



January 16, 2007

Mr. Fred King, Chair
Maynard Conservation Commission
195 Main Street
Maynard, MA 01754

Re: **Responses to Submitted Comments**
Flow Monitoring and Ben Smith Canal Gate Installation and Gatehouse Repairs NOI's
DEP File No. 213-0219 and 213-0220
(PARE Project No. 05051.00)

Dear Mr. King and Members of the Commission:

On behalf of Wellesley Rosewood Maynard Mills, LLC, (WRMM) Pare Corporation (PARE) is pleased to offer the following responses to the written comments received during the initial Notice of Intent Public Hearings for the above-captioned projects, held on December 5, 2006. In the following sections, PARE has extracted from the submitted letters the specific question and/or comment posed, and has provided a response to each.

ORGANIZATION FOR THE ASSABET RIVER (OAR) COMMENT LETTER DATED
DECEMBER 5, 2006

1A. **COMMENT:** **Flow Management Plan, Section E (1): Flow Above 39 CFS.** The applicant states that for flows above 39 cfs, “adjustment of the gates will be unrestricted” (pg.6). The resulting diversion of the natural flow of the river into the canal would be an alteration of the bypass reach of the Assabet River. Over one mile long, this “land under water” constitutes a wetland resource area under the Wetlands Protection Act. According to DEP’s “Wildlife Habitat Protection guidance for Inland Wetlands”, all land under water is presumed significant for wildlife habitat (Guidance pg. 3).

The Guidance requires that projects be designed to meet performance standards for wildlife habitat to avoid adverse effects. This project exceeds the threshold of 10% of the resource area and hence requires preparation of Appendix A, Simplified Wildlife Habitat Evaluation (DEP Guidance). Preparation of Appendix B, Detailed Wildlife Habitat Evaluation may subsequently be required.

RESPONSE:

The Regulations of the Massachusetts Wetlands Protection Act (the Regulations) define the upper boundary of the resource area *Land Under Waterway* as “the mean annual low water level” (310 CMR 10.56(2)(c)). It is understood that a flow of 39 cubic feet per second (cfs) over the Ben Smith Dam represents the 7-day annual low flow on the Assabet River in the project area. The Flow Management Plan specifies that, except in emergencies, flows of 39 cfs and less will not be allowed to pass through the canal gatehouse and all such flow will be directed over the dam into the main stem of the Assabet River. Thus, under the proposed Flow Management Plan annual low flows in the Assabet River will



remain unchanged and implementation of the Flow Management Plan will not expose or otherwise alter any Land Under Waterway.

The performance standards pertaining to Land Under Waterway specify that any proposed work within Land Under Waterways shall not impair

“The capacity of said land to provide important wildlife habitat functions. A project or projects on a single lot, for which Notice(s) of intent is filed on or after November 1, 1987, that (cumulatively) **alter(s)** up to 10% or 5,000 square feet (whichever is less) of land in this resource area found to be significant to the protection of wildlife habitat, shall not be deemed to impair its capacity to provide important wildlife habitat functions. Additional alterations beyond the above threshold may be permitted if they will have no adverse effects on wildlife habitat, as determined by procedures established under 310 CMR 10.60” (310 CMR 10.56(4)(a)4, (emphasis added).

Proposed work affecting Land Under Waterway is limited to placement of two flow monitors (one each in the river and canal, affecting approximately 2 square feet total of Land Under Waterway) and the work associated with replacing the gates in the gatehouse (approximately 200 square feet of temporary disturbance). These impacts are well below the Land Under Waterway threshold requiring a wildlife habitat evaluation.

The Massachusetts Wildlife Habitat Guidelines for Inland Wetlands (DEP, 2006) confirms this on page 4 with the statement that “A wildlife Habitat Evaluation is **not** required for projects with **alterations** (emphases added) below the thresholds listed above” (i.e., up to 10% or 5,000 square feet (whichever is less) of land in this resource area found to be significant to the protection of wildlife habitat).

The habitat evaluation threshold pertains to actual resource area alterations, not to the presence of resource areas in the project vicinity. Based on the above, it is PARE’s opinion that a wildlife habitat evaluation, including Appendix A and/or Appendix B is not required for this project.

1B. **COMMENT:** In addition, this unrestricted operation of the gates fails to comply with the FERC Order which specifically states (pg.8):

“The two aluminum slide gates to be installed in the gatehouse pursuant to the plan can be operated in the manner of a fixed crest weir to ensure a 39-cfs minimum flow, protect seasonal river flows, water quality, and fisheries...” (emphasis added)

It reiterates: “An approval of the exemptee’s Implementation Plan would include an expectation that the gates be operated as a fixed crest weir at all times except for emergency situations, or as necessary for maintenance.” (emphasis added)

The applicant should submit a flow management plan which complies with the FERC Order, specifically stating that the gates remain closed at all times except for emergencies (Section F) or for maintenance.



RESPONSE:

The flow management plan, as formulated by Clock Tower Place, seeks to comply with every aspect of the FERC Order of August 31, 2006. The quotation referenced by OAR in its written comments continues on in the very next sentence as follows:

“Although the Commission would have no jurisdiction to enforce such operations once surrender becomes effective, authority to enforce such operations would lay with the entity assuming jurisdiction, in this instance, presumably the state.”

It is therefore the objective of Clock Tower Place to continue to work with any “entity assuming jurisdiction”, after the surrender is completed, within a facilities operations and management context, regarding the appropriate defining of “emergencies”, and “maintenance”, pursuant to the regulatory, statutory and policy directives of these same entities. Examples of such entities having “jurisdiction” would include the Massachusetts Office of Dam Safety, the Town of Maynard Conservation Commission, and the Town of Maynard Board of Health.

2. **COMMENT: Flow Management Plan, Section G: Special Circumstances Requiring Operation.** As shown in the preceding section, there are no “special” circumstances, which should require operation of the gates other than for emergencies, and this section should be deleted.

RESPONSE:

The applicant has included this section within the flow management plan (FMP) because not all contingencies that may require operation of the gates can possibly be anticipated in advance. It is likely that, given the area around both the canal and the Assabet River, the proximity to residential development, and the location within the downtown area, there may be special circumstances when operation is required (e.g. for mosquito control). As written in the plan, no operation will occur without the review and acceptance of the Controlling Authority, who in this case is the Conservation Commission. The procedure for authorization is briefly described in the flow management plan, and indicates that the Controlling Authority will be required to review each request based upon its individual merits.

Section G would also apply to environmental special circumstances that could develop along the canal and would be necessary to protect the upland and aquatic habitat and species that have developed along this waterway over the 160-year life of the canal and mill ponds.

Deletion of this section from the flow management plan would prohibit operating the gates under those circumstances where it may be necessary to protect these environmental interests as well as human interests along the canal and mill ponds.



Therefore, it is requested that Section G be accepted as provided within the plan. WRMM proposes that the following language can be added to Section G to further describe the procedure for authorized operation as a result of unforeseen or special circumstances.

Upon receiving a request from a third party, or when initiating a request, for operation of the gates under a special circumstance, the Dam Owner will notify the Controlling Authority of the request. The following information will be included within the request:

- a. Date and Time of the request*
- b. Reason for the request*
- c. Party requesting the action(s)*
- d. Description of the requested action(s)*
- e. Anticipated duration of the requested action(s)*

3. **COMMENT: Review of specifications of monitoring equipment:** Our consultations with USGS and the supplier of the monitoring equipment indicate that the proposed system for monitoring flows below the Ben Smith Dam is unlikely to work. The use of a sonde (pressure gauge), rather than a flow meter, is inappropriate and unlikely to provide an accurate reading. However, even if a flow meter such as the Argonaut-SW) were used, it is unlikely to operate properly without repeated ground truthing and measurements at different stages. This is due to the wide and uneven nature of the channel which may have multiple and changing stream threads at low flows. We request that the applicant be required to present a system which is effective, accurate and verifiable prior to your issuing a decision.

RESPONSE:

During the design process, several flow monitoring devices were reviewed and the selection of the Argonaut SW, which is proposed for both locations, was based upon manufacturers literature, direct communication with the manufacturer, and a review of the channel geometry at both installation locations. Additionally, PARE contacted Mr. Tim Driskell of the USGS who is responsible for the gauging station at Alewife Brook near Arlington, MA (USGS 01103025). Mr. Driskell indicated that the Argonaut SW has been installed at the indicated station, is working well, is reliable, and provides good data. After the proposed installations were described to him, Mr. Driskell indicated that it appeared that the Argonaut SW would provide the anticipated data.

The Argonaut SW is designed for use in shallow water applications with a range of 0.5 to 16 feet indicated by the manufacturer. The location of the monitoring points have been positioned within portions of the channel that are contained by masonry and concrete walls, and are generally uniform (i.e., the approach to the bridge, and the area of the gatehouse). The uniformity was verified based upon survey completed during the design process. The survey included detailed survey that determined the elevation at one-foot increments across the full width of the stream channels. The selected instruments, and the selected monitoring locations are appropriate for this application.



During the installation procedure, the manufacture/installer will calibrate the Argonaut SW through the use of in-stream flow measurement techniques. Further, given the location of the USGS gauging station located downstream of the confluence of the Assabet River and the canal, a reliable secondary check will be possible.

The monitoring system as proposed is anticipated to provide the data and reliability necessary to determine flow through both the river and the canal.

4. **COMMENT:** **Use, maintenance and responsibility for monitoring:** The purpose of the monitoring devices is to ensure that when the river's flow is 39 cfs or less there is no diversion into the canal system. When properly functioning, the flow monitoring devices should make independent verification possible at any time. We assume that this verification will be carried out by, among others, the Conservation Commission which is designated as the Controlling Authority. We are concerned, however, that the equipment be maintained, calibrated as needed, and be returned to operation, should any damage or malfunction occur, in a timely fashion. In addition, data should be recorded and available for public inspection for both normal (Sec. E) and emergency (sec. F) operating conditions. If this system is not operated properly, it will not protect the wetland resource areas of concern. Hence, we request that the Conservation Commission, through its Order of Conditions, require the applicant to maintain the monitoring and data recording system in a functioning and accurate state at all times.

In the event that flow needs to be diverted into the canal system we request that the Conservation Commission notify OAR when the gates are to be opened, indicating the date, time and duration of flow that is to be diverted. Since the gates should only be opened in the case of emergencies (Flow Management Plan, Section F), this should occur very rarely.

RESPONSE:

WRMM will maintain the monitoring devices on a regular basis (i.e., clear debris of the instrument) and implement repairs as necessary to provide an operable device that provides a measure of the flow through the river and the canal. All readings will be available through the web-based publication of realtime flows, which will be accessible by the general public.

5. **COMMENT:** **Installation Procedures:** The NOI did not show how installation of the monitoring stations will be managed in free flowing water. The applicant should provide a clear description and plan of access and methods which will avoid damage to wetland resources or cause siltation of the water. Where construction equipment needs to cross riverfront areas, the Rivers Protection Act provisions would apply.

RESPONSE:

Installation of the monitoring equipment within the river and canal channels is anticipated to be by hand, utilizing divers, if necessary. The Argonaut SW is anchored to the channel floor utilizing hand driven pins/spikes that attach the in-stream unit to the natural substrate. To facilitate the installation it may be necessary to move some stone(s) along the channel bottom by hand, however it is not anticipated that powered construction equipment, excavation, or filling will be necessary to install the proposed devices.



All cabling will be placed along the surface of the channel bottom and will not require excavation for installation.

The equipment cabinets, which will be mounted to the bridge abutment and the gatehouse, will be mounted by utilizing hand equipment only. The staff gauges will also be installed utilizing handtools. All access will be provided by foot traffic and will require minimal, if any, cutting of brush.

6. **COMMENT:** Public access to staff gauges: The proponent has identified locations for two staff gauges which should afford public access for verification, as required by FERC. It is essential that the public be able to easily access the gauges. We request that the Conservation Commission require that a path be maintained by WRMM to these points (e.g., the bank on Great Road bridge), or arrange the same for any public land which is utilized for this purpose (e.g., conservation land).

RESPONSE:

The path utilized to facilitate the installation of the staff gauge at the Great Road bridge may be maintained through periodic trimming of brush along the slope leading from the parking lot. However, the gauge is intended to be visible from the sidewalk along Great Road.

The instrument is to be located in an area accessible to the public, near the mouth of the canal and will be accessible from the existing network of paths within the public lands.



EPA COMMENT LETTER DATED JUNE 15, 2006

1. **COMMENT:** While a number of issues are raised relative to the difficulties of constructing a low level outlet at the dam, none of these issues result in this alternative being infeasible. Lack of ownership and the steep topography complicate, but do not preclude, access. In fact, access has been made in the past to implement repairs to the dam and presumably would be provided in the future in the case of the need for emergency repairs. Construction of a pedestrian access bridge, while not without difficulties, has not been shown to be infeasible. As far as sediments, there is recent data published by USGS that indicates sediment contamination is not significant enough to preclude land filling. Sediment contamination is however, significant enough to cause impairment to aquatic life. Addressing this contamination will require alternatives to the way the existing dam and impoundment are managed.

RESPONSE:

Please refer to the attached May 1, 2006 memorandum that evaluates the installation of a low level outlet at the dam and indicates what is determined to be impractical and inappropriate given the available alternative of modifying the existing structure. This memorandum was presented to the FERC Parties of Interest during the design development phase of this project.

2. **COMMENT:** Rejecting the alternative of a low level outlet at the dam potentially has significant economic consequences for the Town of Maynard, as well as five other communities discharging wastewater to the Assabet River upstream of the Ben Smith Dam. The Mass DEP has completed an Assabet River TMDL, approved by EPA, which requires the communities to implement expensive new treatment technologies in order to meet stringent phosphorus limits. The TMDL also requires that the phosphorus rich sediments behind the dams on the Assabet River be controlled or, alternatively, the communities will have to complete further treatment improvements in order to meet even lower phosphorus limits. An outlet structure at the dam might allow the river to be managed during critical periods in order to control phosphorus recycling from the sediments and avoid the need for additional treatment. It is unfortunate that more coordination with the affected communities has not taken place on this issue.

RESPONSE:

The project involves installation of flow monitoring devices and repairs to a deteriorating gate system and will not affect sediments behind the Ben Smith Dam. The need for a low level outlet is based upon the dam safety regulations stated in 302 CMR 10.14 and not the wastewater regulations. Therefore as the dam is privately owned, the low level outlet should not have been considered beyond the current configuration during the evaluation of phosphorous control.

As the wastewater requirements presented above are irrelevant to the function of the dam, it is considered inappropriate that the dam owner should be required to bear the cost of meeting requirements placed on the wastewater generators.

3. **COMMENT:** It is also important to note that the alternatives that result in eliminating the impoundment that is created by the Ben Smith Dam are not necessarily incompatible with maintaining



the mill ponds. Water could still be withdrawn from the Assabet River during higher flow periods in order to maintain water elevations in the mill ponds and aerators and/or fountains used to prevent stagnant conditions.

RESPONSE:

The intent of this comment is not fully understood. Removal of the dam and the impoundment created by that structure is not being proposed. Pumping from groundwater wells to recharge the Mill Ponds, while potentially feasible, is not a practical solution in light of potential impacts (e.g. depression of the groundwater table, possible contamination migration from adjacent sites due to changes in groundwater flow, etc.). Aerators and fountains maybe useful options, however concern has been raised by the surrounding abutters to the potential noise and other disturbance that would be caused by such methods.

4. **COMMENT:** If the structure is to be located at the canal, the structure should consist of a fixed weir with a low level outlet to be used only in case of impending dam failure or active firefighting. An adjustable gate from the top down that can be managed to maximize the amount of flow that can be diverted from the Assabet River is unacceptable. All of the fishery resource agencies are in agreement that a sustainable fishery requires maintenance of a range of seasonal flows in the main stem of the river. Maintaining one minimum flow for large parts of the year is not acceptable. MassDEP is currently developing stream flow guidelines for the protection of aquatic communities and Clock Tower Place was informed of this at our recent meeting. The ability to operate the top gate in order to divert all flows in excess of 39cfs through the canal, as indicated in the proposed Flow Management Plan, is exactly what the fishery resource agencies have been opposed to since the beginning of this process. A fixed weir that allows for the majority of flows in excess of 39cfs to stay in the river is necessary to ensure that inadequate planning, maintenance, and/or operation do not result in unacceptable river drawdowns as has occurred in the past. A fixed weir with a low level outlet to be operated only in the event of emergencies also precludes the need for extensive flow monitoring capabilities.

RESPONSE:

Please refer to the response provided in Item 1B above.

5. **COMMENT:** The rationale that the upper control gate is needed in order to fine tune the calibration appears to be without merit. The flow difference that a 0.02-inch differential in elevation across the crest of the dam makes it exceedingly small. The fixed weir can, and should, simply be designed on the highest elevation along the crest of the dam which should ensure that a minimum of 39 cfs is maintained in the river.

RESPONSE:

The ability to provide fine-tuning of the gates was provided in response to concerns expressed by the Maynard Conservation Commission during the design development meetings held with the FERC Parties of Interest.



Further it is noted that the approach provided within the comment above would likely divert more water to the Assabet River as the low flow of 39 cfs is approached, due to the irregularities along the crest of the spillway. This concern for the irregularity of the dam crest is what has prompted the need for the monitoring as proposed. This approach would adversely affect the habitat and environmental resources along the canal and mill ponds by prematurely diverting flows from the canal. The fine-tuning capability incorporated into the gate design should be retained.

6. **COMMENT:** The proposed Flow Management Plan should be revised to make it clear that the low level outlet can only be operated in the event of impending dam failure or active firefighting. We are particularly concerned with the language indicating that special circumstances requiring operation of the gates are to be negotiated. The special circumstances discussed to date have been poorly justified and/or alternatives to releasing flow into the mill ponds during periods when the river flow is below 39cfs have not been evaluated. There will continue to be local pressure to operate the control gates in order to benefit conditions in the artificial mill ponds at the expense of the fishery resources in the Assabet River that are protected under the Clean Water Act. The Conservation Commission is not an appropriate authority for ensuring that the fishery resources are protected.

RESPONSE:

We note that the fishery, and other, resources supported by the canal and mill ponds are also protected under the Clean Water Act.

As stated above, the applicant has included this section within the flow management plan because it is likely that there may become instances when non-emergency operation is required (e.g. for mosquito control, environmental response,). As written in the plan, no operation will occur without the review and acceptance of the Controlling Authority, who in this case is the Conservation Commission. The Concom is the local agency charged with protecting all the interests of the Wetlands Protection Act including protection of Fisheries and other Aquatic Resources and is the most appropriate authority to ensure protection of the fisheries, and other, resources present in the Assabet River. It is requested that Section G be accepted as provided within the plan with the amendment presented above.



DIVISION OF FISHERIES & WILDLIFE COMMENT LETTER DATED DECEMBER 1, 2006

1. **COMMENT:** The Division believes that this *slidegate* design, which essentially is an updated version of the existing structure at the gatehouse, will lead to the same problems that were the reason for requiring a fixed weir in the first place (i.e., improperly using Assabet River flows to manage the mill ponds to the detriment of the Assabet River below Ben Smith Dam). The division still believes that the most appropriate placement for a low level outlet would be at the Ben Smith Dam.

RESPONSE:

This comment was also made by OAR and EPA. Please refer to the response to this comment provided above.

2. **COMMENT:** The FMP detailed in WRMM's November 20, 2006 NOI (Section E, page 6) would allow "unrestricted" operation of the gates whenever inflow exceeds 39 cfs. This is unacceptable. 39 cfs is an absolute minimum flow required to maintain biological integrity and water quality in the Assabet River during short periods of natural low flow- not a preferred or even acceptable long term flow where "surplus" flow can be diverted to the mill pond. In fact, the Division believes that this sort of operation is contrary to the intent of the FERC's Order, which sought to provide flows preferentially to the Assabet River under all flow conditions. If new adjustable gates are installed at the gatehouse the Division believes that normal operating procedure should entail keeping the gates closed except in emergency situations, regardless of inflow.

RESPONSE:

Please refer to the responses provide above for the OAR and EPA comments which also reference the operation of the gates and the flow management plan.

3. **COMMENT:** FMP Section G should be deleted. The Division maintains that any special circumstances the Dam Owner may believe require operating gates almost certainly can be handled with other methods. For example, stagnant water could be minimized with a solar fountain or other type of mechanical aeration, and nuisance aquatics could be removed by hand or mechanical harvesting. To date, WRMM has not considered alternatives to flow manipulation, although there has been ample opportunity.

RESPONSE:

Please refer to the responses provide above for the OAR and EPA comments which also reference the operation of the gates and the flow management plan.



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If you have any questions or comments, please feel free to contact me at 508-543-1755 or via email at mbellisle@parecorp.com.

Sincerely,

PARE CORPORATION

A handwritten signature in black ink that reads "J. Matthew Bellisle".

J. Matthew Bellisle, P.E.
Vice President

Attachment

cc: Briscoe Lang, PARE
Joseph Mullin, WRMM



MEMORANDUM

DATE: May 1, 2006

TO: Joseph W. Mullin

CC: Barry Fogel, Keegan Werlin, LLP
David Matheson, PARE

FROM: J. Matthew Bellisle, P.E.

RE: Adding a Low Level Outlet
at the Ben Smith Dam
Ben Smith Dam and Canal
Maynard, MA
PARE Project No.: 05051.00

In the process of developing designs for a weir within the gatehouse as required for compliance by Wellesley Rosewood Maynard Mills and Clock Tower Place ("CTP") with the FERC Order of Surrender dated July 13, 2004, PARE included a low level outlet component in accordance with ODS requirements. As part of this process, PARE also evaluated whether a low level outlet alternative was feasible at the existing stone masonry Ben Smith Dam. The addition of a low level outlet at the existing stone masonry Ben Smith Dam, while technically possible in theory, is not practically feasible due to the following issues:

1. The location of the outlet at the dam would be best located near either the left or the right abutment (and not in the center of the dam) for accessibility, but it also should be located at the deepest point along the dam for optimal function.
 - a. The optimal location for a low level outlet would be nearer the center of the dam where the outlet could be placed near the lowest point on the dam to provide the largest possible drawdown by gravity flow. However, in order to access the gate controls, an elevated pedestrian access bridge would need to be constructed across the dam to enable operation during periods of flow, and this would present significant practical problems.
 - b. The left abutment is the steep slope of the original river valley. This land also is not owned by Clock Tower Place. Therefore construction of an outlet in this area cannot be accomplished due to topography and ownership issues.
 - c. The right abutment, while owned by Clock Tower Place, consists of shallow ledge. Ledge outcrops support this portion of the dam and are visible along the downstream side of the dam approximately 2.7-feet below the dam crest.

2. Should an outlet be considered for the shallow area of the right abutment, it would provide minimal drawdown (approximately 2.7-feet) given the elevation of the apparent bedrock. To provide a deeper structure, rock removal by blasting or ripping would be required. This would likely have extensive negative impacts on the existing dam structure. Please note that blasting near dams is not recommended.

Further to install the low level outlet, which could consist of a pipe controlled by a valve, or a sluice structure controlled by a slide gate, would require dismantling a portion of the existing stone masonry structure and constructing an interface between the old and new portions. This interface could consist of a concrete vault or concrete training walls. However, this would likely result in significant impact to the historic and aesthetic aspects of the current structure.

3. Along with the work at the dam, a low level outlet at the Ben Smith Dam would require installation of an intake pipe or construction of an approach channel. Both alternatives would require excavation and or dredging to enable the pipe to be installed and/or the construction of a stable channel (e.g. trapezoidal channel with 3H:1V side slopes).

Given that a portion of the watershed area upstream of the dam has previously served as a military ammunitions facility, and the age of the structure, the composition of the sediments behind the dam would need investigation for the presence of contaminants that are presently unknown and could require special treatment during handling and disposal.

Installation of a low level outlet at the Ben Smith Dam would also likely result in additional temporary and permanent loss of bordering vegetative wetland (BVW) along the right abutment of the dam. This likely loss would be the result of creating a defined discharge channel from the low level outlet.

The effort to install a low level outlet at the Ben Smith Dam includes considerable risks and practical problems, (i.e., blasting, rock removal, dam demolition, dredging, sediment management, sediment disposal, etc.). Furthermore, the costs of this approach would be extreme, given the availability of the alternative. Given that the gatehouse along the power canal provides an extremely feasible alternative for low level outlet discharge capabilities, modifying the existing gatehouse structure to decrease leakage and enable the development of a monitoring program, is more advantageous and feasible.