INFORMATION REPORT

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	September 18, 2017
SUBJECT/REPORT NO:	Spray Pad Design Costs (PW17073) (City Wide) (Outstanding Business List Item)
WARD(S) AFFECTED:	City Wide
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SUBMITTED BY: **SIGNATURE:**	Craig Murdoch, B. Sc. Director, Environmental Services Public Works

Council Direction:

At the June 14, 2017 Council meeting, staff was directed to investigate whether there is a more cost effective alternative for the design and construction of future spray pads.

Information:

Previous reports have been presented that outline spray pad costs for design, construction, and operation; specifically Report PW16073 in September 2016 and Information Update ES17009 in May 2017.

In the Information Update ES17009, a typical scenario was provided using the design costs for Buchanan Park as the example. The costs of the design of this spray pad was reported to be $89,800 which included consulting fees for the design, studies including archaeology and geotechnical, as well as staff costs. Construction costs vary due to site constraints, size and number of features, many of which are a result of community consultation.

In an effort to present viable alternatives, staff has reviewed several options which are outlined in the tables below.

Design Alternatives:

Design Alternative 1:	Hire a consultant to develop 3-4 standardized designs for use across the city for all future spray pads. These would become standard details for a set period of time until a new set is developed.
Predicted costs	Initial design costs: $70,000 (estimate). Site specific design costs will vary by site and billed to the project and will include geotechnical studies, servicing design, and site specific grading and drainage design. Site specific design and engineering is due to site grading, connection to other features in the park, and water pressure variations across the city.
Predicted cost avoidance:	Each subsequent design during the time period for the standardized designs will be reduced in scope to only include the site specific connections (i.e. water and sewer, etc.) If a typical design for a spray pad costs an estimated $90,000, the site specific component of the design would expect to cost $70,000, resulting in an anticipated reduction in capital requirement of $20,000
Design Implications	Creating a set of standardized designs would be a shift in the current practice of creating custom layouts for each project resulting in spray pads being nearly identical across the City. Variations in spray components would not be supported.
Design Alternative 2:	Hire an internal staff member with engineering expertise to design spray pads for all future projects.
Predicted costs	Approximate operating cost: Estimated salary of $125,000, to be determined once job description is created.
Predicted cost avoidance	This alternative would remove the requirement for consulting engineering drawing creation and review for all spray pad projects, as well as possible cost savings related to engineering on other projects. Typically, the consulting fees for a spray pad design costs $90,000 per project. If this staff person worked on 1.4 spray pad projects per year, that would result in cost avoidance equivalent to the operating cost of that internal staff. Additionally, this staff person could assist with cost avoidance on other projects requiring engineering expertise that would normally be outsourced to consultants.

Design Implications	Employing an internal staff person to undertake the design of all spray pads would allow the City to continue to provide creative and unique elements and respond to community requests.

Construction Alternatives:

Construction Alternative 1:	Spray pad manufacturers would be invited through a competitive bid process to bid on 3-4 standardized spray pad designs. The successful bidder would be required to hold their pricing for a defined period of time (e.g. 2 years) and would be carried as a sub-contractor by the successful General Contractor on all projects containing a spray pad during that period. This alternative would require the acceptance of Design Alternative 1 above.
Predicted costs:	Funds would be required to hire a consultant to develop 3-4 standardized designs, estimated at $70,000 in Design Alternative #1 noted above. Site specific studies and engineering would still be required for each project to respond to existing conditions at the park.
Predicted cost avoidance:	There is the potential for cost savings through this process as the successful spray pad manufacturer will be guaranteed all spray pad system work for the determined period of time. This may motivate all bidders to provide their most competitive prices or face not being able to supply their products to the City until the determined period time has lapsed.
Construction Alternative 2:	Limit spray pads to sites that already have water and sewer services.
Predicted costs:	Costs would still be borne by the project to make the water and sewer connections on site, and would vary based on the site specific considerations, as mentioned above.
Predicted cost avoidance:	By connecting spray pad infrastructure to existing services within the property line, for example to an existing building or service stub, as opposed to cutting the road for connections to mainlines, a significant cost savings would be achieved. Based on recent tender prices, a storm sewer connection from an existing park building or service stub would cost approximately $200/linear metre less than a servicing connection to a mainline in a road. A water

	service connection from an existing building or service stub would cost approximately $100/linear metre less than a connection at the mainline in the road. Sanitary Sewer connections represent an even greater savings, with recent tenders for road connection costing $1,380/linear metre, as compared with $250/linear metre for non-road connections. Additional cost avoidance with using sites that already have servicing on site include not having to undertake road, curb and sidewalk restoration, water meter and chamber installation, and requirements for buildings or raised manifold chambers.
Construction Alternative 3:	Limit the distance that a spray pad is from a water and sewer main to reduce the cost of water and sewer lines.
Predicted costs:	Costs will still be borne by the project to make the water and sewer connections, and will vary based on site conditions, as mentioned above.
Predicted cost avoidance:	Shorter lengths of connections would result in lower costs for the project. Actual savings would vary based on how short the distance is. Costs per linear metre are included in the description of Construction Alternative 2.

Any cost avoidance realized by these options would allow for other projects to be funded more quickly, within the limits of the funding sources available for park capital improvement projects, including the Open Space block funding, Area Rating, and other reserves or funding sources.

Appendices and Schedules

Not applicable.