FINANCIAL MANAGEMENT COMMITTEE

TO: THE MAYOR AND COUNCILLORS

SUBJECT: CENTRAL PARK OUTDOOR POOL – COVER

RECOMMENDATIONS:

1. THAT Council authorize staff to proceed based on Option #3, a Tensioned-Membrane Modular Structure to cover Central Park Pool, as outlined in this report.

2. THAT a copy of this report be forwarded to the Parks, Recreation & Culture Commission for information.

REPORT

The Financial Management Committee, at its meeting held on February 21, 2023, received and adopted the ***attached*** report reviewing options for the Central Park Pool cover and seeking Council approval to proceed with Option #3, as outlined in the report.

Respectfully submitted,

Councillor Dhaliwal
Chair

Councillor Gu
Vice Chair

Meeting 2023 February 21

COMMITTEE REPORT

TO:	CHAIR AND MEMBERS FINANCIAL MANAGMENET COMMITTEE	**DATE:**	2023 February 15
FROM:	GENERAL MANAGER LANDS AND FACILITIES	**FILE:**	4230-08

SUBJECT: CENTRAL PARK OUTDOOR POOL - COVER

PURPOSE: To review options for Central Park Pool Cover.

RECOMMENDATIONS:

1. **THAT** the Financial Management Committee recommend that Council authorize staff to proceed based on Option #3, a Tensioned-Membrane Modular Structure to cover Central Park Pool, as outlined in this report.

2. **THAT** a copy of this report be sent to Parks Commission.

REPORT

1.0 BACKGROUND

The City is in the process of planning in order to meet the outdoor aquatic needs of residents over the next 25 years. At their meeting December 14, 2022, the Financial Management Committee received a report on Short and Long-term outdoor Aquatic Facility Planning. One of the report's objectives was to increase the available aquatic facility usage at the City's outdoor pools, beyond the regular summer season by providing temporary structures to cover the deck or entire pool.

At this meeting the Committee requested a report showing various options for a permanent structure over Central Park Pool.

Central Park Pool is a rectangular outdoor 8-lane, 50 metre pool with a depth of 1-4 metres in a natural setting in an area of Central Park surrounded by tall coniferous trees. Central Park Pool was constructed in 1962, and is at or near the end of its useful life. The pool tank and mechanical systems are expected to need replacement in the next 5-10 years. Central Park pool is a favorite amongst lap swimmers because it is a 50 meter pool. It is a favorite amongst local Aquatic clubs because it has ample deck space that allows for large competitions. It is the only City of Burnaby outdoor pool that can host large competitions and it has frequently hosted the BC Summer Swimming Championships. It has a custom metal bulkhead that is placed in the center of the pool

for 25m swim competitions. This bulkhead was provided by user groups and there is an agreement in place for the City to install the bulkhead free of charge for one swim meet per season. The metal bulkhead is normally removed for general day-to-day pool use and for training lap swims. The bulkhead is installed for swim meets using a large mobile crane, and then removed after each competition.

In addition, men's and women's change rooms at Central Park pool are not winterized: they do not have a roof, heating or ventilation. Similarly, the staff rooms have no heating or ventilation. There are no inclusive change rooms. The pool tank has entry stairs at each end of the pool tank. This facility does not meet current accessibility standards. Doorways and hallways are too narrow, the open air change stalls are narrow, and there is a lip around the pool that makes accessibility challenging.

2.0 POOL COVER

Financial Management Committee provided feedback on the temporary partial pool deck cover at Kensington Pool, and requested that staff review options for a more permanent pool cover over Central Park Pool. The covers described below provide protection from sun and rain but do not allow the pool area to be heated. In colder weather months, this is a barrier for most aquatic users. Without heat in the pool area, it is unlikely that the City would run swim lessons, aquafit or drop-in programs until the weather warms. It is expected that swim clubs and dedicated lane swimmers would continue to use the covered facility throughout most of the winter. It is expected that all options will reduce the amount of natural light in the pool, and lessen the outdoor environment. Winter use will require the addition of heated washrooms and change areas. The existing Central Park Pool has a large deep end which makes it inefficient to heat during the winter months. The existing boiler would likely be unable to provide adequate heat. Options for heating the pool during the winter months while meeting the City's sustainability objectives will need to be explored, including options with BC Hydro.

2.1 POOL COVER OPTIONS

Option #1: Pre-Engineered Metal Structure

A pre-engineered metal structure with sheet metal roof and panels, similar to the proposed covered sports box at Confederation Park Community Centre could be constructed. A large steel structure would be fabricated offsite and then erected in place. Sheet metal cladding would be provided for a roof and walls, with sides open from the floor to a height of approximately 12 feet above the floor. A combination of sheet metal and translucent composite panels will allow some filtered natural light. This option will provide year-round protection from sun and rain, but will diminish natural light in the pool area, and will not provide a heated, climate-controlled environment.

The cover will not permit crane access for bulkhead removal. Will need to replace steel bulkhead to a moveable fibreglass bulkhead. During normal use (50m training lap swim),

the bulkhead would be pushed to one end of the pool. This would require infilling and removal of one of the two sets of pool entry stairs, if permitted by Fraser Health. The removal of one of the entry stairs will provide diminished accessibility in the most common pool configuration. (49m training lap swim)

The budget for this cover would be approximately $4 million. It could be designed and constructed in less than 1 year, open to the public by spring 2024, and would have an expected lifespan of 50 years or more. Construction would require a temporary shutdown of the existing pool.

This structure would still allow for future replacement of pool tank and mechanical equipment. The design flexibility for a new pool configuration would be limited by the cover installed.

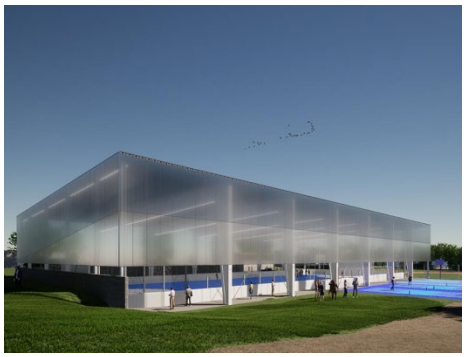

Figure 1 and 2: Sample pre-engineered steel structure covers

Option #2: Pre-Engineered Metal Structure (Half Pool Only)

This option includes the same pre-engineered metal structure as Option #1, covering only half of the pool surface. This would allow crane access to the bulkhead that is used in the middle of the pool for swim competitions. The stairs at one end of the pool would not need to be infilled, thus offering no change to accessibility. This would provide less protected pool area than Option #1, but would allow more natural light than Option #1.

Option #3: Tensioned-Membrane Modular Structure (Sprung)

The construction of a non-insulated high-tension fabric building system that utilizes a corrosion-resistant aluminum substructure covered with a highly durable membrane. Sprung structures have been used as both temporary and permanent outdoor pool enclosures. A sprung structure building has a 50-year expected life; the fabric cover would need to be replaced once during that time, and it can have a shorter design period and lead time. This is the option most likely to be able to be built in 2023 and open to the public for next winter, although the timeline is very aggressive.

Rollup doors and translucent panels can be incorporated to improve natural light, enhancing the swimming environment. It is expected that less foundation work will be required than Option #1 and #2 but some disruption to operations would be expected through the 2023 summer

The bulkhead replacement and stair infill described in Option #1 would still be required.

Figure 3: Sample Tensioned-Membrane Modular Structure

Option #4: Custom-Built Structure with New Replacement Pool

A custom-built pool cover could be installed over the pool, and could include the use of structural steel and mass timber. Aldergrove Community Centre pool is a local example of a pool canopy that is cantilevered off of the adjacent community centre building. The adjacent community centre building includes winterized change rooms, new mechanical rooms, washrooms, showers and administrative areas. The Aldergrove Community Centre includes an arena, which provides an opportunity to use heat rejected from the ice-making process to preheat the pool water.

A custom built structure with a new replacement pool is the best long-term option for replacement of the aging pool and non-winterized change rooms. This option provides most natural light, and allows an opportunity to make accessibility improvements to the change rooms (universal change rooms), accessibility improvements to the pool (ramp/zero-entry) and allows for the use of sustainable technologies.

This option is the longest project duration, it cannot be completed within one year, and also has the largest capital expenditure. It is premature to move forward with this option though considering a study that is underway of all outdoor pools. Until that study is complete and an aquatic strategy developed, the needs of this facility are unclear. This project would require a user needs assessment, consultation with the community and user groups, design, procurement and construction. The project duration could be shortened by selecting an appropriate project delivery model, but it will still be a longer

duration than can be achieved with Options #1 - #3. This option may provide the best value for the community in the long-term but it should not proceed prior to development of the overall outdoor aquatic strategy.

In order to minimize the operational impact to the existing Central Park Pool, this option could be built in a different location to allow the current Central Park Pool facility to continue to operate while the replacement facility is under construction. This option will also preclude the need for an extended closure of Central Park Pool, which will be required for replacement of the aging pool.

Figure 4: Custom Cantilevered Pool Cover

Elements Common to All Options:

All options will require a solution for the existing non-winterized washrooms, change and shower facilities. Options could include the purchase or rental of modular all-season change facilities, or the construction of new, permanent all-season change facilities.

All options will impact pool operations during implementation, (unless Option #4 is selected at a different location).

All options will require the purchase of a pool cover (blanket at the surface of the pool) to minimize evaporation loss and improve heat retention. All options will require investigation with BC Hydro regarding increased service for the pool.

All pool cover options will reduce the natural light and compromise the natural, park-like setting of the pool. This can be mitigated with electric light and selecting a compromise between the degree of weather-protection and natural light.

Table 1: Summary of Central Park Pool Cover Options:

	Option 1	**Option #2**	**Option #3**	**Option #4**
	Pre-Eng Metal Structure	Pre-Eng Metal Structure (Half-Pool)	Tensioned Membrane Modular Structure	Custom Structure with Building & Replacement Pool
Implementation Time	< 1 year	< 1 year	8 months	2-3 years
Budget Cost	$5-6M	$4-5M	$3M-$4M	~$30M
Natural Light impact	Darkest *	Better **	Better **	Brightest *****
Impact to operations during construction (shutdown)	4-5 month shutdown	4-5 month shutdown	2-3 month shutdown	Most impactful (unless alternate location is selected)
Requires bulkhead replacement and stair infill	Yes	No	Yes	N/A
Temporary change rooms (or expanded cover over change rooms)	Yes	Yes	Yes	No
Future replacement of end-of-life pool required	Required	Required	Required	Included
Manufacturer (example)	Butler Mfg		Sprung, GNB	Custom design Architect/Contractor
Example:	St Augustine Prep School (NJ)		Collingwood Centennial	Aldergrove Community

4.0 RECOMMENDATION

Considering all of the above criteria, and the desire to provide a covered pool at Central Park as soon as possible, it is recommended that Financial Management Committee recommend that Council authorize staff to proceed immediately with Option #3: Tensioned-Membrane Modular Structure. While Option 4 may provide long-term improvements to the site and avoid multiple projects, considering the conditions of the current pool, it is premature to move forward with this project prior to the development of an overall outdoor aquatic strategy.

James Lota, P.Eng., MBA, MPA
GENERAL MANAGER LANDS AND FACILITIES

CA/nh

Copied to: Chief Administrative Officer
General Manager Parks, Recreation and Culture
Director Facilities Management
Director Civic Building Projects
Director Parks
Director Recreation
Director Legislative Services