

December 07, 2018

Kayla Dow
 City of Fort Saskatchewan
 Aquatics Operations Supervisor – Harbour Pool
 10001 – 94 Avenue
 Fort Saskatchewan AB T8L 3V4

Dear Kayla,

RE: Harbour Pool – City of Fort Saskatchewan

Main Pool Expansion and Modification Feasibility Study

RJC No. EDM.118534.0004

As requested, RJC has completed a structural feasibility review for the modification of the existing pool deck and expansion of the pool tank at Harbour Pool. Original structural drawings were available for review and are referenced herein. The scope of this review was limited to a desk review of the available drawings and does not include a detailed analysis of the existing structural systems.

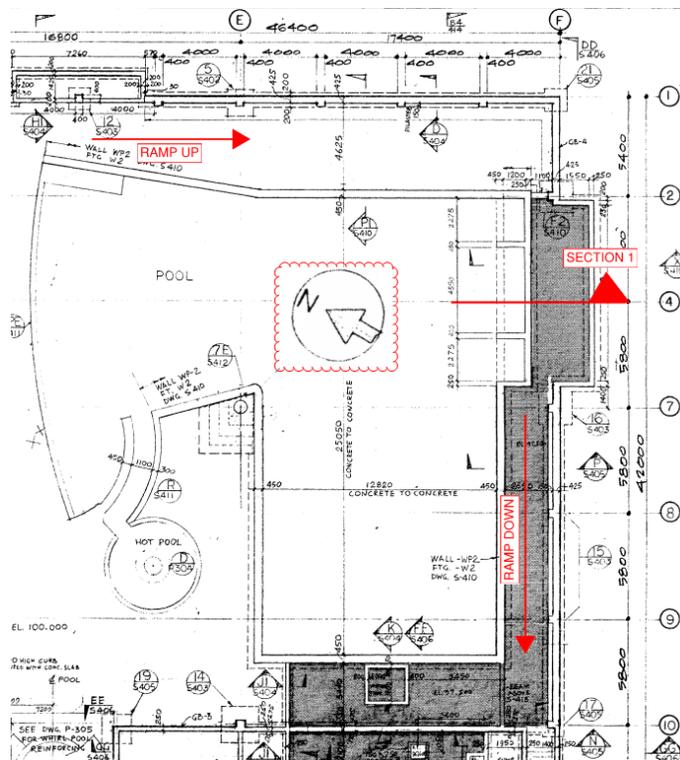


Figure 1: Harbour Pool foundation layout

The concrete pool structure currently consists of a rectangular section with an additional branch on the north-west. The east pool deck consists of a concrete slab-on-grade that slopes up from the main deck elevation of the natatorium until just south of GL E. The pool deck remains at +900 mm around the pool corner, until sloping down west of GL 7. Sloped areas are indicated by red arrows in Figure 1. On the south side of the pool, west of GL 2, the pool deck consists of a structural concrete slab spanning over a tunnel space to the concrete foundation along GL F.

The pool's foundation structure consists of concrete footings. The building foundations along GL 1 and GL F are concrete foundation walls with pilasters on strip footings. These foundations support exterior block walls, which in turn support glulam roof beams and purlins.

The first modification reviewed was to cut down the raised portion of the pool deck and tank to match the lower deck elevation of the natatorium. This would require:

- Removal and reinstallation of the existing slab-on-grade on the east side of the pool
- Chipping down of existing pool walls
- Removal of concrete half-wall and deck slab indicated in Figure 2 on the south side of the pool
- Replacement of existing structural slab at a lower elevation along the south side, west of GL 2

Our review indicates that it is structurally feasible to modify the existing pool deck and tank to match the lower deck elevation of the natatorium.

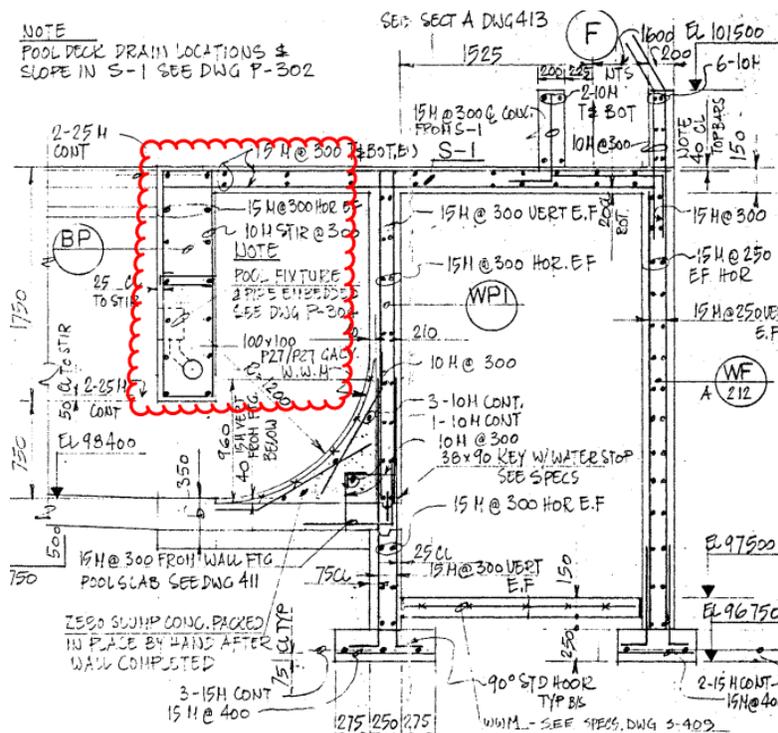


Figure 2: Section 1 through south pool deck



The second modification reviewed was an expansion of the pool itself. Support locations for major roof beams occur at GL E on GL 1 and continuously along GL F. Consequently, expansion in the south direction through GL F is not recommended. An expansion east, between GL E and GL F, would require:

- Shoring of glulam roof purlins
- Demolition of existing exterior foundations and masonry walls
- Demolition of existing pool wall and slab-on-grade
- Installation of new roof beams to pick up existing and additional purlins for the expansion
- New foundations
- Potential requirement for existing foundation upgrades
- Construction of new perimeter pool deck and exterior wall

In summary, a potential pool expansion was found not to be feasible in the south direction. However, an expansion to the east between GL E and F may be possible, provided both structural and non-structural considerations for pool utilization are met.

This feasibility study considers only the structural aspects of the above pool tank modifications. A qualified professional with experience in pool and recreation facility design would need to review other aspects of the proposed modifications, including the architectural, mechanical, and electrical scopes of work. Prior to commencing any modification or expansion, a thorough investigation of the existing structure should be conducted. This would include a condition assessment of the building to determine if any structural deterioration has occurred and measurements to confirm the building members.

Thank you for selecting RJC to assist you with this project. Should you have any questions or comments, or if we may be of further assistance, please contact this office.

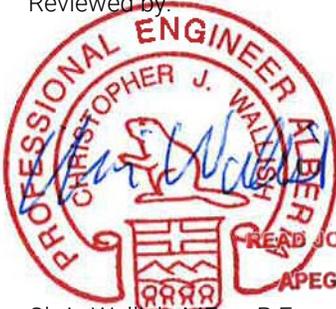
Yours truly,

READ JONES CHRISTOFFERSEN LTD.

Prepared by:


Erin Paquette, BEng, MSc, E.I.T.
Engineer-In-Training

Reviewed by:


The seal is circular with a red border. The outer ring contains the text 'PROFESSIONAL ENGINEER ALBERTA'. The inner ring contains 'CHRISTOPHER J. WALLISH'. The center features a crest with a crown on top and a shield below. To the right of the seal, the text 'READ JONES CHRISTOFFERSEN LTD.' and 'APEGA PERMIT NUMBER: P152' is printed in red. A blue ink signature is written across the seal.

Chris Wallish, MEng, P.Eng.
Project Engineer