and pavement marking layout. Traffic signal timings will be coordinated in order to maximize traffic flows on Route 105, while maintaining efficient processing of traffic on the I-495 off-ramps. Technical review and input to the Functional Design Report for the project.

Years of Experience: 20

Years with FST: 13

WILLIAM P. SCARPATI

PROJECT ROLE: Pavement Management

Senior Asset Management Specialist

Bill Scarpati manages FST's Asset Management Team, with 13 years of experience in pavement management systems. He handles pavement evaluations, roadway data analysis, GIS integration, report writing, and roadway program presentation. He has a strong background in inspection of Hot Mix Asphalt (HMA), pavement density testing, and soils structure analyzes. He is a licensed inspector for pavement quality assurance testing of HMA plants and paving operations. He has supervised field personnel for roadway evaluation and inspection through New England. Bill has evaluated over 1,000 miles of roadways.

EDUCATION

B.S., Civil Engineering,
Rochester Institute of
Technology, Rochester, NY,
1993

PROFESSIONAL AFFILIATIONS

Member:
American Society of Civil
Engineers

REGISTRATIONS

Massachusetts Construction
Supervisors License –
Unrestricted #069328
Nuclear Regulatory
Commission in Radiation
Safety and Use of Nuclear
Gauges CPN #23812 June
19, 1994

CERTIFICATIONS

New England Transportation
Technician Certification
Program (NETTCP) –
Certification in Hot Mix
Asphalt Plant Testing and
HMA
Paving Inspection, #474,
#964
Nuclear Regulatory
Commission

Asset Management System, Westford, MA.

Project Manager for implementation of a town-wide Pavement Management System (PMS) using Cartêgraph Software. Use of mobile data collection to gather pavement condition data.

Asset Management System, Bedford, MA.

Project Manager for the current implementation of a town-wide Roadway Management System (RMS) using Cartêgraph Software. Use of mobile data collection and video methods to gather pavement, sidewalk, curb, and ramp condition data.

Asset Management Services, Boston, MA.

Project Engineer assisting BPDW with implementation of pavement management computer technologies for ease of data management and analysis. Managing street opening permit conversion project to geo-link street opening permits to City of Boston's GIS.

Pavement Management Services, Pioneer Valley Planning Commission (PVPV).

The PVPC converted from RoadManager2000™ to CartêGraph Software, and selected FST to custom tailor and configure CartêGraph's PAVEMENTview®Plus database and migrate historical pavement management data from RoadManager2000™. Provided software training, specifically developing import/export routines and field training covering pavement distresses and why deficiencies occur.

Pavement Management Service, West Springfield, MA.

Provided pavement management software configuration, data migration, and software training. Configured CarteGraph's PAVEMENTviewPlus® decision matrix and repair alternatives to reflect West Springfield's repair policies and conducted on-site training/coaching sessions on field data collection methodology, budget analyzes, and report generation including presentation graphics.

Pavement Management, Quincy, MA.

Project Manager, conducted citywide Pavement Management Study. Included detailed pavement condition assessment and sidewalk, curb, drainage, and utility structure evaluation. In addition to producing report of findings and recommendations, all infrastructure data is geo-linked to GIS map.

THOMAS FARMER

Associate, Landscape Architect

Tom's twenty years of professional experience in Maine, New Hampshire, and Kansas includes campus planning, recreation planning, trail design, and residential and commercial site design. Tom brings to TJD&A expertise in design, project administration, contract document preparation, permitting, and construction administration.

Maine Licensed Landscape Architect #2266
New Hampshire Licensed LA #65
CLARB Certified Landscape Architect

EDUCATION

Kansas State University, BLA
 Certificate in Community and Regional Planning
 Semester abroad - Italy International Studio
 University of New Hampshire
 Associates Degree, Civil Technology

SPECIAL TRAINING

- ME State Bar Association: Permitting Environmental Projects in Maine
- MeDOT: Local Project Administration Course
- MeDOT: Bicycle/Pedestrian Design Workshop
- PACTS and MeDOT: Context Sensitive Solutions Workshop
- Muskie School: ArcView GIS Courses
- MeDEP: Stormwater Practices Design
- MeDEP: Stormwater Buffer Design
- MeDEP: Erosion Control Design
- Audubon International: Environmental Golf Course Planning and Design
- Portland Trails: Transforming School Grounds

PROFESSIONAL EMPLOYMENT

1996-Present	TJD&A, Yarmouth, ME
1993-1996	Mohr & Sereidin Landscape Architects, Portland, ME
1990-1993	Kansas State University, Campus Planning Office, Manhattan, KS
1987- 1988	Kimball Chase Inc., Environmental Engineers, Concord, NH

PROFESSIONAL AFFILIATIONS

CLARB: Council of Landscape Architects
 Registration Board. Landscape Architect
 Registration Exam grader and Scoring
 Committee
Portland Trails: Board of Trustees; Trail
 Committee

SELECTED PROJECT EXPERIENCE

Spring Street / Free Street Streetscape Plan

A redesign and revitalization plan for the auto centric, Spring St. arterial. The Final Concept Plan is designed to reduce the overall footprint of the road, slow traffic, allow for alternate modes of transportation, support potential commercial infill areas, create a pedestrian friendly streetscape, and reconnect the place with its history.

Libbytown Traffic Circulation and Streetscape Plan Portland, ME.

The Plan supports the creation of a cohesive and livable neighborhood in Libbytown, with improvements in safety and connectivity for all users of the area's transportation network, better traffic circulation, higher visibility for businesses, and a more attractive and inviting streetscape. Facilitated public participation and streetscape planning.

Little Falls Village Streetscape Improvements South Windham / Gorham, ME.

Streetscape improvements in the historic Little Falls Village to make the neighborhood more attractive, more pedestrian friendly, and act as a catalyst for private investment. The plan for this 0.8 mile corridor includes pedestrian lighting, benches, street trees, crosswalks, and signage. This project is funded through a Community Development Block Grant and scheduled for construction in 2013.

Bayside Trail, Portland, ME.

An exciting urban greenway that connects businesses and neighborhoods in Portland's Bayside District. The trail utilizes an abandoned railroad ROW from the terminus of the Eastern Promenade Trail (TJD&A designed) southwest to Elm Street, eventually connecting to Deering Oaks Park. Conceptual Design through Contract Administration.

MATTHEW A. PHILLIPS

Landscape Architect

Matt's experience has involved design, project management, construction documentation, cost estimating, and production. His project experience includes recreation, park, and trail planning, site planning for residential, commercial, and municipal properties, permitting, and computer generated photosimulations. Matt brings to TJD&A expertise in design, project administration, and contract document preparation.

Maine Licensed Landscape Architect #3221

EDUCATION

BSLA University of Massachusetts
Amherst, Cum Laude

PROFESSIONAL EMPLOYMENT

2006-Present	TJD&A, Yarmouth, ME Landscape Architect
2002–2006	Mitchell & Associates Portland, ME Landscape Designer

SPECIAL TRAINING

- MeDOT LPA: Local Project Administration Certification

SELECTED PROJECT EXPERIENCE

The Cliffside Site, The Arboretum at Fort Williams Park, Cape Elizabeth, ME

Project manager responsible for leading design committee meetings, development of site plans/details, cost estimates, construction documents, and specifications for the first of fifteen park-wide arboretum sites stressing the use of native materials.

The Cremation Garden at Holy Cross Cemetery, Yarmouth, ME

Project manager responsible for design refinement, construction documents, and implementation of a cremation garden which included a stone plaza and entry columns, walkways, benches, plantings, and 164 plots.

Spring Street / Free Street Streetscape Plan, Portland, ME

A redesign and revitalization plan for the auto centric, Spring St. arterial. The Final Concept Plan is designed to reduce the overall footprint of the road, slow traffic, allow for alternate modes of transportation, support potential commercial infill areas, create a pedestrian friendly streetscape, and reconnect the place with its history.

Little Falls Village Streetscape Improvements, South Windham / Gorham, ME

Assisted in the design and construction documents of streetscape improvements in the historic Little Falls Village. The plan for this 0.8 mile corridor includes pedestrian lighting, benches, bike racks, street trees, crosswalks, and signage.

Black Bear Way, University of Maine, Orono, ME

Development of construction documents and specifications for a new campus trail connecting athletic/recreational facilities.

Bayside Promenade Trail, Portland, ME

Development of landscape plans, construction documents, and specifications for a mile long urban greenway through Portland's historic Bayside district. The trail utilizes an abandoned railroad right-of-way.

Center Street Conceptual Sidewalk Plan, Nobleboro, ME.

A conceptual plan for a shared-use sidewalk which would connect the village center and residential areas along Old Route One.

Student Recreation and Fitness Center, University of Maine, Orono, ME

Development of landscape plans, construction documents, and specifications. Design of native wetland detention basin planting plan.

North Road Recreation Complex Master Plan, Yarmouth, ME

Working with the Yarmouth Little League and Town to develop a Master Plan for a multi-field recreation complex, which addressed renovations, additions of a softball and multi-purpose field, parking, and drop-offs.

Owen Haskell, Inc.

Professional Land Surveyors

John W. Swan

Professional Land Surveyor

Maine # 1038

EDUCATION

Army Engineer School - Fort Belvoir, VA

Topographic Surveying 1967

Westbrook College - Portland, ME

B.S. Business Administration 1982

EXPERIENCE

Owen Haskell, Inc. -

Managing Principal/CFO

1974 - 2013

In charge of all phases of survey operations.

Chief of Party

1969 - 1974

Performing boundary, topographic, hydrographic, design, quantity, and engineering surveys

U.S. Army - Chief of Party and Field Chief

1967 - 1969

Running horizontal and vertical control in Ethiopia & Arizona

PROFESSIONAL MEMBERSHIPS

Maine Society of Land Surveyors (M.S.L.S.) - Past President

1987

NSPS - Area Director

1991-1997

NSPS Foundations, Inc. Trustee

2000 - 2013

National Society of Professional Surveyors

Current

PAPERS PRESENTED

Maine Society of Land Surveyors Case Studies "Water Rights"

2011

Maine Bar Association "Land Development Start to Finish"

2004

Maine Society of Land Surveyors, "Case Study Seminar"

1988

Maine Bar Association, Real Estate Law Conference -

1987

"Surveyors Reports and Title Insurance"

Owen Haskell, Inc.

Professional Land Surveyors

John C. Schwanda

Professional Land Surveyor

EDUCATION

Bachelor of Science/Forestry
University of Maine

ACTIVE REGISTRATIONS

Professional Land Surveyor	Maine #1252
Professional Land Surveyor	New Hampshire #826
Professional Land Surveyor	Massachusetts #31322
Professional Land Surveyor	Connecticut #70004
Professional Forester	Maine #881

PROFESSIONAL EXPERIENCE

Owen Haskell, Inc - 1985 to Present
Principal and Vice President of Quality Assurance

Mr. Schwanda has over 43 years of experience in this field. He serves as project manager and performs and supervises all phases of boundary, topographic, engineering and construction surveys.

PROFESSIONAL MEMBERSHIP

Maine Society of Land Surveyors (MSLS)
National Society of Professional Surveyors (NSPS)

Owen Haskell, Inc.

Professional Land Surveyors

Ellen C. Brewer

Director of Field Operations

EDUCATION

A.S. Civil Engineering Technology
Vermont Technical College

B.S. Natural Resources/Soil & Water Conservation
University of Maine, Orono

ACTIVE REGISTRATIONS

Professional Land Surveyor Maine #2367

PROFESSIONAL EXPERIENCE

Owen Haskell, Inc - 1995 to Present
Director of Field Operations

While attending college, Ellen was employed at the University of Maine at Orono in the Natural Resource Conservation Service, where she compiled and edited survey maps for the State of Maine, edited stream profiles and worked with soil scientist in the field.

PROFESSIONAL MEMBERSHIP

Maine Society of Land Surveyors (MSLS)

Hourly Rate Sheets

Fay, Spofford & Thorndike - Billing Rates

Principal-in-Charge	\$136.76
Project Manager	\$136.76
Design Engineer	\$108.38
Engineer	\$83.42
CADD Tech	\$67.62
Admin	\$67.72

BILLING RATES January 2013

Terrence J. DeWan & Associates

Principal	\$155 / hour
Sr. Associate	\$130 / hour
Associate	\$98 / hour
Landscape Architect	\$55 - \$80 / hour
Landscape Designer	\$65 / hour
Administrative	\$48 / hour

Expenses	5% of Labor
Out of Office Expenses	At Cost
Past Due Bill Charge	1.5% per month

Consultant fees	At Cost
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In an effort to keep our overhead to a reasonable rate, direct job-related expenses are computed at 5% of labor costs. Included in this amount are normal charges for copying, local mileage, print photography, postage, couriers, reprographics, job-related supplies, and telephone. Out of office expenses include overnight accommodations, auto and aircraft rentals, and special project expenses (e.g., model-building supplies, large print orders).

Please note that projects may be subject to annual personnel hourly rate increases.

Owen Haskell, Inc.

Professional Land Surveyors

Basis of Compensation Schedule

2013

Hourly Rates:

Principal Services:

Project Development & Special Consulting

John W. Swan, President	\$ 85.00
John C. Schwanda, VP	\$ 85.00

Basic and Additional Services:

Project Production & Management

Project Manager	\$ 75.00
Staff Land Surveyor	\$ 70.00
LSIT	\$ 60.00
CADD Technician	\$ 60.00
Survey Technician	\$ 55.00
Office	\$ 30.00

Miscellaneous Charges:

5/8"x 36" Iron Rods (boundary marker)	\$ 3.00 per marker
Granite Monument	\$ 30.00 per monument
Photocopies	\$ 5.00 per copy
Mylar	\$ 25.00 per copy
Deed Copies	\$ 1.50 per page
Overnight Charges	\$ 25.00 Standard/ \$ 45.00 Priority

NOTE: Other miscellaneous charges such as highway tolls, supplies not ordinarily carried in stock, and living expenses for out of town jobs will be billed at cost plus 10%. For projects over 20 miles from the office, travel time will be charged at the above hourly rates. Travel time will also be billed for jobs that require partial days in the field.