

February 12, 2024

Park and Recreation Committee
Sidney City Council

RE: Svarre Municipal Pool
Proposed Permanent Bulkhead Installation

In review and response to the information provided by Interstate Engineering, Inc. on behalf of the Sidney Tiger Sharks swim team regarding the proposed permanent bulkhead installation for the Svarre pool. The following is my attempt to summarize and give my opinion of the information provided by Interstate Engineering, Inc. in the January 9th, 2024, informational packet and letter.

- **Availability of Lap Swimming.**

Currently all lap swimming takes place during adult open swim Monday through Friday on the deep end (north) half of the pool. All lap swimmers do the cross-pool laps of 25 meters as a small group of water aerobics takes place at the same time within the mid-shallow (south) end of the pool. Some lap swimmers utilize the dive pool portion to get the extra 10 meters however, this only accommodates two or three lap swimmers at most. The remaining swimmers utilize the 25-meter cross lap.

Most of the consistent swimmers would prefer to swim the full length 50 meters. We do have a letter from one adult swimmer asking to swim the full 50-meter laps. Also keep in mind that the swim team uses the 50-meter length during practice for conditioning of the older swimmers. The younger team members typically swim the 25-meter length.

- **Concerns with weight of permanent bulkhead.**

The structural analysis calculations provided are well above any area of expertise I have. Although provided, they mostly analyze shear, bending and overturning of the bulkhead with very little information is provided regarding the loading or the amount of weight and the effects the bulkhead would have on the existing pool floor or the bearing capacity of what lies beneath the pool floor. I feel further information would likely require destructive testing of the current pool floor to properly analyze the effects.

Page 2 of Attachment 3 does state "Assumed Soil Properties" even though a geotechnical report from the original construction of the pool is provided. This plainly appears to be an unknown factor and finding actual answers would require destructive testing.

- **Risks with permanent bulkhead design.**

The opening sentence of the paragraph says exactly what we fear most; "**There are always risks when working with unknowns.**" Not that this 33 year old geotechnical report doesn't hold water however, the report states in paragraph E.2, Review of Plans and Specifications, that the report is based on a conceptual set of plans and not the full construction plan set and specifications. Given this information, the installation of a permanent bulkhead may leave the city in a moderate to high-risk category.

- ***Gravel Under the Existing Pool Slab.***

As the paragraphs state, destructive testing would be required to answer this question. In my opinion, if an aggregate base course was installed with the original pool construction and if a soil geotextile product was not used at the time of construction, there would likely be a low expectation that much original aggregate would still remain.

- ***Mud Jacking and Signs of Distress.***

Mud Jacking is not typically used for structural support. Mud Jacking is grout used to lift sunken sidewalk slabs and stoops. It is commonly used to fill voids under concrete construction. Much of the current deck around the pool has been mud jacked within the first couple of years of original construction and has mostly all failed. The city crews have repaired some of the original deck and did some other minor repairs spring 2023 with most of the deck drains.

- ***How Will Floor Cracks be Addressed.***

The city crews have performed some crack repairs to the pool walls in recent years. Cracks repairs typically consists of grinding out the crack and using a hydraulic epoxy concrete product to fill and seal the void. This exposed area is then painted. Sikaflex products are typically used for horizontal deck/sidewalk crack repairs and concrete cold joints.

- ***Catastrophic Failure and Shutdown.***

In contrary to the letter, the bulkhead is the least likely to see catastrophic failure. The likely failure would be the existing pool floor and floor/wall structure from the installation of the bulkhead.

If the pool floor was to fail, one of two options would likely be the answer. Either construct a new floor to the effected area or the installation of a pool liner. Both of these scenarios would require the pool to be shut down for extended periods of time to complete the repairs.

- ***Is the Pool Leaking.***

To the best of our knowledge the pool does not appear to be leaking. The water used for the pool operation is not currently metered to gauge from season to season the exact water usage. No leak testing or study has ever been completed to the best of our knowledge.

- ***Would a Permanent Bulkhead Increase this Possibility.***

The installation of the permanent bulkhead could likely leave the city in a moderate to high risk of catastrophic failure or failure to some degree thus causing unnecessary water usage.

Final Comment and Concerns

As an inherited caretaker of this facility, I see this project as more of a detriment rather than benefit to the facility. Although the swim team is an important extra circular activity for the youth of our community, the installation of the permanent bulkhead could possibly lead to serious consequences in future years ahead. A temporary bulkhead installed annually for the one to possibly two events/year would keep this facilities options open for future use.

This facility celebrated its 30th anniversary of service to our community just last year and has held up remarkably compared to other facilities around the state. This is likely due to the careful care that has been given over the years of service.

One of the major concerns I have is the annual spring cleaning of the pool tank. This operation consists of using a fire hose and nozzle to pressure wash/flush the algae, sludge, debris, and animal carcasses from the pool tank. The tank is then washed with a diluted acid base water mixture to remove the algae base to bare concrete, then rinsed again with the fire hose and nozzle. The permanent bulkhead would be considered a confined space and therefor much consideration and precaution would be required for the safety of personnel completing the annual cleaning task.

Feel free to ask any further questions concerning this issue at your convenience.

Thank you;
CITY OF SIDNEY
Jeffrey J. Hintz, PWD
Department of Public Works

Cc: File
Rick Norby, Mayor