April 10, 2006

Via Hand Delivery

Walter J. Behr, Mayor
Town of Somerset
4510 Cumberland Avenue
Chevy Chase, Maryland 20815

Re: Somerset Pool Bathhouse Study
VIKA #1368A

Dear Mayor Behr:

In accordance with your contract, this is our final report on our study of the restrictions on expanding the Town bathhouse relative to the proximity to the Little Falls Branch flood plain. In this study we have made certain assumptions, gathered data, and attempted to discuss the project with agency officials. The following is the fruits of our analysis, organized by specific task requirements from line item #1 of our contract.

AVAILABLE RECORDS RESEARCH

We researched and gathered existing record data from the Town of Somerset, Montgomery County Department of Permitting Services (DPS), and M-NCP&PC – Environmental Planning Division, as well as FEMA. The Town provided a copy of a sheet of the M-NCP&PC ultimate land use flood study from 1978. We were also able to obtain M-NCP&PC topography of the existing drainage area. The County and FEMA did not have any specific data for this area; however we did obtain the FEMA detailed study for the portion of Little Falls Branch below the Town limits. The M-NCP&PC flood study indicates that the 100 year flow is approximately 2,169 cubic feet per second in the vicinity of the pool. The more recent FEMA data does not extend quite that far, however their 100 year flow at the confluence with Willet Branch, approximately 4,700 feet down stream from the pool is 2,723 cfs. Considering that the watershed to the pool area is approximately 50% of the watershed at the confluence, a flow in the range of 1,300 cfs could be expected by extrapolating based on the FEMA study. This analysis leaves us with a flow of 2,169 cfs from the 1978 Planning Commission study and approximately 1,300 from extrapolating the recent FEMA study. 1,300 to 2,169 is a large range which cannot be refined without a thorough study of the watershed, which we do not feel is warranted.

LIMITED FIELD SURVEY

We conducted a detailed filed topographic survey of the existing stream channel adjacent to the pool facility. A copy of this is attached to this report. Cross sections are also attached based on our field data. This plan and cross sections also show the anticipated water surface, based upon our channel rating, with 2,169 cfs flowing through the stream.

CHANNEL RATING

We conducted a "rating" of the existing stream channel by determining the maximum flow that can pass through the channel adjacent to the pool without overtopping the bank. This rating was calculated by

determining a tail water condition for the flow under the bridge, and then calculating the flow depth upstream using the Mannings equation for open channel flow. This method indicated that the channel capacity is approximately 2,400 cfs, which, as noted above is more than the anticipated 100 year storm flow (based on the M-NCP&PC study) of 2,169 cubic feet per second. Accordingly, we believe the channel can contain the anticipated 100 year storm event. The Site Constraints Exhibit shows the required 25 foot building restriction line from the floodplain.

MCDPS MEETING

We discussed the potential of obtaining a permit for a potential expansion of the facility with Rick Brush of Montgomery County DPS and Steve Federline of M-NCP&PC. Both of them indicated that while they typically would not issue permits for new work in a stream valley such as this, they are open to considering a modest expansion of this facility. In other words, so far they have agreed that they would consider a request, rather than flatly deny it because of proximity to the flood plain, wetlands and stream valley buffer. To the extent that all work can be kept out of the 25 foot flood plain building restriction line, then a Flood Plain District Permit shouldn't be required.

M-NCP&PC ENVIRONMENTAL MEETING

As you are aware, members of the Town Council, you and I met on March 1st with Marion Clark from the Environmental Planning Division of the Maryland National Capital Park and Planning Commission at the site to discuss potential environmental constraints on a potential expansion of the bath house. This meeting went very well. We explained the Town's need for a "modest" expansion of the facilities such as; a small (say 10 ft) bath house expansion to the South, a canopy off the bath house to the North, and/or a picnic pavilion to the north of the pool. We discussed the County guideline that suggests the requirement for a Stream Valley Buffer. At our meeting we discussed that this might be 100 feet, however she indicated that it would ultimately be calculated based on the steepest slope in the adjacent 200 feet outside the stream. In your case, as a Class I stream, this buffer would be 150 feet. Marion indicated that while under today's regulations, the existing pool would not be permitted, an environmentally sensitive expansion could be considered. She said that she would prefer no increase in imperviousness, but would consider allowing new impervious surfaces further from the stream in exchange for removing similar sized impervious surfaces closer to the stream. She also said that they would consider a natural surface "pavilion" that is near the edge of, or better yet, outside the stream valley buffer. This pavilion should have roof leaders discharging into dry wells rather than the surface. She also said that the easiest to permit environmentally would be expanding the bath house over the existing impervious deck area. These areas are identified on the enclosed Site Constraints Exhibit. In this meeting we also discussed the development approval process, which is outlined below. Marion did agree that you could submit a modified Natural Resources Inventory / Forest Stand Delineation, so as to not have to survey your entire property. This should involve significant surveying savings.

DEVELOPMENT APPROVAL PROCESS

Based on the foregoing, we have identified the development approval process for the anticipated expansion. The project will involve completion of a site survey, preparation of the building and site design, as well as approval of Special Exception, Flood Plain District Permit, Sediment Control, Storm Water Management, WSSC "On-Site Water & Sewer Plan" and building permit. The design and approval process for this will most likely take twelve to sixteen months, exclusive of time associated with the Towns decision making process, as outlined in the attached Gantt chart.

We have broken the process into four primary phases, Town Council Scoping Decision, Schematic Design, Special Exception, and Final Design / Permitting. In the Town Council Scoping Decision Phase,

we have estimated that it will take approximately eight weeks for the Town to evaluate its options, decide on a course of action, and retain the architect, zoning attorney, and engineer.

At that point the Schematic design can begin. This phase also includes the site survey and the Natural Resources Inventory / Forest Stand Delineation. At the end of this phase, which we believe will take approximately ten weeks, we anticipate that the Town will have approved, or approved with comments the Schematic Design.

The next phase is the Special Exception Phase. During this phase your team will prepare and submit the Special Exception, Concept Storm Water Management Plan, and the Preliminary Forest Conservation Plan. The Concept SWM Plan is reviewed and approved by MCDPS, and the Preliminary FCP by the Environmental Planning Division of M-NCP&PC. The M-NCP&PC staff will review and make recommendations to the Planning Board on the Special Exception, and the Planning Board will vote on a recommendation to the Board of Appeals. The Board of Appeals will hear the case, most likely through a Hearing Examiner, and then vote on conditions of approval. We have estimated that this phase will take approximately 24 weeks.

Once the Board of Appeals has approved the Special Exception, your design team can prepare the final permit drawings, which will include full building plans including architectural, mechanical, electrical and structural, Sediment Control, Storm Water Management, Flood Plain District Permit, On-Site Water & Sewer Plan, Final Forest Conservation, Landscape Plans and Wetland Permit. We anticipate that the design and approval / permitting in this phase will take approximately 23 weeks.

As you can see from the schedule, most of the time is associated with agency review time. As such, the schedule is certainly sensitive to their workload and political situations such as the impact we have felt related to Clarksburg over the past year. We suggest that your design team prepare and update bi-weekly a Development Approval Schedule in order to help keep you abreast of the process.

We appreciate having the opportunity to prepare this study for you, and look forward to hopefully moving forward with you in the subsequent phases. Once the Town has decided on the desired approach, we will be pleased to present a proposal to you for our services. In the meantime, if you have any questions, please feel free to give me a call.

Sincerely,
VIKA, Inc.

Charles A. Irish, Jr., P.E., Prof. L.S.
Chief Operating Officer

Attachments: Stream Channel Survey & Cross Sections
Site Constraints Exhibit
Preliminary Development Approval Schedule
Channel Computations – 2,169 cfs
Channel Rating Computations