

January 24, 2019

Maurice Goulet
Superintendent of Public Works
55 North Meadows Road
Medfield, MA 02052
mgoulet@medfield.net

Re: **Danielson Mill Dam**
Evaluations & Design of Repairs
Medfield, Massachusetts
(PARE Proposal No. MP097.18)

Dear Mr. Goulet:

In response to your request, Pare Corporation (Pare) is pleased to provide the Town of Medfield, Massachusetts (Client) with this Technical Proposal for the completion of evaluations and development of repair designs for the Danielson Mill Dam. This proposal is subject to the attached Terms and Conditions, which are an integral part of this proposal.

The scope of the work is intended to complete an evaluation of the dam to support the development of rehabilitation/repair plans for the dam. Pare understands that the Town intends to self-perform the construction activities with specialty work items to be contracted directly by the Town. For the purposes of this proposal, Pare assumes that the scope of the repair work will include complete replacement of the existing spillway with a pre-cast concrete box culvert and control section, regrading and providing slope protection along the upstream slope, and tree removal with regrading of the downstream slope.

The proposed work will be in accordance with current state dam safety regulations (302 CMR 10.00 and M.G.L. Chapter 253).

SCOPE OF WORK (Basic Services)

The following scope of work presents the anticipated effort to undertake the proposed evaluations and designs.

Task 100: Project Kickoff & Data Collection

Prior to the Project Kick Off, Pare will review readily available information for the dam including previous inspection reports provided to Pare by ODS and a variety of other online resources. The intent of the data review is to evaluate and organize available data pertaining to the project and to develop a better understanding of the existing conditions at the dam and through the study area.



Upon completion of the data review, Pare's Project Team will attend a kick off meeting with the Town to

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initiate the project and to discuss the project components and pertinent project information. Based upon past experience, Pare has found that this type of meeting is invaluable for establishing project expectations and to understand the Town's ultimate goals for the site.

As part of the kickoff meeting, Pare will work with the Town to develop a project implementation schedule. Upon establishing a project schedule, Pare will submit the schedule and scope of work to ODS for approval and request appropriate revisions to the deadlines as provided for within the Dam Safety Order.

Wetland Delineation and Report: Pare will review available data and will delineate the regulated resource areas anticipated to be affected by the dam repairs. The delineations will be performed in accordance with the current delineation criteria set forth in the Regulations of the Massachusetts Wetlands Protection Act and will be consistent with the Regional Supplement to the U.S. Army Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0). Based on our current understanding of the project area, the resource areas to be delineated are expected to include the Banks of the pond and the downstream river, and Bordering Vegetated Wetlands (BVW) in the vicinity of the dam. Pare will locate wetland flags using a handheld GPS unit with sub-meter accuracy. The limits of 100-year floodplain (Bordering Land Subject to Flooding) will be determined based on Federal Emergency Management Agency (FEMA) flood data. Pare will document the wetland delineation in a letter report that will include a description of the site and wetlands, a site location map on USGS base, an annotated aerial photograph, a copy of the FEMA Flood Insurance Rate Map, ground level photographs, and ACOE wetland delineation forms. The wetland delineation report will be suitable for use in permitting documents.

Topographic/Bathymetric Survey: To facilitate the evaluations and enable the development of construction plans, Pare will coordinate the services of a licensed professional surveyor to prepare an existing conditions survey of the dam and surrounding area. The surveyor will conduct an on the ground field survey along the length of the structure. The survey will also include a minimum of 50 feet beyond the downstream toe of the embankment and bathymetric survey within the area approximately 50 feet upstream of the dam. The scope of the survey will:

- Establish survey control referenced to the State Plane Coordinate System and vertically on a pre-determined datum.
- Conduct a field survey for the land portion of the project collecting sufficient data to produce 1-foot contours as well as locate property lines, physical features, walls, controls, and other structures.
- Locate trees (6" or larger) on the embankment and within 10 feet of the embankment limits.
- Locate property lines in the vicinity of the dam, potential staging areas, and access routes.

Utilizing the survey data, Pare will develop an existing conditions plan. The plan will be incorporated into a Design Basis Report (DBR) and will be the base drawing used to develop the drawings for the repairs. All drawings will be completed in AutoCAD Civil3D. Drawing will be provided to the Town in both PDF and AutoCAD format.

Subsurface Exploration Program: Pare will complete a subsurface exploration program consisting of up to three borings advanced to 15 feet below the base of the embankment (30 feet maximum below the dam crest) with continuous sampling performed through the embankment fills and at 5 foot intervals thereafter. The borings will be completed through subcontract by a drilling contractor licensed to drill in Massachusetts and experienced in the exploration of earthen dam embankments. The following table summarizes the intent of the each boring:



Boring Number	Location	Depth	Purpose
B-1	Dam crest left of the spillway	30 feet or less	Embankment and foundation soils; Phreatic surface; consistency
B-2	Upstream edge of dam crest right of the spillway	30 feet or less	Embankment and foundation soils; Phreatic surface
B-3	Downstream edge of the dam crest right of the spillway	30 feet or less	Embankment and foundation soils; Phreatic surface

One of the borings will be converted to a groundwater observation well to provide a means by which to monitor the level of the phreatic surface within the embankment. The remaining borings will be grouted upon completion. The subsurface exploration is anticipated to require one day to complete; should conditions encountered during the advancement of the explorations limit production, the program will be field modified to collect data in support of the embankment evaluations while maintaining the proposed schedule.

Pare will provide a field engineer to classify the samples retrieved during the sampling procedures, and to generally coordinate the subsurface exploration program. Pare will prepare typed logs of the test borings for incorporation into the evaluation report.

Pare will evaluate the data of the subsurface explorations and identify issues that may suggest instability of the embankment or structures. Data collected as part of the investigations will be incorporated into the report and will be utilized in the development seepage and stability analysis as well as the alternatives for improvements to the dam.

A track mounted drill rig is anticipated to be used by the drilling subcontractor to limit pressure applied to the concrete slab spanning the spillway; planking will also be provided to further distribute loading. Access to the dam will be via the existing gravel roadway on the left abutment.

Task 200: Seepage & Stability Analyses

Based upon the data collected during the site investigations and survey tasks, combined with cross sectional information for the dam obtained from the survey, a stability analysis will be completed for the dam utilizing GeoStudio software suite. This evaluation will assess the long-term stability of the embankment, need for improvements to the embankment cross sections, and expected performance under the required loading condition. Modeled properties, application assumptions, and findings will be detailed in the final report. If deficient conditions are identified, a minimum of two repair alternatives will be conceptually identified and reviewed to address the noted deficiencies.



Slope Stability Analysis: As part of the stability analysis, Pare will develop soil properties for each of the stratum identified as part of the subsurface exploration program. Soil properties will be based upon published technical references and soil gradations determined through sieve analyses of samples collected during the exploration program. Based upon results of subsurface explorations, Pare will analyze the embankment stability in accordance with 302 CMR 10.14(9)(b). Loading cases will include steady state maximum pool, steady state normal pool, rapid drawdown, and earthquake loading. One cross section which represents the critical external slope geometry will be identified for evaluation for each the upstream and downstream slope. This cross section will likely be a combination of the critical embankment sections right of the spillway.

Seepage: Pare will evaluate the embankment performance in relation to seepage at the dam through the use of finite element analysis in GeoStudio Seep/W software. An understanding of the seepage characteristic of the embankment is critical to evaluation of the embankment. The analysis will be based on embankment and foundation soils information collected as part of the subsurface exploration program, records of the phreatic surface including those anticipated to occur under maximum pool conditions, and the embankment geometry determined through survey and existing data. The model will be calibrated by taking into account available seepage data. One cross section at the apparent critical external geometry of the embankment will be identified for evaluation. This cross section will likely be a combination of the critical embankment sections right of the spillway.

The analyses will be completed using steady state conditions (i.e. steady maximum pool, instantaneous drawdown) as these conditions are conservative.

Stability Analysis of Existing Structures: Based upon visual observations, the spillway walls do not appear to be stable; as such, remedial measures to stabilize the walls will be required. Design of this type of improvement would be incorporated into final design phases of the work. As such, for the purposes of this evaluation, Pare will presume that the walls are not stable. Pare will develop conceptual alternatives for addressing the apparent stability concerns.

Task 300: Hydrologic & Hydraulic Analyses

Pare will utilize H&H models assumed to have been completed as part of the hazard potential assessment to develop conceptual spillway geometries as required to accommodate the spillway design flood event. It is anticipated that the spillway will be designed to accommodate the SDF with no operations required; however, the spillway is also anticipated to include stop logs and/or a gate to support implementation of seasonal drawdowns of the pond if desired by the Owner. If the H&H scope is not authorized as part of a previous contract, it will be completed as an additional services through supplemental agreement.

Task 400: Design Basis Report (DBR)

Based upon the information collected and the findings of the evaluations described above, Pare will identify areas of the existing dam and appurtenant structure that require repairs to meet current state dam safety regulations and general dam safety practices. Pare will develop up to three alternatives for each deficiency identified, as appropriate. Each alternative developed will include the following:

- Drawings that identify and conceptually present the scope of the repairs.
- Anticipated opinions of probable design, permitting, and construction costs
- Advantages and disadvantages, as appropriate.



Information developed as part of the alternative analyses will be incorporated into the SDR report.

Pare will prepare a draft DBR that details each of the evaluations described above. A detailed executive summary will be provided which summarizes each analysis and the recommended method of repair.

The report will include the results of the evaluations and investigations and will also include, as appendices, computer model summaries, plans including locus, aerial, drainage area, existing conditions, the developed alternatives for repair, and detailed opinions of probable cost for each alternative developed.

Pare will provide a draft of the report in PDF format to the Town for discussions purposes. Subsequent to issuance of the draft report, Pare will meet with the Town to review our findings, answer questions that the Town may have regarding the findings of the report, and arrive at a consensus for the recommendation repair approach.

A PDF copy and two paper copies of the final report will be provided to the Owner. Additional copies as required will be prepared for submission to MADCR Office of Dam Safety at the request of the Owner. The final PDF will be bookmarked to facilitate simplified navigation through the document.

Task 500: Final Design, Notes, & Sketches

Pare will develop final notes and sketches for the repair option chosen. Pare anticipates the completion of the following components in developing the final notes and sketches for the dam repair scope:

- Develop Draft Notes and Sketches for the Repair Scope: Once a repair scope is finalized, Pare will develop a draft version of notes and sketches for the repair scope. Once developed, Pare will submit to the Town for review and comment. For the purposes of this proposal, Pare has assumed that the design scope of work will include:
 - Mobilization to the site; establishing staging areas, access ways, and erosion and sediment controls.
 - Clearing trees and vegetation from the downstream side of the dam to 20-feet beyond the downstream toe; regrade the slope to a stable maintainable cross section.
 - Providing slope protection along the upstream water line (dump riprap, placed boulders, or similar)
 - Demolition and removal of the existing spillway system in its entirety.
 - Installation of a precast concrete box culvert spillway system; providing seepage mitigation/controls along the spillway system.
 - Installation of retaining/training walls as required by site grade.
- Finalize Draft Notes and Sketches: Pending coordination with and comments received from the Town, Pare will revise and finalize the notes and sketches for the repair scope.
- Prepare a stand along bid package for soliciting and receiving quotes to construct and deliver precast elements to the site.

Task 600: Permitting

Several local, state, and federal environmental approvals may be required for the repairs. For the purpose of this scope of permitting, Pare presumes that there will be fewer than 500 linear feet of bank impacts, no permanent loss of BVW is proposed, combined LUW and BVW impacts will not exceed 5,000 square feet, the



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proposed drawdown will not exceed one growing season, and dredging (excavation below the OHW of the impoundment and outlet) will not exceed 100 cubic yards. Based on these presumptions, Pare will assist the Town in applying for the approvals as specified below. If one or more of these thresholds are exceeded, additional state and federal approvals may be required and can be completed under a supplemental agreement. All application, review, notification, or other fees will be billed as reimbursable expenses.

Wetlands Protection Act: The project is subject to the jurisdiction of the Medfield Conservation Commission under the Regulations of the Massachusetts Wetlands Protection Act (WPA Regulations) and the Town of Medfield Wetlands Protection Bylaw (the Bylaw). Resource areas anticipated to be affected at the dam repairs include Bank, Land Under Water, Bordering Vegetated Wetland, and 200-foot Riverfront Area. Pare will prepare a Notice of Intent (NOI) for submission to the Conservation Commission and the Massachusetts Department of Environmental Protection (MA DEP) Central Regional Office. The NOI will include state and local application forms, abutter notification information, figures, a wetland delineation report, a written project narrative, and project plans. Abutters will be notified in accordance with the WPA Regulations and the Bylaw. The project may exceed one or more thresholds requiring a Wildlife Habitat Evaluation under the Wetlands Protection Act; however, as a Limited Project (for repairs to a structure that was in existence as of April 1, 1983), Pare will request that the Conservation Commission waive the requirement for a Wildlife Habitat Evaluation. This scope also assumes that no permanent alterations to vegetated wetlands are proposed and that no wetland replication will be required. If a Wildlife Habitat Evaluation and/or Wetland Replication Plan is required, these services it will be provided under supplemental agreement. Pare has budgeted for one (1) NOI Public Hearing for the project. If additional hearings or site visits with the Conservation Commission are required, Pare can attend these under a supplemental agreement.

U.S. Army Corps of Engineers (ACOE): Pare anticipates that this project will qualify for coverage under the US Army Corps of Engineers (ACOE) General Permits for Massachusetts (GP) per GP 1: "Repair, Replacement and Maintenance of Authorized Structures and Fills." Based on our understanding of the current scope of impacts, the project will qualify as a Self-Verification (SV) activity which would not require the filing of an application with ACOE. However, to be eligible for SV, proponents must "ensure and document that the activity will not cause effects" to historic and archaeological resources in compliance with the regulations governing Section 106 of the National Historic Preservation Act. Pare will submit a Project Notification Form (PNF) and supporting documentation to the applicable tribal and historic authorities for review and comment. Prior the commencement of construction within ACOE jurisdiction, Pare will submit the SV form to ACOE. Should the project exceed one or more thresholds requiring the filing of a Pre-Construction Notification (PCN) for the proposed work, such application will be made under supplemental agreement.

Ch. 253 Permit: Pare will prepare and submit a Chapter 253 Permit application form for submission to the Office of Dam Safety for approval.

Additional Permits: Based upon Pare's understanding of the existing site and anticipated work, no other thresholds are anticipated to be exceeded which would trigger the requirements for filing additional environmental permits beyond those listed herein. Should the need for additional permits become apparent through the development of the design or in response to comments from regulators, Pare will prepare those applications under supplemental agreement.

ACTIVITIES NOT INCLUDED IN THIS PROPOSAL

The following activities are not included as part of this proposal. Should it be determined that these activities



are necessary; Pare can undertake these activities as additional services through a contract addendum.

- Underwater Inspections
- Hydrologic evaluations (assumed to have been completed as part of a separate contract)
- Emergency Action Plan / Operations and Maintenance Manual preparation
- Bid Phase Services
- Construction Administration / Observation

TASKS TO BE PERFORMED BY THE CLIENT

During the inspection, some information and tasks will need to be provided or performed by the Client. This includes the following:

1. Providing access to all areas of the dam.
2. Copies of any previous reports, inspections, or other historical information regarding the dam.
3. Records of water levels and instrument readings, if any.

BASIS OF CHARGES AND CONDITIONS OF ENGAGEMENT

Town of Medfield (herein also referred to as “Client”) shall pay Pare for Basic Services rendered as described above accrued time and expenses.

Rates for personnel categories and for reimbursable expenses are shown on the attached Schedule of Fees. The conditions of engagement are detailed in the attached Statement of Terms and Conditions (Exhibit B), which is an integral part of this proposal.

Invoices for services rendered and expenses incurred will be processed through the last Friday of each month and are due and payable upon receipt. Invoices not paid within thirty (30) days of the invoice date shall be subject to a one and one-half percent (1.5%) per month interest charge. In addition, for contracts more than thirty days in arrears for payment, Pare may, with seven days written notice, suspend services.

Pare reserves the right to renegotiate or adjust the fee accordingly if its Proposal for Service is not accepted within a ninety (90) day period.

PERIOD OF SERVICE

The time period for performance of the services set forth in the Scope of Services shall be 300 days from receipt of a signed contract/notice to proceed.

Additional services may materially add to the time required to complete the work of the Project. Pare Corporation will be entitled to an equitable adjustment in the Period of Service as a result of services added.

ANTICIPATED CHARGES

Based upon the defined scope of work presented above, Pare anticipates completing the Scope of Services described above for the estimated fee of \$72,120.00, broken down as indicated in the following table:



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Task	Professional Services	Reimbursable Expenses	Total
100: Data Collection & Kickoff Meeting	\$ 7,755.00	\$ 80.00	\$ 7,835.00
Survey Subcontract	\$ -	\$ 9,020.00	\$ 9,020.00
Drilling Subcontract	\$ -	\$ 3,830.00	\$ 3,830.00
200: Seepage & Stability Analysis	\$ 5,675.00	\$ -	\$ 5,675.00
300: H&H Analysis	\$ 935.00	\$ -	\$ 935.00
400: Design Basis Report	\$ 8,825.00	\$ -	\$ 8,825.00
500: Final Design, Notes, & Sketches	\$ 26,450.00	\$ -	\$ 26,450.00
600: Permitting	\$ 9,530.00	\$ 20.00	\$ 9,550.00
Totals	\$ 59,170.00	\$ 12,950.00	\$ 72,120.00

This represents our best judgment at this time as to the effort required to achieve the stated objectives. It must be recognized that unforeseen conditions, which become evident during the course of the studies, may alter or increase the effort required. You will be notified of any changes requiring an increase in budget, and we will not exceed the recommended budget without your prior approval.

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Thank you for the opportunity to submit this proposal. We look forward to providing you with dam engineering services to meet your needs in completing the required dam safety evaluations in accordance with 310 CMR 10.00 Commonwealth of Massachusetts Dam Safety Regulations. If you have any questions, please do not hesitate to call us at 508.543.1755.

Sincerely,

PARE CORPORATION

Allen R. Orsi, P.E.
Vice President

Enclosures:

- Schedule of Fees
- Statement of Terms and Conditions



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This Proposal for Services and Statement of Terms and Conditions are hereby accepted and executed by a duly authorized signatory, who, by execution hereof, warrants that he/she has full authority to act for, in the name of, and on behalf of the Town of Medfield.

TOWN OF MEDFIELD

By: _____

Title: _____

Typed Name

Date

SCHEDULE OF FEES

For Proposal for Services, dated January 24, 2019
(Pare Proposal No. MP097.18)

LABOR:

Engineer	\$ 105.00/Hour
Senior Engineer	\$ 125.00/Hour
Project Engineer	\$ 145.00/Hour
Senior Project Engineer	\$ 165.00/Hour
Managing Engineer	\$ 185.00/Hour
Principals & Officers	\$ 225.00/Hour
Environmental Scientist	\$ 90.00/Hour
Senior Environmental Scientist	\$ 120.00/Hour
Principal Environmental Scientist	\$ 150.00/Hour
Resident Project Representative	\$ 100.00/Hour
Senior Resident Project Representative	\$ 125.00/Hour
CADD Operator	\$ 100.00/Hour
Senior CADD Operator/Designer	\$ 115.00/Hour
Engineering Technician	\$ 100.00/Hour
Senior Engineering Technician	\$ 115.00/Hour
Clerical/Office Personnel	\$ 75.00/Hour

REIMBURSABLE EXPENSES:

Mileage (at Federal Standard Rate)	\$ 0.58/Mile
Printing/Copying Wide Format (in-house)	\$ 0.15/Square Foot
Photocopying (in-house)	\$ 0.10/Copy
Outside Services and Out-of-Pocket Expenses	Cost plus 10%

The above rates for technical and support personnel will be charged for actual time worked on the project. In addition, there will be charges for time required for travel from company office to job or site, and return.

For expert and material witness services, including preparation, associated with any actual or potential litigation, mediation, arbitration, or similar proceeding, a fifty percent (50%) premium will be added to the above rates.

Overtime worked by non-exempt, non-professional employees will be charged at a rate of one and one-half times the rates shown above for all time worked in excess of 8 hours per day.





STATEMENT OF TERMS AND CONDITIONS

Attached to and made a part of the Agreement for Professional Services dated January 24, 2019, by and between the Town of Medfield (Client) and Pare Corporation, (Pare) in respect of the Danielson Mill Dam Evaluations and Design of Repairs – Medfield, MA (Project) described therein.

SECTION 1. SERVICES TO BE PROVIDED

- 1.1 Pare hereby agrees to provide Client with the services set forth in the Proposal for Services and under the terms and conditions set forth herein.
- 1.2 This Agreement, once executed, will become effective upon Pare's receipt of written authorization to proceed. The attendant Proposal for Service is subject to renegotiation if acceptance by this Agreement is not received within sixty (60) days.
- 1.3 Client acknowledges that work shall proceed under the defined scope of services only upon receipt by Pare of a signed Agreement (this Agreement) and, if required, a retainer payment. The retainer amount shall be held by Pare and shall be applied against the final invoice. In the event the amount of the retainer exceeds the final invoice, Pare shall refund the balance with the final invoice. If the final invoice exceeds the retainer, the Client shall promptly remit the amount due.
- 1.4 If CLIENT authorizes changes in the scope, extent, or character of the PROJECT, then the time for completion of Pare's services, and the rates and amounts of Pare's compensation shall be adjusted equitably.
- 1.5 If Pare's services include the performance of any services during the construction phase of the Project,
- a. it is understood that the purpose of any such services (including any visits to the site) will be to enable Pare to better perform the duties and responsibilities assigned to and undertaken by it as an experienced and qualified design professional, and to provide Client with a greater degree of confidence that the completed work of the Contractor(s) will conform generally to the Contract Documents and that the integrity of the design concept as reflected in the Contract Documents has been implemented and preserved by Contractor(s). Neither the professional activities of Pare, nor the presence of Pare or his or her employees and subconsultants at a construction site, shall relieve the General Contractor and any other entity of their obligations, duties and responsibilities including, but not limited to, construction means, methods, sequence, techniques or procedures necessary for performing, superintending or coordinating all portions of the work of construction in accordance with the contract documents and any health or safety precautions required by any regulatory agencies. Pare personnel have no authority to exercise any control over any construction contractor or other entity or their employees in connection with their work or any health or safety precautions. Client agrees that the General Contractor is solely responsible for jobsite safety, and warrants that this intent shall be made evident in Client's agreement with the General Contractor. Client also agrees that Client, Pare and Pare's consultants shall be indemnified and shall be made additional insured under the General Contractor's general liability insurance policy.



b. (*Shop Drawing Review*) it is understood that Pare shall review and approve or take other appropriate action on the Contractor submittals, such as shop drawings, product data, samples and other data, which the Contractor is required to submit, but only for the limited purpose of checking for conformance with the design concept and the information shown in the Construction Documents. This review shall not include review of the accuracy or completeness of details, such as quantities, dimensions, weights or gauges, fabrication processes, construction means or methods, coordination of the work with other trades or construction safety precautions, all of which are the sole responsibility of the Contractor. Pare's review shall be conducted with reasonable promptness while allowing sufficient time in Pare's judgment to permit adequate review. Review of a specific item shall not indicate that Pare has reviewed the entire assembly of which the item is a component. Pare shall not be responsible for any deviations from the Construction Documents not brought to the attention of Pare in writing by the Contractor. Pare shall not be required to review partial submissions or those for which submissions of correlated items have not been received.

c. it is understood that providing a Resident Project Representative (RPR) is a separately defined service in addition to those described above and that the use of a RPR is to assist in providing a more extensive observation of the Contractor's work. If RPR services are to be provided, compensation shall be as set forth in Exhibit C, Compensation for RPR, and the Duties, Responsibilities, and Authority of the RPR shall be as set forth in Exhibit D. The furnishing of such RPR services will not limit, extend, or modify Pare's responsibilities or authority except as expressly set forth in Exhibit C and Exhibit D.

SECTION 2. BILLING AND PAYMENT

2.1 Client agrees to pay Pare in accordance with the rates and charges set forth in the attached Proposal for Services. Invoices for services rendered and expenses incurred will be submitted monthly by Pare to Client. All such invoices shall be due and payable upon receipt. Additionally, in the case of a lump sum method of compensation, invoices will be based upon Pare's estimate of the proportion of the total services actually completed at the time of billing.

2.2 All invoices shall be paid in full prior to the filing by Pare of any documents with a governmental agency having jurisdiction over this Project.

2.3 In the event of a disputed or contested billing, only that portion so contested may be withheld from payment, and the undisputed portion will be promptly paid.

2.4 If Client fails to make any payment due Pare for services and expenses within thirty (30) days after the invoice date of Pare's statement therefor, the amounts due Pare shall include an interest charge at the rate of one and one-half percent (1.5%) per month from said thirtieth day, and in addition, Pare may, after giving seven (7) days written notice to Client, suspend services under this Agreement until he has been paid in full all amounts due him for services and expenses. Unless Pare receives payment in full within seven (7) days of the date of the notice, the suspension shall take effect without further notice. Payments on account will be credited first to interest and then to principal. In the event of a suspension of services, Pare shall have no liability to Client for delay or damage caused Client because of such suspension of services.

2.5 In the event of termination by Client under Section 17, Client shall remain liable for and shall promptly pay Pare the full amount for all services rendered by Pare to the date of termination and all termination costs together with interest on all overdue accounts in accordance with the foregoing rate and



EXHIBIT B

attendant attorneys' fees and costs of collection. No failure by Pare to exercise any right hereunder shall operate as a waiver nor preclude Pare from exercising any other right.

2.6 If Client fails to make payment to Pare in accordance with the payment terms herein, this shall constitute a material breach of this Agreement and shall be cause for termination by Pare.

2.7 In the event legal action is necessary to enforce the payment provisions of this Agreement, Pare shall be entitled to collect from Client any judgment or settlement sums due, reasonable attorneys' fees, court costs and expenses incurred by Pare in connection therewith and, in addition, the reasonable value of Pare's time and expenses spent in connection with such collection action, computed at Pare's prevailing fee schedule and expense policies.

2.8 Payment of invoices is in no case subject to unilateral discounting or set-offs by Client, and payment is due regardless of suspension or termination of this Agreement by either party.

2.9 Payment of invoices to Pare is the sole responsibility of the signatory of this Agreement and is not subject to third party agreements.

SECTION 3. ADDITIONAL SERVICES

3.1 Services required by Client, which are not part of those described in the Proposal for Services, shall be considered Additional Services. Additional Services shall be furnished by Pare, or obtained from others by Pare, if requested in writing by Client. Client shall pay Pare for Additional Services in accordance with rates and charges agreed to in writing prior to authorization by Client.

3.2 Requests for additional services and any associated fee adjustment must be authorized in writing before additional services can begin. Oral directives by Client authorizing Additional Services will be confirmed in writing by Pare. Client shall pay Pare for orally directed Additional Services furnished by Pare in accordance with Pare's current Schedule of Fees unless other rates and charges for compensation are agreed to prior to the completion of the authorized Additional Services. Pare reviews its Schedule of Fees annually and reserves the right to adjust its schedule accordingly.

SECTION 4. REIMBURSABLE EXPENSES

4.1 Normal reimbursable expenses are in addition to the fee for services. Internal expenses incurred and allocated to the project will be billed to Client in accordance with our fee proposal and/or our attendant Schedule of Fees. Outside expenses incurred and allocated to the project shall be billed at rate of 1.1 times the amount expended. Reimbursable expenses include, but are not limited to, expenses associated with the Project such as: travel including transportation, meals and lodging; printing, copying and handling of documents; computer charges including computer-aided design; film and processing; telephone calls and other communications charges; postage and delivery; equipment for tests; and securing approval of authorities having jurisdiction over the Project and not specified as part of the fee.

SECTION 5. CLIENT'S RESPONSIBILITIES

5.1 Pare shall indicate to Client the information needed for rendering of services hereunder. Client shall provide to Pare all criteria and full information as to Client's requirements for the Project and such other information as is available to Client and Client's consultants and contractors, and Pare shall be entitled to rely upon the accuracy and completeness thereof. Client recognizes that it is impossible for Pare to assure



EXHIBIT B

the accuracy, completeness and sufficiency of such information, either because it is impossible to verify, or because of errors or omissions that may have occurred in assembling the information Client is providing.

5.2 Client shall designate in writing a person to act as Client's representative with respect to the services to be rendered; shall examine and respond promptly to Pare's submissions; and shall give prompt written notice to Pare whenever he observes or otherwise becomes aware of any defect in the work.

5.3 Client shall arrange for access to and make all provisions for Pare to enter upon public and private property as required for Pare to perform his services.

5.4 Client acknowledges that invoices must be kept current for services to continue. If Client fails to pay any invoice due to Pare within 30 days of the date of the invoice, Pare may, without waiving any other claim or right against Client, suspend services under this Agreement until Pare has been paid in full all amounts due Pare and/or any of its Consultants and Subcontractors (See Paragraph 2.4). Sealed plans, final documents, reports and attendance at meetings/hearings will not be provided unless payment for services is current. Client acknowledges Pare's right to suspend services and withhold plans and documents, as provided above if payments are not current. If services are suspended for 30 days or longer, upon resuming services Pare shall be entitled to payment for expenses incurred in the interruption and resumption of services. If services are suspended for 90 days or longer, Pare shall be entitled to payment for expenses incurred in the interruption and resumption of its services, and fees for remaining services shall be equitably adjusted.

SECTION 6. INSURANCE

6.1 Pare is covered by Workers' Compensation Insurance, Commercial General Liability Insurance, Automobile Liability Insurance and Professional Liability Insurance. We will furnish information and certificates upon request.

SECTION 7. STANDARD OF CARE

7.1 Services provided by Pare under this Agreement will be performed in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances in the same locality.

SECTION 8. USE OF DOCUMENTS

8.1 All reports, plans, specifications, field data and notes and other documents, including all documents on electronic media prepared or furnished by Pare under this Agreement are instruments of service in respect to this Project, and Pare shall retain an ownership and property interest therein (including the copyright and the right of reuse at the discretion of Pare) whether or not the Project is completed. Client shall not rely in any way on any Document unless it is in printed form, signed or sealed by Pare or one of its Consultants.

8.2 A party may rely that data or information set forth on paper (also known as hard copies) that the party receives from the other party by mail, hand delivery, or facsimile, are the items that the other party intended to send. Files in electronic media format of text, data, graphics, or other types that are furnished by one party to the other are furnished only for convenience, not reliance by the receiving party. Any



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conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

8.3 Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any transmittal errors detected within the 60-day acceptance period will be corrected by the party delivering the electronic files.

8.4 When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of such documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the documents' creator. If any information is provided in electronic format, Client recognizes that such plans, documents or other information recorded on or transmitted as electronic media, including CADD documents ("Electronic Documents") are subject to undetectable alteration, either intentional or unintentional, due to, among other causes, transmission, conversion, media degradation, software error, or human alteration. Accordingly, the electronic documents are provided to Client for informational purposes only and not as record documents.

8.5 Client may make and retain copies of Documents for information and reference in connection with use on the Project by Client. Pare grants Client a license to use the Documents on the Project, extensions of the Project, and other projects of Client, subject to the following limitations: (1) Client acknowledges that such Documents are not intended or represented to be suitable for use on the Project unless completed by Pare, or for use or reuse by Client or others on extensions of the Project or on any other project without written verification or adaptation by Pare; (2) any such use or reuse, or any modification of the Documents, without written verification, completion, or adaptation by Pare, as appropriate for the specific purpose intended, will be at Client's sole risk and without liability or legal exposure to Pare or to Pare's Consultants; (3) Client shall indemnify and hold harmless Pare and Pare's Consultants from all claims, damages, losses, and expenses, including attorneys' fees, arising out of or resulting from any use, reuse, or modification without written verification, completion, or adaptation by Pare; (4) such limited license to Client shall not create any rights in third parties.

8.6 If Pare at Client's request verifies or adapts the Documents for extensions of the Project or for any other project, then Client shall compensate Pare at rates or in an amount to be agreed upon by Client and Pare.

SECTION 9. OPINIONS OF PROBABLE COST

9.1 Since Pare has no control over the cost of labor, materials, equipment, or services furnished by others, or over the Contractor(s)' methods of determining prices, or over competitive bidding or market conditions, his opinions of probable project cost and construction cost provided for herein are to be made on the basis of his experience and qualifications and represent his best judgment as an experienced and qualified professional engineer, familiar with the construction industry; but Pare cannot and does not guarantee nor make warranty, expressed or implied, that proposals, bids, or actual project or construction cost will not vary from opinions of probable cost prepared by him. Similarly, since Pare has no control over building operation and/or maintenance costs, Pare cannot and does not guarantee that the actual building or system operating or maintenance costs will not vary from any estimates given by Pare.



SECTION 10. CERTIFICATIONS

10.1 Client shall not request certifications and/or affidavits that would require knowledge or services beyond the scope of this Agreement and/or beyond the professional qualifications and engineering expertise of Pare. Pare shall not be required to sign any documents, no matter by whom requested, that would result in Pare having to certify, guaranty or warrant the existence of conditions whose existence Pare cannot ascertain. Any certification provided by Pare shall be so provided based on Pare's knowledge, information and belief subject to the preceding sentence, and shall be given in Pare's professional opinion consistence with the Standard of Care. Pare shall be compensated for any work necessary to verify project compliance with regulatory standards for purposes of such certification.

10.2 The proposed language of any such certificates, affidavits or certifications requested of Pare or Pare's consultants shall be submitted to Pare for review and approval at least fourteen (14) days prior to expected execution.

SECTION 11. LIMITATION OF LIABILITY

11.1 To the maximum extent permitted by law, Client agrees to limit Pare's liability to Client for or on account of all claims and/or damages of any nature whatsoever caused by or arising out of Pare's performance of its services, such that the total aggregate liability of Pare for any and all claims and/or damages of any nature whatsoever, arising out of the performance of Pare's services on the Project, shall not exceed \$50,000 or Pare's total fee for services rendered on the Project, whichever is greater.

11.2 Notwithstanding any other provision of the Agreement, neither party shall be liable to the other for any special, indirect, incidental, or consequential damages incurred due to the fault of the other party, regardless of the nature of this fault or whether it was committed by Client or Pare, their employees, agents, subconsultants or subcontractors. Consequential damages include, but are not limited to, loss of use and loss of profit.

SECTION 12. SERVICES MADE NECESSARY BY LACK OF CONTRACTOR PERFORMANCE

12.1 It is Client's responsibility to hire the Contractor, and it is the Contractor's responsibility to install and complete fully operable systems. Client agrees to pay Pare 3.20 times Direct Labor Costs for all its trouble-shooting work due to Contractor's inability to achieve satisfactory operation. Client shall hold harmless, defend and indemnify Pare, its officers, agents, employees and consultants, from any and all liabilities, claims, damages and suits arising out of the negligence of Client or its agents, or liability due to the negligence of any contractor(s) performing any portion of the work and supplying any materials, or any other parties, except for any liability of Pare, or its consultants, due to the sole negligence of Pare, or its consultants.

SECTION 13. HAZARDOUS WASTE/ASBESTOS/CONTAMINANTS

13.1 In consideration of the substantial risks to Pare involving or relating to the actual or threatened release, escape or discharge of hazardous waste, asbestos and/or other contaminants, it is agreed that Client to the fullest extent permitted by law, shall release and indemnify and hold harmless Pare and its consultants, agents and employees, from and against all claims, damages, losses and expenses, direct and



indirect, including but not limited to attorneys' fees and defense costs, arising out of or resulting from the performance of any services by Pare, or claims against Pare related to, involving or arising out of hazardous waste, asbestos or other contaminants.

SECTION 14. INDEMNIFICATION

14.1 Pare agrees, to the fullest extent permitted by law, to indemnify and hold harmless the Client, its officers, directors and employees (collectively, Client) against all damages, liabilities or costs, including reasonable attorneys' fees and defense costs, to the extent caused by Pare's negligent performance of professional services under this Agreement and that of its subconsultants or anyone for whom Pare is legally liable.

14.2 The Client agrees, to the fullest extent permitted by law, to indemnify and hold harmless Pare, its officers, directors, employees and subconsultants (collectively, Pare) against all damages, liabilities or costs, including reasonable attorneys' fees and defense costs, to the extent caused by the Client's negligent acts in connection with the Project and the acts of its contractors, subcontractors or consultants or anyone for whom the Client is legally liable.

14.3 Neither the Client nor Pare shall be obligated to indemnify the other party in any manner whatsoever for the other party's own negligence.

SECTION 15. SUSPENSION OF SERVICES

15.1 If the Project is suspended by Client, or the services are suspended by Pare in accordance with Paragraph 2.4 and/or Paragraph 5.4 of this Agreement for more than thirty (30) calendar days in the aggregate, Pare shall be compensated for services performed and charges incurred prior to receipt from Client or issuance by Pare of notice to suspend and, upon resumption, an equitable adjustment in fees to accommodate the resulting demobilization and remobilization costs. Depending on the duration of the stoppage, an additional adjustment may be necessary to cover wage increases and general escalation. In addition, there shall be an equitable adjustment in the project schedule based on the delay caused by the suspension. If the Project is suspended for more than ninety (90) calendar days in the aggregate, Pare may, at his or her option, terminate this Agreement upon giving notice in writing to Client.

SECTION 16. DISPUTE RESOLUTION

16.1 Any disputes arising out of or relating to this Agreement, including disputes under termination, shall first be submitted to nonbinding mediation unless the parties mutually agree otherwise.

16.2 The parties further agree to include a similar mediation provision in all agreements with independent contractors and consultants retained for the project and to require all independent contractors and consultants also to include a similar mediation provision in all agreements with subcontractors, subconsultants, suppliers or fabricators so retained, thereby providing for mediation as the primary method for dispute resolution between the parties to those agreements.

16.3 On the written notice of either party to the other of the election to submit any dispute under this Agreement to mediation, each party shall designate their representative and shall meet within ten (10) days after the service of notice. The parties themselves shall then attempt to resolve the dispute within ten (10) days of the meeting. Should the parties themselves be unable to agree on a resolution of the



dispute, then the parties shall proceed with mediation in accordance with the mediation rules of the American Arbitration Association. The cost of mediation shall be borne equally by both parties.

16.4 Any dispute not settled by agreement of the parties shall be decided by litigation in a court of competent jurisdiction.

SECTION 17. TERMINATION

17.1 Either Client or Pare may terminate this Agreement at any time with or without cause upon giving the other party ten (10) calendar days prior written notice. Client shall within thirty (30) calendar days of termination pay Pare for all services rendered and all costs incurred up to the date of termination, in accordance with the compensation provisions of this Agreement.

SECTION 18. TITLES

18.1 The titles in this Agreement are for general reference only and are not part of the Agreement.

SECTION 19. GOVERNING LAW

19.1 The laws of the Commonwealth of Massachusetts will govern the validity of this Agreement, its interpretation and performance. Any litigation arising in any way from this Agreement shall be brought in the courts of the Commonwealth of Massachusetts.

SECTION 20. INTEGRATION

20.1 This Agreement comprises the final and complete agreement between Client and Pare. It supersedes all prior or contemporaneous communications, representations, or agreements, whether oral or written, relating to the subject matter of this Agreement. Amendments to this Agreement, except as otherwise provided herein, shall not be binding unless made in writing and signed by both Client and Pare.

SECTION 21. SEVERABILITY AND SURVIVAL

21.1 Any provision of this Agreement later held to be unenforceable for any reason shall be deemed void, and all remaining provisions shall continue in full force and effect. All obligations arising prior to the termination of this Agreement and all provisions of this Agreement allocating responsibility or liability between Client and Pare shall survive the completion of the services hereunder and the termination of this Agreement.

SECTION 22. SUCCESSORS AND ASSIGNS

22.1 Client and Pare each binds himself and his partners, successors, executors, administrators, assigns, and legal representatives to the other party of this Agreement and to the partners, successors, executors, administrators, assigns, and legal representatives of such other party, in respect to all covenants, agreements, and obligations of this Agreement.

22.2 Neither Client nor Pare shall assign, sublet, or transfer any rights under or interest in (including, but without limitation, moneys that may become due or moneys that are due) this Agreement without the written consent of the other, except as stated in paragraph 23.1 and except to the extent that the effect of



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this limitation may be restricted by law. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this Agreement. Nothing contained in this paragraph shall prevent Pare from employing such independent consultants, associates, and subcontractors as he may deem appropriate to assist him in the performance of services hereunder.

22.3 Nothing herein shall be constructed to give any rights or benefits hereunder to anyone other than Client and Pare.

SECTION 23. ENTIRE AGREEMENT

23.1 This Agreement contains the entire understanding of the parties with respect to the subject matter hereof and there are no verbal understandings, statements, or stipulations bearing upon the meaning or effect of this Agreement. This Agreement may only be modified or amended by a written instrument executed by both parties, except as may be otherwise provided herein.

(END)